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# **Understanding Reciprocity in Chinese Social Media:**

**Examining the Influence of Social Capital and Emotion on Reciprocal Behaviour**

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**A thesis submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy in Marketing,  
The University of Auckland, 2015**



## ABSTRACT

The functioning of social networking sites (SNSs) depends on reciprocal behaviours. This research begins from the premise that in SNSs reciprocity is a key element facilitating the establishment and development of interpersonal relationships between strangers. Specifically, the proposed *Social Capital – Emotion – Reciprocity* conceptual model and hypotheses concerning the effects of social capital and emotion on reciprocity were derived from the literature and from exploratory research. The conceptual model particularly utilised the *Cognition – Emotion* school of thought, which conceptualises the act of reciprocity as an outcome of an iterative process of cognitive evaluation of social capital and emotion.

The cognitive evaluation of social capital was tested in two experiments. In the experiments, the concepts of bridging social capital and bonding social capital were operationalised and manipulated, and consistent effects were found. In both experiments, discrepancies in relative levels of combined capital, bridging capital and bonding capital affected the likelihood of reciprocity (i.e., more social capital generates more reciprocation). Specifically, discrepancies in bridging capital strongly affected reciprocal behaviour. Discrepancies in bonding capital are significant, but less important. There was no interaction effect between bridging social capital and (*indirect*) bonding social capital, however an interaction effect did exist when bridging social capital and (*direct*) bonding social capital were tested. Findings from hypothesis tests provided strong evidence to support the conceptual model, with emotion acting as a mediator between social capital and reciprocal action. Specifically, bridging social capital had a larger impact on reciprocity through the mediation of emotion, and in practical terms, this finding is consistent with the significance of the concept of “who you know” in Chinese business practice.

Overall, reciprocity in Chinese social media can be considered as a process of mutual recognition between user-benefactors and user-recipients, each of these actors cognitively evaluates the embedded value of the other’s social capital, which is mediated through emotions triggered in social networking practice. The research findings contribute to the theoretical understanding of reciprocity and practice relevance in virtual environments. The mixed methods design focused on the practical relevance to the research context and provided consistent findings through a sequential development of experiments and modelling, which enhanced the validity of the research outcome. Finally, limitations and directions for future research are described with respect to the broader conceptualisation of reciprocity and the specific operationalisation of potential constructs.





## DEDICATION

**This thesis is dedicated to my beloved family.**

To my wife Ruru and baby Xander, I am sorry that I have missed out on so much during the last year. Ruru, you have been so supportive since the first day I started my PhD and looked after Xander so well since his birth, thanks for your selfless dedication and the sacrifices you have made for our family. I will make sure Xander has a great 2<sup>nd</sup> birthday party.

To my mother, I truly appreciate you encouraging me to start this project. The Cultural Revolution destroyed your dream of completing a PhD, now I have fulfilled your dream. How could I forget your expectation: Doctor, Dentist or Politician?

To my father, thanks for your support and guidance, hopefully one day I can publish as much as you do. You have always taught me to be independent and wise, I hope you will be proud of me for finally completing university!

To my in-laws, thanks for your financial support in the last few years. Returning from industry and being a student again was a challenging decision to make, but your kind support has made it a great deal easier. Now it is my turn to pay it back, and this is what I have studied

–

reciprocity!







## ACKNOWLEDGEMENTS

In completing this PhD thesis in the last four years, I have encountered encouragement and ridicule, support and harsh pressure, friendship and enmity, but the end result has been satisfying. So I would like to take this opportunity to express my gratitude to those who have endured my torments in both my academic and family life.

I wish to express my deepest thanks to Professor Rod Brodie and Dr Rick Starr for their supervision. Thank you both for your invaluable advice, encouragement and saintly patience during the creation, revision and completion of this thesis. Each of you offered a unique perspective throughout my research journey that helped to make me confident about this piece of work. Rod, you have always reminded me not to lose track of the big picture. Rick, you have always kept me by your side and prevented any distractions that might arise, and now you do not have to put your phone under your pillow and reply to emails in the middle of the night. A thank you note also goes to Professor Margo Buchanan-Oliver for her advice in qualitative research, to Dr Denise Conroy for mental support, and to Dr Xin Chen from NZAI for helping me to master the art of translation.

I would especially like to thank Dr Catherine Bentham for your constant support in my academic and family life in the past 12 years, you are a true friend and a family member to me, as well as your mom, Flo Bentham, for her generous proofreading expertise. To my PhD cohort, Nina, Nane, Sokkha, Vanisha and Jenny, thanks for sharing your life with me and your love with Xander. I am also thankful for constructive feedback received from scholars from conferences (*ANZMAC & Frontiers in Service*). I also appreciate all the help from ResearchNow with data collection and to over 800 anonymous Chinese participants from Sina Weibo; thanks for your generous support, your help is a gift to me, and I will try to reciprocate by making more contributions on the virtual world you live in.

I would like to acknowledge The University of Auckland Doctoral Scholarship for their financial support, and Bentham Laurence, REID research, Fresh Info, Ignite Research, Nenonen & Storbacka, Chevron, World Vision for involving me in the industry.

Finally, a special appreciation goes to my wife Ruru for her endless encouragement and understanding in the last four years.





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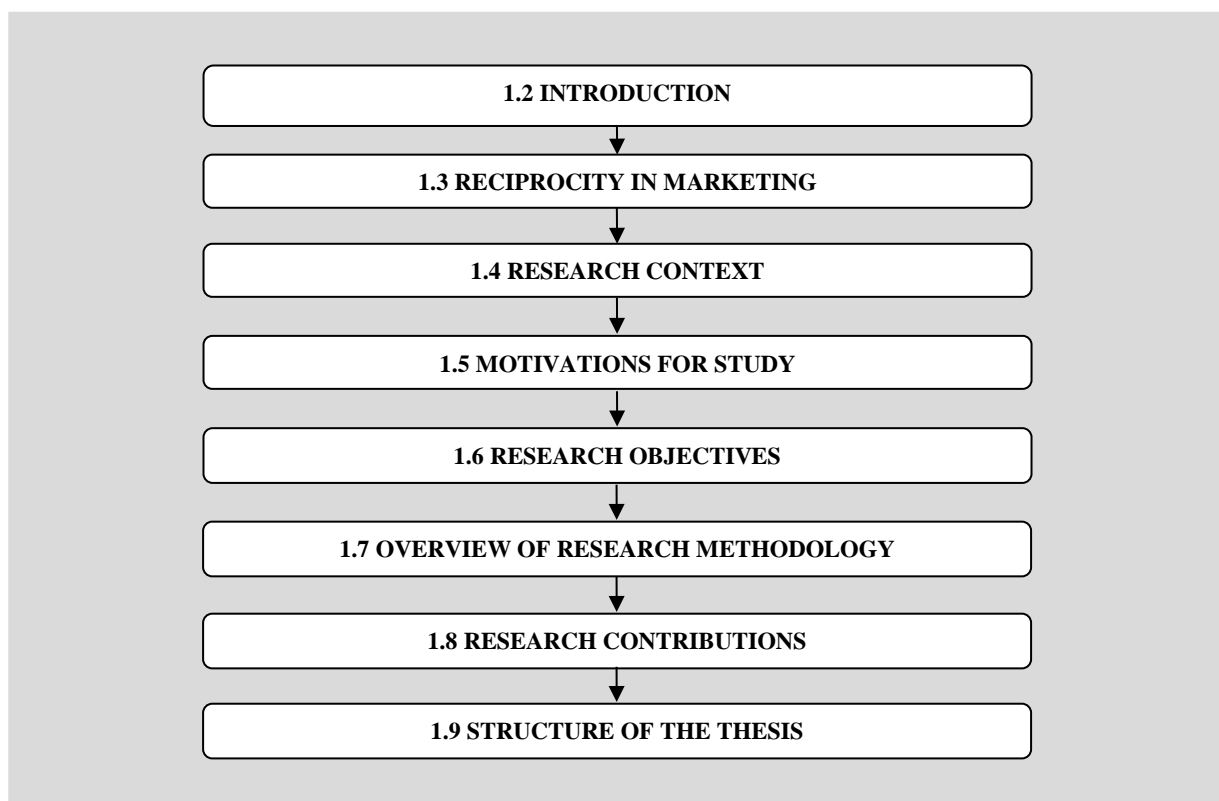


## CHAPTER 1: INTRODUCTION AND THESIS OVERVIEW

### 1.1. Chapter Overview

This chapter provides an overview of this thesis and outlines its structure (Figure 1.1). The chapter begins by describing the relevant theoretical foundations. It provides a justification for the undertaking of this research (§1.2), then identifies gaps in the reciprocity studies in the marketing literature (§1.3). Next, the research context and motivations are introduced (§1.4 & §1.5), followed by a statement of the research objectives (§1.6) and an overview of the proposed pluralistic research methodology (§1.7). Lastly, an overview of the potential key academic and managerial contributions of the research is provided (§1.8). The chapter concludes with an overview of the thesis structure (§1.9).

Figure 1.1: Structure of Chapter One



## **1.2. Introduction**

With the fast and vast development of computer-mediated communications in an era of social media, reciprocity and associated concepts such as engagement have become central concepts in many business dialogues, especially those conducted on the platforms of social networking sites (SNSs). The concept of reciprocity has been used in a variety of disciplines including social psychology, evolutionary biology and cultural anthropology (e.g., Blau, 1964; Gouldner, 1960; Sahlins, 1972), and has been observed to be a universal phenomenon (Burgoon et al., 2002), which is commonly seen as a norm (Cialdini, 1993). Consequently, reciprocity is also important in virtual communities, and because it has been claimed that the concept is a building block of any form of social community, including communities built on online social networks (Leider et al., 2009). However, little attention has been given to the nature of reciprocal behaviour in marketing or social media.

SNSs such as Twitter, Facebook or Weibo (the largest SNS among Chinese people globally) have quickly amassed many users. However, it is not commonly recognised that these platforms retain their users by motivating them to engage intensively in relationship building. Of particular interest is how users interact and engage so that value is perceived and transferred. This occurs both between service providers and users and also among users themselves. While attention has been given to understanding how SNS users engage, maintain and enhance social relationships based on pre-existing social contacts, i.e., friends from the real world (e.g., Ellison, 2007; Lampe, Ellison and Steinfield, 2006, 2007), little attention has been given to the mechanisms that develop engaged relationships among strangers with no existing social ties. This research explores the role of reciprocity in this process.

The increasing popularity of SNSs has made them important channels for marketing-related phenomena, including word-of-mouth marketing, commercial advertising, and online retailing activities. With the rapid development of Web 2.0 technology (non-static webpages which allow user interactivity), social media tools have also affected the likelihood of users experiencing reciprocity. It has been suggested that SNSs grow quickly because they create value through the reciprocal exchange of emotional support, information and knowledge etc. (Zhu, Starr and Brodie, 2014; Ellison, 2007). Indeed, one can argue that without reciprocal behaviours, these sites would be neither social nor networked (Zhu et al., 2014).

Sina Weibo (Weibo) provides this research's SNS context. *Weibo* literally means micro-blogging. Weibo holds a 90% market share of China's micro-blogging services with approximately 500 million registered users to date (Smith, 2015). This is approaching the number of active registered users of Twitter (645 million globally, Statics Brian, 2014). And most importantly, Weibo has become a forum for public debate where Chinese can express themselves relatively freely, exchange information and form both personal and business communities (Synthesio, 2012).

One simple behaviour sets the groundwork for future reciprocity in Weibo: the action of following. By choosing to follow another person, a user adds that person to their network in a limited capacity. The follower can see the activities of those people they follow, but not vice-versa. Because following is a unilateral action, it is not a reciprocal act. Following is, however, a precursor or precondition for the most common forms of reciprocity, including "following back" (in Weibo) or "friending" (in Facebook).

There are subtle differences between friending and following back. A friend request is a direct invitation to become part of a reciprocal network. It is an explicit request for reciprocity (i.e., following back), and acceptance always results in bidirectional information sharing. Simply being followed is not an explicit invitation to reciprocate. Nonetheless, being followed is commonly viewed as an implicit request for following back, simply because most people engage in reciprocity as a social norm (Cialdini, 1993). Therefore, studying following back behaviour provides interesting insights into the conditions under which people do and do not reciprocate.

Although in the physical world reciprocity is commonly seen as a norm, in SNSs this is not always true. In the virtual world, reciprocal behaviours are apparently diluted by two factors: the common anonymity of social network settings and the virtual nature of the internet. In many SNSs every user has a pseudonym, their identities are unknown, and any social interactions in the SNSs (positive or negative) will have no real-world implications. This allows strangers to make and break social connections relatively freely. On the other hand, because users lack knowledge about the people with whom they interact, they often experience a sense of insecurity. Therefore, when information is scarce, even limited information such as that contained in a social profile becomes salient.

Previous research shows that social profiles in SNSs are a critical impression management tool, providing indications of a user's social capital and/or status (e.g., Brown, Broderick and Lee, 2007; Hofer and Aubert, 2013) and serving as a reputation system to generate more followers (Kerres and Pressler, 2009). In the case of Weibo, users' social profiles include pseudonyms, their number of followers, and the number of postings they have made. Even this brief information effectively signals a user's reputation, the resources they possess (the number of followers) and their engagement with the community (the number of postings).

Manipulating these indicators of social capital provides a useful way to assess their effects on reciprocity in a quasi-experimental design. In this research the option has been chosen of operationalising social capital in two forms: bridging social capital (roughly, how many people you know/connected) and bonding social capital (what you do for the community). Each form of capital is expected to have somewhat different effects on reciprocity. A key research question is: in Chinese social media, what is the effect of perceived social capital on reciprocity behaviours?

Therefore this research examines following back (also known in Chinese as *hufen* (互粉) – becoming fans of each other, or reciprocal following) in SNSs in order to establish whether reciprocity is still a valid norm in maintaining participant engagement in social media.

### 1.3. Reciprocity in Marketing

Most relationship marketing studies have operationalised reciprocity as evidence of returns made in kind (Pervan, Bove and Johnson, 2009). For example, the reciprocation of coercive and non-coercive influence strategies between dealers and suppliers (Frazier and Summers, 1986), specific asset investments and return between manufacturers and suppliers (Joshi and Stump, 1999), and the duration and intimacy of social and task-specific disclosures between customers and salespersons (Jacobs et al., 2001). Yau et al.'s (1998) research considered reciprocity as one aspect of a firm's relationship marketing orientation, defining it as the provision of favours, or the making of allowances for one's exchange partner, in return for similar favours or allowances to be received at a later date (Callaghan, Mcphail and Yau, 1995). In relationship marketing, therefore, favour exchange (e.g., Lampel and Bhalla, 2007; Mobius and Szeidl, 2007; Sin et al., 2005) is often considered to be the central idea of reciprocity.

Reciprocity has been also discussed as a virtue that is more important and has greater impact than other virtues, because it is necessary for a rational individual who aspires to excellence in moral behaviour (Pervan, Bove and Johnson, 2004). Given the further assumption that the achievement of moral excellence is the ultimate goal in the collective eyes of society, a relationship where reciprocity is upheld may be seen as perfect. Pervan et al. (2004) suggested that this view, although seldom explored in the relationship marketing literature, has some notable proponents (e.g., Bagozzi, 1995; Sisodia and Wolfe, 2000). Sisodia and Wolfe (2000) talked of the need, in relationship marketing, for a central dialogue where reciprocal relationships develop "through a belief that parties to the relationship will morally work to its benefit" (p. 551).

Previous reciprocity research in marketing has mainly focused on relationship marketing in the physical context, making such research a good starting point to further examine the implications of reciprocity in the extended relationship marketing environment, such as SNSs in the virtual environment. Because from a marketing perspective, SNSs are service platforms for social actors to engage in value exchange (non-monetary driven), it is believed by Zhu et al. (2014) that reciprocity as a virtue is worth upholding to enhance users' social well-being, and therefore this research will be based on a users' perspective and will explore how, in virtual environments, reciprocal behaviours are derived.

## 1.4. Research Context

### 1.4.1. Social Media: Social Networking Sites – Sina Weibo in China

The context of this research is one type of social media: social networking sites (SNSs), represented in the research by Weibo in China. The focus is to understand the role of reciprocity in helping relationship building in that Chinese virtual environment. The definition of SNSs generally accepted by the research community broadly identifies these sites as allowing members to create a profile, connect with others, and display these connections (Boyd and Ellison, 2007). This definition, however, does not capture any particular benefit of a social network. This research suggests that one potential way in which to conceptualise this benefit is to view it as social capital. Given Lin's (2001) definition of social capital it can be seen that an investment in the network can have possible returns. Therefore in this research, an SNS is described as a platform to build social networks or capital among people who share interests, activities, backgrounds, or who establish physical connections.

Weibo is an SNS offered by internet giant Sina in China. Similar to Twitter (which is blocked in China), it enables users to upload 140-character postings, along with pictures, videos and links. Other users can then reply, share or comment on these postings. The Weibo accounts of celebrities and opinion leaders command the attention of tens of millions of users and are extremely influential. It is arguably one of the most favorable SNSs in China and has influenced the way an entire new generation (e.g. Gen Y) of Chinese interacts. There are three key functions that Weibo plays, namely 1) user generated news/information resource channel; 2) social feedback and interactions; and 3) business marketing channel.

- 1) *User generated news/information resources channel.* Weibo is the perfect place to read thought-provoking news stories before they break on mainstream news channels for those who are interested in contemporary China. Many of the breaking stories that have astounded China over the past few years were first picked up and then amplified by Weibo, including the Wenzhou train collision and a slew of food safety scandals.
- 2) *Social feedback and interaction.* Weibo's threaded comments feature remains more advanced than that of Twitter, allowing users to see a timeline of responses to their post with a single click. This encourages debate and commentary within the

comments thread.

- 3) *Business marketing channel.* Weibo has become a major help for businesses. According to Enterprise Weibo's (2013) report, over 300,000 enterprise accounts are held by Weibo; and over 1,000 global companies (including 143 Fortune Global 500) have also registered and operated. Having a Weibo account is a cost-effective way to reach consumers in lower-tier cities and even rural areas, where brands might otherwise have to rely on local sales channels and partners. More importantly, it enables companies to monitor and respond to what people are saying about their products, service and brands in real time.

Like China's traditional media, Weibo is censored, and employs advanced algorithms that block searches for sensitive terms or postings containing blacklisted keywords. In fact, many contend that the Chinese government creates the illusion of a lively public forum based on free speech by allowing a modicum of criticism of small-scale or local-level corruption and scandal. Freedom of speech in China is always an interesting topic for western readers, however in order to avoid unnecessary issues arising from this research with the Chinese authorities, no politically related content is designed into the research. This also provides a better experiment by avoiding highly emotional and potentially polarising topics. Therefore, the emphasis in this research is on understanding how everyday Chinese SNS users establish their social networks among strangers and investigating what role reciprocity plays in the process of relationship building.

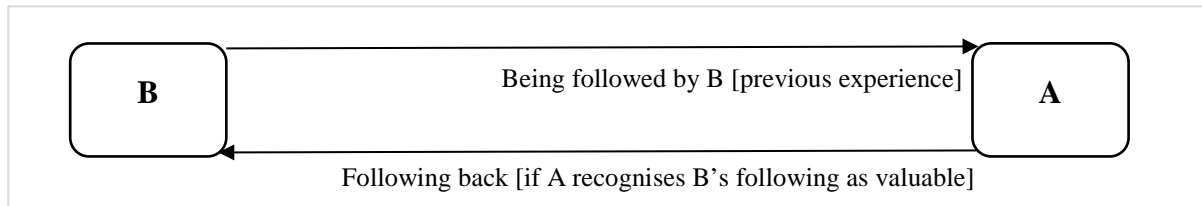
There are significant managerial implications to this research. In April 2012 Sina began the process of fully commercialising Weibo: it adopted several business models to increase its revenue streams, including interactive advertising, social gaming, instant search, wireless value-added services, e-commerce platforms and digital content fees (Enterprise Weibo, 2013). All these new services are aimed at retaining existing users and attracting new users to register so that the sustainability of the platform can be secured. Therefore, understanding reciprocity as a social norm can help social media companies to develop sustainable platforms that reach more people beyond their existing social networks. It is the social interactions and resources embedded within networks that sustains SNSs. The pathway for Weibo is to turn the social networking site gradually into a revenue generating social media platform by further encouraging reciprocal behaviours from active and influential users in interactive advertising.



### 1.4.2. Illustration of the Reciprocal Following Phenomenon in Weibo

The first observable reciprocal behaviour in Weibo is the act of “reciprocal following,” where *B* follows *A*, and *A* follows back on *B* (see Figure 1.2). This research investigates reciprocal behaviours from a recipient’s (i.e., *A*) perspective. Therefore, how a recipient evaluates a benefactor’s (i.e., *B*) giving becomes the focus of this research.

Figure 1.2: Illustration of the Reciprocal Following Phenomenon in Weibo



The following statements are used to describe one possible reciprocal following scenario in Weibo, thus providing a relatively more detailed process for readers to understand.

- *A* and *B* are two actors in Weibo who have weak ties (total strangers to each other);
- *B* browsed Weibo and found a piece of information posted by *A* that amused him/her; *B* received the value which was delivered by *A*, and in order to thank *A* for his/her contribution, *B* follows *A*;
- *A* felt respected and honoured when he/she was followed by *B* (*A* may not know the specific reason that *B* followed him/her, but *A* can assess *B*’s social capital and determine the value received from *B*), therefore *A* may follow the social norm of being polite and show mutual respect by following back on *B*;
- Following and following back thus enable the establishment of two-way communication which ensures that the information is mutually shared;
- The sharing of information can benefit not only *A* and *B*, but also the members of their social networks. This is how value is dispersed. For example, *B* values *A*’s contribution and shares *A*’s posting with his/her friends, *B*’s circle of social actors may also like *A*’s contribution and reciprocate either by following *A* or by continuing to broadcast the information. Sharing behaviour is one of the strongest representations of online reciprocity;
- Weibo users are information seekers: more specifically, they seek information that is valuable to them. They seek information from individual users, and in order for them to receive consistent updates on valuable information, they practise following behaviour. Thus, following behaviour can reciprocate benefits that one individual has already enjoyed, or propose potential value that that person can offer to users they deem to be potentially valuable;
- Reciprocity is therefore the fundamental driver of value dispersal in SNSs.

## 1.5. Motivations for Study

Numerous researchers have suggested that both marketers and consumers are currently experiencing a fundamental transformation in the practice of marketing (Deighton, 1996; Forrest and Mizerski, 1996). This change is not limited to the concept of marketing to, with and among, but also extends to marketing beyond, which emphasises the creation of emerging social markets in which consumption-related information is diffused. Additionally, social exchange is the central human activity that helps to explain how the process of exchanging resources contributes to social behaviour (Blau, 1964). For example, reciprocity has been widely used by marketing practitioners through practices of gift giving, free sample promotion, and customer loyalty programs (Cialdini, 1993). People respect the norm of reciprocity because it can strengthen personal relationships, facilitate business transaction, encourage future transactions, and prevent harmful and retaliatory behaviours. (e.g., Brandts and Charness, 2003; Burgoon et al., 2002; Carr, 2006; Dahl, Honea and Manchanda, 2005; Fehr and Gächter, 2000a, 2000b, 2002; Hoffman, McCabe and Smith, 1998). Beyond the tangible value (i.e., material and monetary) of social exchange, participation in a socially formed platform such as SNS can provide both participants and communities with social value, in terms of commitment, emotional attachment, and solidarity (Cook and Emerson, 1978). Social scientists and psychologists have extensively found the value of participating in social exchange at both the interpersonal and societal levels (e.g., Blau, 1964; Cialdini, 1993; Gouldner, 1960; Homans, 1958, 1961; Thibaut and Kelly, 1959). Therefore the issue of understanding social norms (i.e., norm of reciprocity) of exchange in virtual environments remains a challenge for theory and practice.

Among modern consumers, social media enabled networks have become more and more popular because they allow those consumers to contribute and share informational resources without physical boundaries, with everyone being a value co-creator. Social media rely on their members' contributions to be sustainable. Popular social networking sites such as Weibo promote and reward users strongly for their contribution and exchange of information. The input and output of information resource exchange in social media can be considered as the knowledge contributed and the benefits received from the exchange (Chiu, Hsu and Wang, 2006). However, information dissemination relies on one's number of network contacts and level of engagement with his/her social network (Zhu and Brodie, 2013). Therefore, it is argued that helping behaviour could be important in enhancing social relationships, especially

in newly established stranger-to-stranger relationship (Zhu et al, 2014).

Users of the network establish and maintain social order (e.g., through following social norms and identifying social structure) that makes online social networks as important as traditional communities (Fox and Roberts, 1999). Some social networks are constructed around consumers' real social connections (e.g., Facebook), while others are formed around common interests through anonymous memberships (e.g., Twitter, Weibo and BMW Fans Forum), so that different levels of social distance exist. Furthermore, SNS users' motivation to reciprocate and reciprocal behaviours towards other members with different level of social distance might be different from those in a physical situation. The paralleled living spaces of modern consumers provide researchers with another platform to study, and this research seeks to identify whether the norm of reciprocity also exists in consumers' online life, how SNS users perceived their social distance from their counterparts, and what most motivates consumers to behave reciprocally in SNSs.

Consequently, one interesting perspective of this research is how, in SNSs, social distance can be measured among users. Traditionally, researchers focus on the normative, affective and interactive perspective of social distance, such as gender differences, geographical differences, strength of relation ties, and level of interactivities (Nedim, 2009). However, there is a lack of quantification of the psychological distance between these study subjects. In an online context, it is sometimes difficult to infer the physiological distance among SNS users by using these measures, therefore new measures need to be developed. For example, when one Weibo user wishes to connect to another, before initiating a conversation he/she may rely on certain signals (e.g., the number of followers, followings, postings, likes, shares and comments), which can reflect the counterpart's online status: this information processing practice can be considered as a process of measuring the social distance between them (Moon, 2000).

Chaikin (1980) suggested people tend to use various social cues or mental shortcuts to avoid processing information extensively, and to avoid confusing proximate sources of information with the actual one (Reeves and Nass, 1996). Therefore, such a practice of seeking for heuristic meaning may also be widely found in the information-overloaded SNSs where users can process information more efficiently, however it can be regarded as another indication of which users tend to be lazy or irrational information processors (Moon, 2000). This suggests that social cues such as an SNS user's social profile (containing signs of his/her social capital) may therefore serve as the gateway for an interpersonal relationship to be initiated, and worth

to be explored.

In the last decade, reciprocity has been studied mostly in the experimental economics domain. Many types of experiment have been designed to capture reciprocal behaviours. However, these studies mostly considered economic transactions which typically considered monetary incentivisation, so that reciprocal behaviours were considered to be largely influenced by economic pay-outs and personality traits such as risk aversion (Fehr and Schmidt, 1999; 2006). Marketing researchers have not sought as much as economic researchers to understand reciprocal behaviours in the marketplace (e.g., in social media service platforms). There are very few marketing studies that use experimental design to measure the existence of reciprocity, so that the strength of different levels of social distance and types of emotions in influencing reciprocity remain undiscovered. This research therefore uses an experimental design to understand consumers' reciprocal behaviours in SNSs.

Furthermore, economic studies have mainly focused on pure economic transactions and cost-benefit analysis, and rationality is the central belief for almost all experimental economics studies. In contrast, marketers have additionally put emphasis on consumers' motivations in their decision making, and often these psychologically-based emotional triggers have shown greater influence than monetary incentives. Such effects might be more prominent in virtual environments. The standard economic approach has the weakness that in relation to unrepeated interactions it cannot explain altruistic reciprocity (i.e., reciprocal behaviours underpinned by beliefs (Kolm and Ythier, 2006)) or compliance to the norm of reciprocity. Although field and experimental research both support the existence of norm of reciprocity for a wide range of social activities and societies, even among strangers (e.g., Diekmann, 2004). Recent developments in experimental game theory (e.g., Ostrom and Walker, 2003) seek to explain these observations by contradicting the traditional rational choice approach. Specifically, the feeling involved in the reciprocal exchange could be used to explain how material pay-off in a non-material virtual environment is emotionally perceived and reacted to.

Overall, because SNSs have become a major force in consumers' contemporary life, it is important to investigate social norms in virtual environments. From a marketing perspective, advertising, commercial and social communications related to services and products are widespread in most social media sites. From an economic perspective, the number of online businesses is increasing, and online markets are becoming more prominent. For research, the

focus should also shift to how people live and consume through reciprocal relationship in social communities.

## **1.6. Research Objectives**

Based on the research motivations stated in the previous subsection, four major research objectives are formulated.

### **1.6.1. Objective 1: Existence of Reciprocity and its Magnitude in SNSs**

The first objective of this research is to investigate the existence of reciprocity and its magnitude in SNSs. The norm of reciprocity has been acknowledged as an important phenomenon in face-to-face social interactions, but in virtual environments (i.e., SNSs) its existence has not been established, nor has its magnitude been assessed. Reciprocity is deeply rooted in Chinese culture, and while the mechanics of the norm (i.e., giving and receiving) may be universal, the embedded value of the original offer may differ widely from physical (e.g., gift giving in face-to-face context) to virtual environments (e.g., the act of following in SNSs). Therefore, the exploratory research will address specific research questions around how value is perceived and reciprocated in virtual environments, including: Does a simple following action on Weibo imply respect or liking? Can this action be perceived as a gift or favour to the user being followed? To what extent do SNS users reciprocate directly to the following action directly by following back? And what factors are associated with them do so? Answers to these questions are expected to be revealed in the exploratory stage of the research and will be used to inform the design of quantitative research.

### **1.6.2. Objective 2: Influence of Social Distance on Reciprocity in SNSs**

The second objective of this research is to empirically test the influence of social distance on reciprocity in SNSs. Traditionally, social distance is mainly studied in human interactions in an offline environment, which includes measures such as gender, age and social class (e.g., Dufwenberg and Muren, 2006; Slonim, 2004, Charness and Gneezy, 2008). This research faces the challenge of assessing the social distance between SNS users in a virtual environment where traditional measures are uncertain or difficult to determine. Past research (e.g., Rosenbaum and Massiah, 2007; Wasko and Faraj, 2005; Glaeser et al., 1999) has suggested that as social distance decreases, the need to reciprocate grows, and this could be due to higher level of trust involved between individuals with stronger ties (Sahlins, 1972) (e.g., the tendency to reciprocate to strangers is less than to those who have stronger social ties, such as family and friends).

Therefore, this research seeks to understand whether this is the case in a virtual environment,

because the internet involves inherent distance among its users, who are however gathered together due to common interest, which may in turn reduce their social distance. The three dimensions of social distance are affective, normative and interactive (Nedim, 2009), however the dimension(s) which governs SNS users' perceived social distance for their peer users remain undiscovered. A key research question is whether, in a virtual environment, social distance is a significant factor that catalyses reciprocal exchange.

Specifically, how is social distance between SNS users determined? In an SNS, the social distance varies between the benefactors (i.e., followers) and recipients (i.e., users being followed). The recipients can choose between different benefactors with various combinations of online social signals, making trade-offs among them. Therefore exploratory research will be used to identify what factors are used to infer social distance and how these factors in turn impact on reciprocal behaviour. Factors thus identified will then be built into scenario experiments for further validation and quantification. From these experiments the following questions can be answered: to what extent does each dimension of social distance (e.g., manipulation of bridging and bonding social capital) impact on participants' overall level of perceived social distance and in turn on their reciprocal behaviours?

### **1.6.3. Objective 3: Emotions Attached to Reciprocal Behaviour in SNSs**

The third objective of this research is to explore emotions attached to reciprocal behaviour in SNSs, and their associated impact on reciprocal behaviours. Rational choice (Coleman, 1990) has been the central concept for experimental economists who studied reciprocity (e.g., Bolton and Ockenfels, 2000; Dufwenberg and Kirchsteiger, 2004; Fehr and Schmidt, 1999; Levine, 1998; Rabin, 1993). However, relationship marketing studies have shown that in face-to-face interactions, reciprocity is supported by emotions (e.g., Greenberg, 1980; Becker, 1986; Kolm, 1995; Komter and Vollebergh, 1997; Pervan et al., 2004, 2009).

Pervan et al. (2004) believed that reciprocity is a virtue that relies on supporting virtues to operate effectively (i.e., generosity, empathy, and conviviality). In addition, Cialdini's (1993) discussion of reciprocity is largely based on how to trigger people's feelings of indebtedness, liking and gratitude. Recently, Garde-Hansen and Gorton (2013) suggested that ordinary experiences of being online have emotional impact within everyday life and emotion. This view has begun to permeate social media studies (e.g., Goggin and Hjorth, 2009; Lasen, 2010).

All the above suggests that even in virtual environments emotion is a valid and important construct to investigate. Emotion is however relatively difficult to observe/detect in non-face-to-face environments, therefore this research in its exploratory stage will explicitly prompt for SNS users' emotions that relate to their reciprocal behaviours. It is expected that in virtual environments as in physical ones, similar emotional factors will be seen to catalyse the process of reciprocity, and that differences will arise due to the internet's anonymous settings and inherent larger social distance.

#### **1.6.4. Objective 4: A Conceptual Model of Reciprocity in SNSs**

The last major research objective is to develop and empirically validate a conceptual model which incorporates all influential factors on reciprocity identified from the previous literature and the exploratory research. Theoretical relationships between constructs of interest will be specified for hypothesis testing. In order to demonstrate the causal relationships between antecedents (i.e., factors influencing reciprocal behaviours) and consequences (i.e., reciprocal behaviours), the model will be process driven, and possible mediation effects will be also identified.

### **1.7. Overview of Research Methodology**

In order to understand the implications of reciprocity in a new social context, and to be able to generalise the emerging theory, this research adopts a mixed methods design, combining qualitative and quantitative forms, and seeking convergence between them (Jick, 1979). According to Creswell (1998), qualitative exploratory research is “an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting” (p. 15). In contrast, quantitative research is the “inquiry into social or human problems based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures, in order to determine whether the predictive generalisations of the theory hold true” (Leedy, 1997, p. 104). This research begins with an exploratory qualitative in-depth interview study, in which findings can both help to generate new knowledge and also provide questions to be answered in the quantitative work (Tashakkori and Teddlie, 1998). The exploratory phase is followed by a quantitative experimental design and survey study with



a large sample enabling the researcher to seek convergence across qualitative and quantitative methods and to generalise results more widely.

According to Creswell’s (2008) research design logic, both approaches involve the intersection of philosophical worldviews, strategies of inquiry, and research methods. A summary of these three elements for each approach is presented in Table 1.1.

Table 1.1: Research Design Based on Creswell (1998)

Research Design Elements	Mixed Methods	
	<i>Qualitative Approach</i>	<i>Quantitative Approach</i>
<b>Philosophical Worldviews</b>	Positivist & Interpretivist	Post-positivism
<b>Strategies of Inquiry</b>	Phenomenology	Experimental designs and survey
<b>Research Methods</b>	Interview data – hermeneutic analysis	Statistical data – two-way analysis of variance (ANOVA) and structural equation modelling (SEM)

### 1.8. Proposed Contributions of the Research

To date, especially in the marketing literature, there is limited research on reciprocity in SNSs for interpersonal relationship building. The empirical examination of reciprocal behaviours in SNSs is therefore the primary contribution of this research. The research examines the impact of social distance (in the form of SNS users’ perceptions of social capital discrepancies) and emotions triggered, on SNS users’ reciprocal behaviour. The research also contributes to the literature by rethinking the nature of social distance in virtual environments and providing new measures for operationalisation. The factors (i.e., bridging and bonding social capital) used to determine social distance between SNS users are both unique, and relevant to the cognitive evaluation process towards reciprocity.

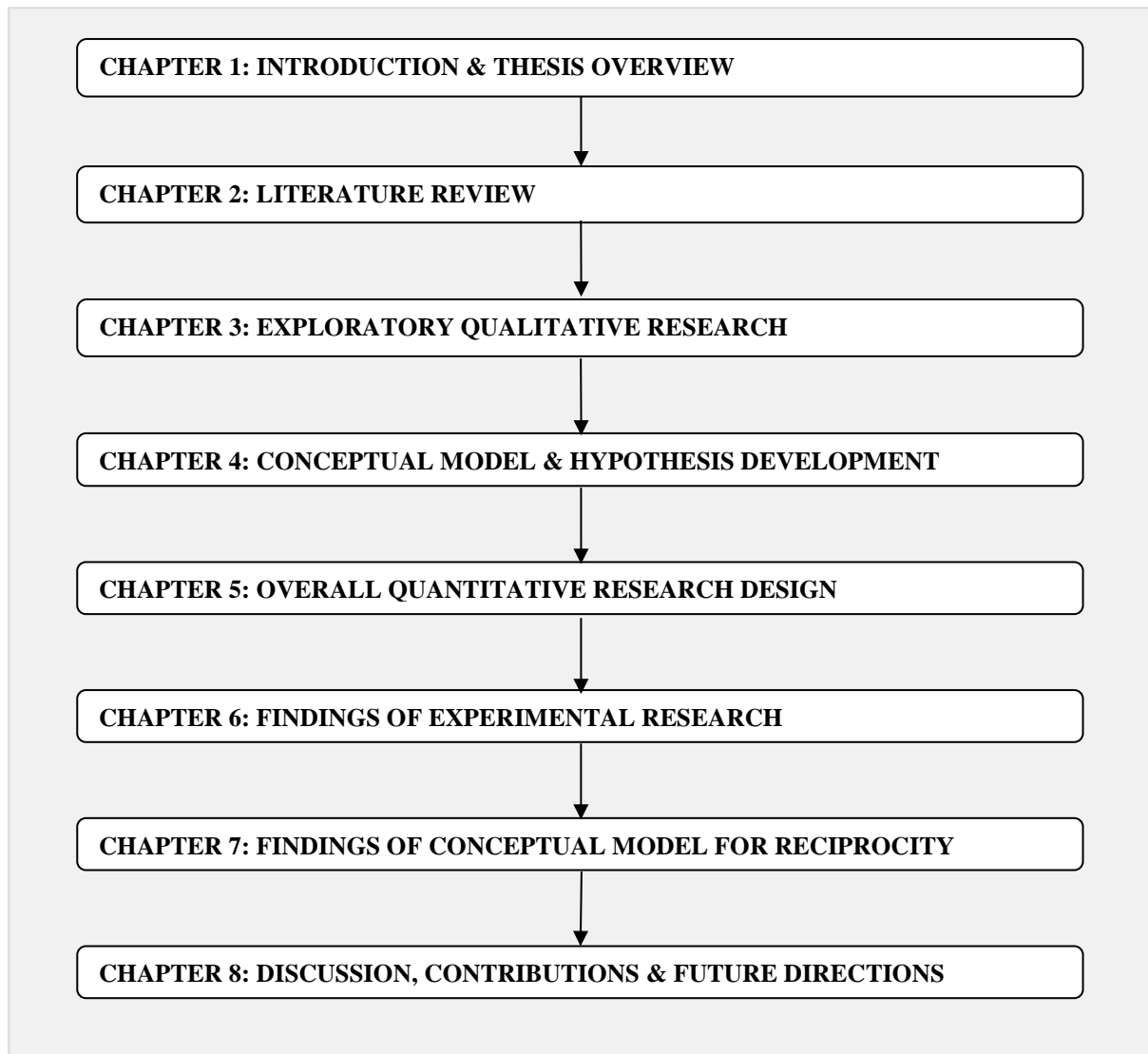
Furthermore, this research uses experiments to establish the causal relationship between social capital and reciprocity, and assesses emotional responses, which have commonly been ignored in experimental economic research on reciprocity. This will allow the researcher to assess the impact of each dimension of social distance (e.g., by operationalising social capital) on reciprocity through the lens of emotion: thus, the theoretical relationships between social distance and emotions, and between emotion and reciprocity can be empirically determined through structural equation modelling.

The 2010-2012 Marketing Science Institute (MSI) research priorities identified four priority topics to help firms to anticipate changing marketing conditions. This research covers two of these priorities: 1) to understand customer experience and behaviour and; 2) develop marketing capability for customer-focused organisations (MSI, 2010). Firstly, in terms of understanding customer experience and behaviour, this research is expected to help social media organisations to identify their users' psychological pathways in forming reciprocal relationships, and to understand how users assess others' participation, contribution and sharing of resources. This will suggest how these organisations could further promote the norm of reciprocity as a rule to follow for all new users, and encourage reciprocal helping behaviour so that a better network can be established and become sustainable. Secondly, because users' reciprocal behaviours can reflect the success of a social media site's structure and ability to deliver the value proposition, reciprocity research in virtual environments can help social media organisations to assess their marketing capabilities.

### **1.9. Structure of the Thesis**

The remainder of the thesis is structured as follows (see Figure 1.3). Chapter 2 presents a literature review which introduces the concept of reciprocity, its underpinning theories from other fields, and relevant constructs that catalyse the process of reciprocity. Chapter 3 presents a qualitative exploratory research on reciprocity in the context of an SNS in China. Major influencing factors are identified for further conceptual model development. Chapter 4 describes, conceptually, the development of reciprocity in virtual environments. A Five-Phase process model is developed which visually represents the reciprocity phenomenon in a Chinese SNS, and presents hypotheses and the *Social Capital – Emotion – Reciprocity* conceptual models for empirical testing. Chapter 5 indicates the methodology and results of the quantitative research which includes two experimental designs, and the construct operationalisation and manipulation for two structural equation models. Chapter 6 and 7 include the testing of results for all hypotheses and models, respectively. In conclusion, Chapter 8 presents discussions of the findings, suggests contributions to the theory and methodology, and gives suggestions for future research directions.

Figure 1.3: Structure of the Thesis

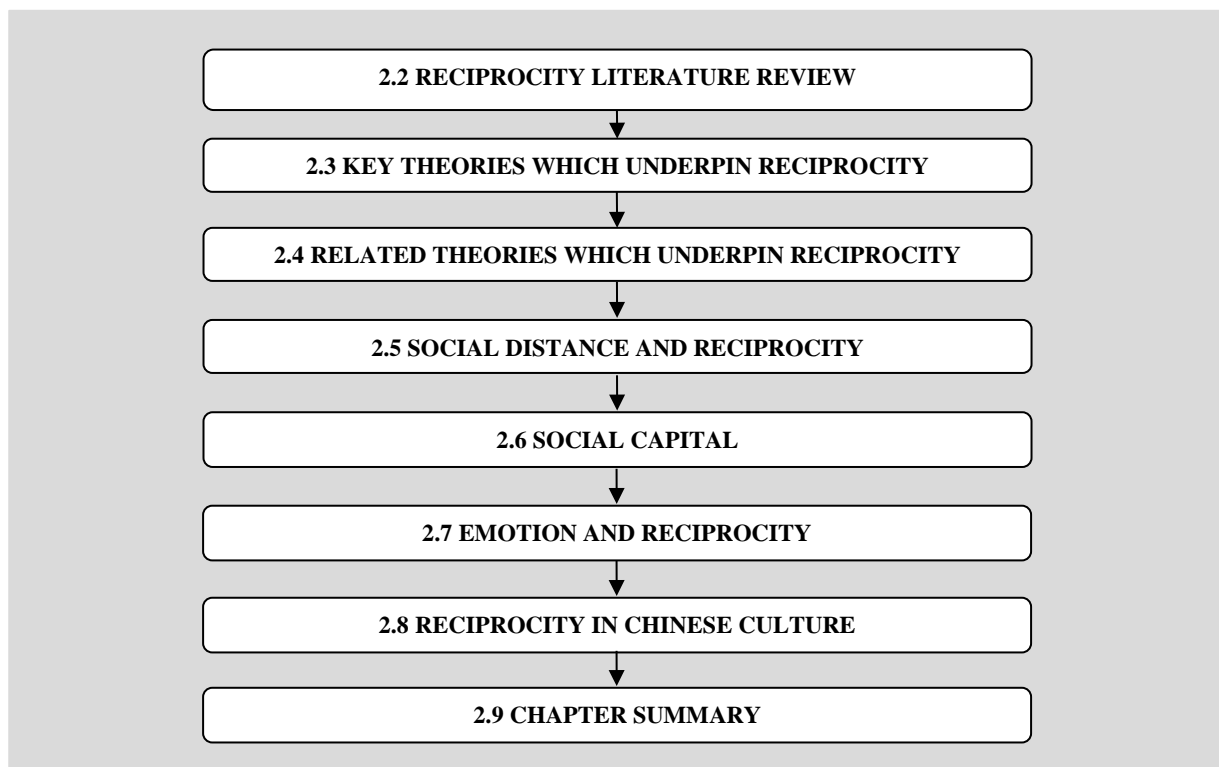


## CHAPTER 2: LITERATURE REVIEW

### 2.1. Chapter Overview

This chapter provides a review of reciprocity research and is structured as follows (Figure 2.1). First, the concept of reciprocity is defined and a systematic review of the conceptualisation of reciprocity in both the social science and marketing literature is provided (§2.2). Next, a review of key and related theories which underpin reciprocity in previous research are followed (§2.3 & §2.4). Then literature reviews for the concepts of social distance (§2.5), social capital (§2.6), and emotion (§2.7) as key constructs that are of interest in relation to reciprocity are provided. Further, reciprocity in Chinese culture is addressed (§2.8). The chapter concludes with a synthesised summary of the literature review on reciprocity and relating concepts (§2.9).

Figure 2.1: Structure of Chapter Two



## 2.2. Reciprocity Literature Review

### 2.2.1. The Concept of Reciprocity

Reciprocity – a form of social obligation calling for future acts of kindness – can be traced back over 2000 years in Chinese Culture, where it is formally documented as *Lishang Wanglai* (礼尚往来). In everyday life reciprocity is known in many forms, such as “you scratch my back I’ll scratch yours,” and “you get what you give” and with negative implications in ancient law, for example “an eye for an eye, a tooth for a tooth” (The *Bible*, Matthew 5:38).

Reciprocity is a pervasive and important phenomenon in human life. At every level, social relationships are guided by the shared understanding that most actions call for reactions, and that reactions require management. Reciprocity has been extensively studied in a wide variety of disciplines from social norm to ethic (see Table 2.1), where it is analysed as a highly effective “tit-for-tat” strategy (Axelrod, 1984, p. 13). The norm of reciprocity (also known as “the Golden Rule”) (Stace, 1937) is a moral code born from social interaction, symbolised by the aphorism, “do unto others as you would wish them do unto you.” According to sociologists and philosophers, the concept of reciprocity lies at the foundation of social organisation. Thus, the way people conceptualise reciprocity and the way it is expressed in behaviour play an important role in governing people’s social interactions.

Table 2.1: The Concept of Reciprocity as Defined in Different Disciplines

<b>Disciplines</b>	<b>Concept Definition</b>
<b>Cultural Anthropology</b>	Approach of describing people's informal exchange of good, labour (e.g., Graeber, 2001) and gift (e.g., Mauss, 1923/1990)
<b>Evolution</b>	Mechanisms for the evolution of cooperation (e.g., Nowak, 2006)
<b>International Relations</b>	Policies that favours, benefits, or penalties that are granted by one country to the citizens or legal entities of another, should be returned in kind (e.g., Keohane, 1986)
<b>Social Psychology</b>	Actions taken by one party in an exchange relationship will be reciprocated in kind by the other party (e.g., Gouldner, 1960 Cialdini, 1993)
<b>Ethics</b>	The Golden Rule: one should treat others as one would like others to treat oneself (e.g., Stace, 1937; Flew, 1979)

The origin of the word reciprocity can be traced back to the late 16th century from Latin and 17th century from French, *réciprocité*, which literally means “moving backwards and forwards,” and traditionally and politically it is used to describe privileges granted by one country to another (Keohane, 1986). The online Oxford Dictionary (2013, definition *noun*) defines reciprocity as “a state or relationship in which there is mutual action, influence, giving and taking, correspondence, etc., between two parties, it is the practice of exchanging things with others for mutual benefit” and the verb “to reciprocate” means to “act, feel, or give mutually or in return” (see Table 2.2 for more dictionary definitions). Overall, these definitions of reciprocity can be characterised by a few common attributes: 1) a relationship of mutual dependence; 2) mutual exchange of benefits or value; and 3) mutual interaction.

Table 2.2: Dictionary Definition of Reciprocity

<b>Definitions</b>	<b>Dictionary</b>
A mutual or cooperative exchange of favours or privileges, especially the exchange of rights or privileges of trade between nations	<b>American Heritage Dictionary</b> (2013, online)
The practice of making an appropriate return for a benefit or harm received from another. Reciprocal altruism is the system whereby a benefit received is returned with a benefit; under a wide range of conditions, groups practicing it will flourish better than those practicing unbridled self-interest	<b>Oxford Dictionary of Philosophy</b> (Blackburn, 2008)
Exchanges between individuals or communities who are symmetrically placed, which involves exchange of things (e.g., gift) more or less as equals. One gift does not have to be followed by another immediately, but an obligation is formed every time a gift is given and this needs to be reciprocated	<b>The Concise Oxford Dictionary of Archaeology</b> (Darvill, 2008)

Girju and Paul (2011) suggested that from a timing point of view there are two distinct possibilities: 1) *mutual reciprocity* between actions that occur concurrently, where the action is an iterative process with mutual meaning, for example: Ben and Lucy hate each other, or 2) *in return reciprocity*, when one action causes the other, for example: Lucy likes Ben because he helped her. Following these definitions, distinctions and our area of interest, this research is more inclined to adopt the second possibility and therefore understand reciprocity as an exchange practice performed by two participants (i.e., benefactor and recipient), linking two events (i.e., actions or activities), the original event and the reciprocal event, which occur in a sequential order.

Reciprocity as giving back in return because one has received from another has long been a central concern of social science, a basic concept of economic anthropology, the subject of sociological studies, and a common topic in experimental and theoretical social psychology (e.g., Blau, 1964; Cialdini, 1993; Gouldner, 1960; Greenberg, 1968). For example, social psychologist Robert Cialdini noted that the rule of reciprocation assures that someone can give something away first, with the relative assurance that this initial kind action will eventually be repaid (Cialdini, 1993). Therefore, the starting point to understanding reciprocity is assessing how individuals interpret the original event (i.e., kind action) initiated by one party (i.e., benefactor or giver) and the reciprocal act it engenders.

In the physical environment, the original event is often referred to as a favour, gift giving or caring for others' well-being. These are relatively easy for recipients to identify and react to. In the exploratory research (see Chapter 3), almost every respondent exhibits a high level of respect towards the social norm of reciprocity in real world situations. However, in the virtual environment their tendency to follow this norm became less obvious. In the exploratory research four reasons are identified for a lower level of reciprocity: large social distance inherited from the internet, personal selectivity, lack of reciprocal value and avoidance of risk or troubles. Therefore this research will investigate how, in virtual environments, people put cognitive effort into overcoming these barriers in order to realise reciprocal value from ambiguous/vague kind actions.

The following two subsections elaborate on the types of reciprocity that have been widely acknowledged and repeatedly studied. The review will provide the researcher with a historical tracking of how reciprocity has been understood and developed, and support for the conceptual development of reciprocity in virtual environments.



### 2.2.1.1. Types of Reciprocity

Economist Karl Polanyi (1957) made the distinction between market as a supplementary tool for ease of exchange of goods and services, and market societies (i.e., market societies are those where markets are the institution for the exchange of goods and services through price mechanisms). He argued that the three principles of exchange are the *market principle*, *redistribution*, and *reciprocity*, and that the oldest principle of exchange among the three is reciprocity, which involves the exchange of goods between people who are bound to one another in non-market, non-hierarchical relationships (Polanyi, 1957).

Polanyi (1957) also suggested that the exchange does not create the relationship, but rather is part of the behaviour that gives it context. Modern marketing conceptualisations go beyond the gift exchange idea (e.g., Falk, 2007; Komter and Vollebergh, 1997; Lampel and Bhalla, 2007; Steidlmeier, 1999; Wu, Chan and Lau, 2008). For example, Wu et al. (2008) described consumers' reciprocity as their tendency to engage with product/service/brand providers. Furthermore, Sahlins (1972) extended Polanyi's conceptualisation of reciprocity by specifying exchange types based on three characteristics: "1) *Immediacy of return*, it captures the timing with which the recipient must discharge the obligation, and ranges from immediate to an infinite period; 2) *Equivalence of returns*, it refers to the extent to which parties in an exchange relationship reciprocate in kind and quantity, and ranges from exact correspondence to complete divergence, and; 3) *Interest*, it captures the nature of involvement of exchange partners in an exchange process, and ranges from complete self-interest, through mutual interest, to altruistic interest in others' welfare." (Sahlins, 1972, p. 194-195).

On the basis of the three dimensions discussed above, Sahlins (1972) proposed three forms of reciprocity; generalised, balanced and negative (see Table 2.3). These reciprocities represent a continuum along which actual exchange types can be located.

Table 2.3: Reciprocity Classification Scheme by Sahlins (1972)

<b>Dimensions</b>	<b>Generalised Reciprocity</b>	<b>Balance Reciprocity</b>	<b>Negative Reciprocity</b>
<b>Immediacy of return</b>	Undefined	Mostly immediate return, but also allows a set time	Demand return
<b>Equivalence of return</b>	Undefined	An explicit expectation of full replacement of the goods/services	Maximise personal gain
<b>Interest</b>	Altruistic interest	Mutual interest	Self interest

First, *Generalised reciprocity* involves an exchange between closely related people (i.e., strong social ties) in which the giver expects nothing explicit in return (Sahlins, 1972). Salish (1972) also noted that there is normally no discussion about what the material payback must be for the exchange, so the value that is returned is not necessarily the same as the value of the goods given to the person (Sahlins, 1972). This view is based on the assumption that unbalances will be restored (also see equity theory in §2.3.2). This type of reciprocity is often observed between family members and close friends, which is largely based on high levels of trust (Chen, Aryee and Lee, 2005; Whitener et al., 1998) and reciprocating with high emotional attachment (Tsui and Farh, 1997). Altruistic intentions dominate this type of relationship, which resembles sharing by social contract, and reflects altruistic concern for others (Sahlins, 1972).

Secondly, *Balanced reciprocity*, also known as symmetrical reciprocity (Kolm and Ythier, 2006), involves an explicit expectation of full recompense for the goods/services. There is most likely an amount of time (often immediately) specified that the goods/services needs to be returned or paid for by (Sahlins, 1972). The social distance between giver and recipient increases and the trust involved is less than for generalised reciprocity, therefore the relationship is weaker (Dirks and Ferrin, 2001; Molm et al., 2007). This type of reciprocity reflects strict vigilance and accounting of exchange partners concerning exchange benefits, therefore the exchange process is governed by mutuality of interests, and the business expects immediate and equal return of its investment from its partners (Liden, Sparrowe and Wayne, 1997).

Lastly, *Negative reciprocity* is the attempt to maximise personal gain from the transaction. Here, self-interest rules the process (Sparrowe and Liden, 1997) with negative effects (Sahlins, 1972). Each party tries to extract the maximum value from the other and prevent the other from reaching their goals (Liden et al., 1997), which is highly dysfunctional (Tepper, 2000). Negative reciprocity normally involves minimum trust and maximum social distance (i.e., among strangers, Bonvillain, 2010), and results in lower performance and commitment (Duffy and Ferrier, 2003).

### 2.2.1.2. Forms of Reciprocity

Cooperation in long term relations among unrelated individuals (i.e., strangers-to-strangers) is often explained by mechanisms of *direct* and *indirect reciprocity* (Fehr and Gächter, 2000b; Nowak and Sigmund, 2005). These mechanisms can also be used to explain underlying social characteristics of cooperation in virtual community. Direct and indirect reciprocity rely on one of the most prevalent social norms which directs individuals to respond to each other in similar ways by returning services, goods, favours, information and affective support (Fehr and Gächter, 2000b). Direct reciprocity in SNSs can be characterised by such expectations as “I made a comment on your posting and you will reciprocate in the future by commenting on my postings.” Indirect reciprocity might be represented by “I made a comment on your posting, and somebody else will indirectly reciprocate by forwarding mine.” The former requires individuals to memorise their bilateral forwarding interactions, while the latter expects them to track interactions between other participating users in SNSs.

The best known direct reciprocity-based behaviour (first proposed in the “Prisoner's Dilemma” game in economics) is a conditionally cooperative strategy often called “tit-for-tat” (Axelrod, 1984, p. 13). This strategy assumes initial cooperation and then the copying of the last move of the opponent, and it involves concepts of trust and reputation (Ostrom and Walker, 2003). It encourages individuals to acquire a reputation for being cooperative, and suggests that members who follow the reciprocal behaviour limit their interactions to those they have judged to be trustworthy according to local trust and reputation systems. The main difference between the two forms of reciprocity is that in the former (i.e., direct reciprocity) a user evaluates a subjective view of the entity's trustworthiness, while in the latter (indirect reciprocity) the view of the whole community is incorporated (Jøsang, Ismail and Boyd, 2007).

In many economics games, participants played the “Prisoner’s Dilemma” game repeatedly in pairs, not knowing in advance when it would end (Falk and Fischbacher, 2006). Diekmann (2004) noted that if larger groups of players rather than dyads play the repeated game simultaneously reciprocal cooperation is more fragile. Nowak and Sigmund (1998b) presented their solution to the problem of cooperation in larger groups; in their design, a player was assigned to a co-player for one-off game, and his or her decision was witnessed by other players in the groups with a certain probability, for example, a player had the choice to give, or not give, to a player in need (Wedekind, 1998). Nowak and Sigmund (1998b)

assumed that players accumulate an “image score” for each cooperative decision. The results showed that the higher the image score (i.e., a reputation for cooperation), the more other players were inclined to cooperate with the reputable player, even if they have had no previous relationship with that player (Nowak and Sigmund, 1998b), hence an effect of indirect reciprocity, and the cooperative behaviour witnessed by others has made a particular individual reputable for being a reciprocator.

Under this circumstance of indirect reciprocity, Nowak and Sigmund (1998a) proved that if certain requirements regarding information about the image score or level of reputation are met cooperation/reciprocation will emerge. Their finding received support when Wedekind and Milinski (2000) ran a more complex experiment to confirm empirically whether indirect reciprocity promotes cooperation due to enhanced “image.” The theory of indirect reciprocity has been less studied than other types of reciprocity, however Putnam (2000, p. 21) emphasised the importance of generalised reciprocity of the form “I’ll do this for you without expecting anything specific back from you, in the confident expectation that someone else will do something for me down the road.”

Overall, developments in economic game theory has provided evidence to support the theory of direct and indirect reciprocity, and offered detailed explanation for the evolution of cooperation in larger groups. In the social media environment, reciprocal exchange of help, resources and emotional supports often occur in repeated dyadic interactions which resembles the notion of direct reciprocity. However, these reciprocal behaviours are not only limited to direct dyadic interactions who had previous experience with each other, but also exist between strangers who have no previous direct interactions via the mechanism of indirect reciprocity. In this case, the “image score” is often embedded in their social profile, which serves an indicator of whether they would be perceived as reciprocators. Therefore, this research will pay strong attention to the concept of indirect reciprocity since the research context has been framed to understand stranger-to-stranger interactions.

### **2.2.2. Conceptualisations of Reciprocity in the Social Sciences**

Reciprocity is an interpersonal construct (Pervan et al., 2009) which has long been recognised by psychologists, philosophers, and sociologists to be fundamental to social stability and a driver of relational exchange (e.g., Becker, 1986; Blau, 1964; Cialdini, 1993; Gouldner, 1960; Hwang, 1987; Shumaker and Brownell, 1984). Key conceptualisations in the social sciences are summarised in Table 2.4. In cultural anthropology, reciprocity has been seen as a way of defining people's informal exchanges of goods and labour that constitute informal economic systems (Gouldner, 1960). In the last decade reciprocity has been extensively studied in economics. Different types of games (e.g., investment games, dictator's games, lost wallet games, gift exchange game, etc.) were designed and tested to explore subjects' reciprocating behaviours (e.g., Charness et al., 2007; Chaudhuri, Sopher, and Strand, 2002; Garbarino and Slonim, 2009; Gernsbacher, 2006; Kanagaretnam, et al., 2009; López-Pérez, 2009).

Fehr and Gächter (2000b), Hoffman et al. (1998), and other researchers in evolutionary psychology and socio-biology see reciprocity as including both positive and negative dimensions (Ben-Ner and Putterman, 2000). The positive side of reciprocity is a conditional willingness to reciprocate cooperative behaviour by others, and the negative side is an inclination to punish, even at cost to oneself, exploitative behaviour or violation of the norms of reciprocity by others (Kolm and Ythier, 2006). It must be emphasised that the tendency to punish involves not merely punishing in a manner calculated to bring benefits to oneself in future interactions, although such benefits may help to stabilise or reinforce the behaviour (Kolm and Ythier, 2006). People with a genuine taste for reciprocity will punish cheaters even in a one-shot situation, and will sometimes incur costs to punish individuals who have exploited third parties, even if those actions brought no harm to the punisher (Carpenter and Matthews, 2002; Falk, Fehr, and Fischbacher, 2005; Fehr and Gächter, 2000a). This research will focus on the positive reciprocal behaviour.

Table 2.4: Reciprocity Conceptualisation in the Social Science Literature

<b>Author</b>	<b>Reciprocity Conceptualisation</b>
Gouldner (1960)	Actions taken by one party in an exchange relationship will be reciprocated in kind by the other party. Reciprocity involves the mutual exchange of favours and mutual reinforcement. It implies actions that are contingent on rewarding reactions from others, thus offering a mutually gratifying pattern of exchange of various resources.
Blau (1964)	Exchange partners match behaviours experienced from others with actions performed for others, giving in proportion to what they receive.
Greenberg (1968)	In a reciprocal relationship, the exchange is motivated to make the relationship balanced. Thus the increase in one exchange partner's helping would in turn increase the other exchange partner's helping. As the reciprocal relationship evolves, partners take turns in the helping behaviours.
Shumaker and Brownell (1984)	Reciprocity is a ubiquitous moral code imposing a sense of obligation to repay or be grateful for the resource that others provide, ensuring persistent supportive exchanges.
Hwang (1987)	With respect to Chinese culture, if you have received a drop of beneficence from other people, you should return to them a fountain of beneficence.
Houston and Gassenheimer (1987)	Reciprocity in exchange relationships facilitates bonds between exchange partners and reflects caring intentions for the well-being of exchange partners.
Geyskens et al. (1996)	It is important to distinguish the magnitude of reciprocity from symmetry of reciprocity. The magnitude of reciprocity is designed to measure the composite of the help provided by each party into the relationship while the symmetry of reciprocity measures the comparative level of helping behaviours in the relationship.
Kranton (1996)	Reciprocal exchange is informally enforced agreement to give goods, services, information, or money in exchange for future compensation in kind.
Fehr and Gächter (2000b)	Reciprocity means that in response to friendly actions, people are frequently much nicer and much more cooperative than predicted by the self-interest model. Conversely, in response to hostile actions, they are frequently much nastier and even brutal.

In the experimental economics research, researchers have found several explanations for reciprocal behaviour: 1) aversion to inequality (Bolton and Ockenfels, 2000; Fehr and Schmidt, 1999, 2006); 2) person-based responses, as people respond to the type of person they face (Levine, 1998); 3) intention-based responses based on a desire to reward good intentions or punish bad intentions (Brandts and Solà, 2001; Falk, Fehr and Fischbacher, 2000); and 4) bounded rational behaviour (Roth and Erev, 1995; Gale, Binmore and Samuelson, 1995). Specifically, most of the economic models of reciprocity assume that players are rational and

care about their own material payoff (e.g., Bolton and Ockenfels, 2000; Dufwenberg and Kirchsteiger, 2004; Fehr and Schmidt, 1999; Levine, 1998; Rabin, 1993).

However López-Pérez (2009) suggested that these models are not consistent with the law of reciprocal norm compliance (i.e., people tend to respect norms if others also do). Therefore the author has developed a model including norm-driven preferences and has studied determinants of norm compliance in an economic game setting. López-Pérez (2009, p. 557) found that reciprocal norm compliance depends inversely on “1) price, that is, the net material payoff an individual could get by deviating and directly on; 2) how intensely an individual has been affected by the norm; and 3) the proportion of people who are expected to respect the norm.” The author assumed that this economic model is the inclusion of the norm of reciprocity, which can be used to explain “why people tell the truth contrary to their material interest, or why people follow rules of etiquette” (López-Pérez, 2009, p. 558). Other models can hardly explain such behaviour because they posit that utility depends on money allocations and/or on beliefs about such allocations, which should not be affected by “words that one utters” (López-Pérez, 2009, p. 558).

Many business reporters have commented on questions of obligations in a reciprocal relationship, how to respond to another’s action (e.g., Begehr, 2011; Consalvo, 2010), and what is considered as an appropriate response in various situations. The role of reciprocity has also been widely realised in the business world, for example the power of reciprocity in building business trust (Ryan, 2010), in leading to additional customer referrals (Wheeler, 2010), and in efficiently utilising social media resources to gain maximum awareness (Cohn, 2011). All of these functions are the result of the art of giving (Greig and Bohnet, 2005). Overall, the norm of reciprocity requires individuals to make appropriate and proportional responses to both the benefits and the harms they receive, therefore, investigating the conceptual details of how reciprocity is enacted in virtually constituted online societies presents interesting questions for this research.

Various social science researchers have considered the emotional, cognitive and behavioural dimensions of reciprocity (see Table 2.5). Most of the literature has treated it as a one-dimensional construct but focus on different aspects independently. However, reciprocity appears to work as much through the emotions as through rational calculations. Drawing on these different approaches to conceptualising reciprocity, this research investigates each of these single dimensions suggested by previous literature, but frames them in a process-driven model which includes antecedents ( e.g., emotional and cognitive factors) and consequences (i.e., reciprocal behaviour). This research will construct the process of reciprocity in reference to the *Emotion – Cognition* approach (Zajonc, 1980) and the *Cognition – Emotion* approach (Lazarus, 1991). Each of these two schools of thought will be elaborated on in relation to the social media context and exploratory research in the later section (see §4.2).

Table 2.5: Reciprocity Dimensionality: Unidimensional vs. Multidimensional Views

Reciprocity Dimensionality	Social Science, Economics and Management Literatures
<b>Unidimensional</b>	
Emotional	Ben-Shakhar et al. (2004); Benabou and Tirole (2006); Reuben and van Winden (2006)
Cognitive	Blau (1964); Bohnet (2005); Cohn (2011); Garcia, Restubog and Denson (2000); Geyskens et al. (1996); Gouldner (1960)
Behavioural	Chaudhuri et al. (2002); Consalvo (2010); Fehr and Gächter (2000a, 2000b); Gernsbacher (2006); Garbarino and Slonim (2009); Greenberg (1968)
<b>Multidimensional</b>	
Cognitive/Behavioural	Charness et al. (2007); Hammer (1985); Hwang (1987); López-Pérez (2009); Wheeler (2010)
Emotional/Behavioural	Houston and Gassenheimer (1987); Kanagaretnam et al. (2009); Leider et al. (2009); Mobius and Szeidl (2007)
Cognitive/Emotional/Behavioural	Hoffman et al. (1998); Kolm and Ythier (2006)

Furthermore, in a society in which norms of reciprocity are firmly held, there will be many situations in which an individual can seize personal advantage only at the expense of his or her self-image as a good person. Such behaviour represents a pro-self social value orientation (Kanagaretnam, et al., 2009) and is consistent with Benabou and Tirole’s (2006) model, where individuals give in order to signal that they are altruistic. The opposite of a pro-self value orientation is a pro-social value orientation. In this context giving focuses not on maximising personal gain, but on offering help based on altruism. Altruism is often underpinned by beliefs, and reciprocity is the actionable expression for such belief (Kolm and Ythier, 2006).



Leider et al. (2009) distinguished three components of pro-social reciprocity: 1) baseline altruism toward randomly selected strangers; 2) directed altruism that favours friends over random strangers; and 3) being motivated by the prospect of future interaction. These differential effects of future interaction on pro-social behaviour are well explained by the enforced reciprocity model developed by Mobius and Szeidl (2007). In this model, a decision maker can safely grant favours (in the form of a larger allocation) to partners when the relationship between them is stronger and more valuable, since the partner would rather repay the favour than damage the friendship. Therefore granting favours only benefits both the giver and receivers when giving increases social well-being (Kanagaretnam, et al., 2009).

Overall, social scientists and economists have provided a wide range of views on reciprocity. It is often considered as a moral code/social norm, and the positive and negative forms, pro-self and pro-social motivations and pattern of exchange have also received in-depth discussion. Beyond this, most researchers have focused on the behavioural dimension of reciprocity, the central assumption for almost all experimental economics studies is rationality. Therefore, there is a need to further explore the emotional dimension of reciprocity, and the emotions attached to reciprocal behaviours. The feeling involved in the reciprocal exchange could be used to explain how pay-offs in a virtual environment are emotionally perceived and reacted to.

### 2.2.3. Conceptualisations of Reciprocity in the Marketing Literature

Although reciprocity is most often defined in experimental economics studies as uni-dimensional (e.g., behavioural), treating it as a multi-dimensional construct incorporating the return of good for good, and including emotional outcomes, as well as behaviour designed to stabilise exchange, is better suited to the exchange potentialities in relationship marketing (Pervan et al., 2009). A summary of reciprocity studies in relationship marketing is provided in Table 2.6. From a relational perspective, reciprocity is often interpreted as *quid pro quo* behaviour (Frazier and Rody, 1991) characterised by a more generalised exchange where returns in kind are not necessarily immediate, but where over time a balance of exchange is achieved (Homans, 1958). Most relationship marketing studies have operationalised reciprocity in terms of returns made in kind (Pervan et al., 2009). Examples include the reciprocation of coercive and non-coercive influence tactics between dealers and suppliers (Frazier and Summers, 1986), the duration and intimacy of social and tasks-specific disclosures between customers and salespersons (Jacobs et al., 2001) and specific asset investments and returns between manufacturers and suppliers (Joshi and Stump, 1999).

Moreover, researchers have called for the development of reciprocity as the basis of a theory of building customer relationships (e.g., Morais, Dorsch, and Beckman, 2004; Schultz and Bailey, 2000). Reciprocity has therefore been treated as one of the essentials of a conceptual framework of resource investment and customer loyalty (Morais et al., 2004), consumer-brand partnership (Davies and Chun, 2003), and consumer-firm reciprocal rewarding relationship (Morales, 2005). Wu et al. (2008), drawing on these studies, defined personal reciprocity as “a consumer’s conscious tendency to engage in a reciprocal and mutually beneficial relationship with a brand” (p. 345). Findings from Wu et al. (2008) revealed that a consumer’s personal reciprocity was a mediator (partial) between brand trust and brand loyalty to future purchase attentions, therefore, in the context of consumer-firm relationships firms can capitalise on a consumer’s personal reciprocity, and improve their performance by retaining existing reciprocity-minded customers. However, Wu et al.’s (2008) measure of reciprocity is very limited and mostly represents the assumption that all individuals are fundamentally motivated by self-interest (Pervan and Johnson, 2003).

Table 2.6: Reciprocity Conceptualisation in the Marketing Literature

Author	Concept	Definition	Dimensionality*
ISU-UE (1999)	<i>Reciprocity in community</i>	Interpersonal reciprocity: this is found in the form of community-wide activities that concern giving and getting. In interpersonal relationships, members do not formally calculate the payoff or gain in a cost/benefit sense. Institutional Reciprocity: In this form, members of institutions do consider the dollar value of the exchange. The focus is on the immediate transfer of goods and services and the calculation of profit or loss.	C and B
Dahl et al. (2005)	<i>Retailer-Consumer Reciprocity</i>	In the social context of a retail environment, R-CR represents a consumer experience of social connectedness through a salesperson's action, so that the consumer will feel that the appropriate response is to reciprocate through purchase.	C, E and B
Kaltcheva and Parasuraman (2009)	<i>Retailer-Consumer Reciprocity</i>	R-CR reflects the degree to which consumers place importance on comparative outcomes; in other words, the degree to which they pay attention to the level of reciprocity in their interactions with the marketer. Comparative outcomes in marketer-consumer interactions are defined as the difference between the consumer's outcome and the marketer's outcome (Coffman and Lehman, 1993; Oliver and Swan, 1989).	C, E and B
Lee et al. (2008)	<i>Exporter-Importer Reciprocity</i>	E-IR is the mutual exchange of helping behaviours between importers and exporters, which is influenced by a set of economic factors (e.g., business performance, economic satisfaction, calculative commitment and mutualistic benevolence) and social factors (e.g., cultural distance, social satisfaction, affective commitment and altruistic benevolence).	C and B
Pervan et al., (2009)	<i>Reciprocity in Relationship Marketing</i>	RRM is defined as a three-dimensional construct incorporating the exchange of good, resisting and not returning harm, and the reparation of harm done. Overall reciprocity is a key stabilising norm of interpersonal marketing relationships.	C, E and B
Wu et al., (2008)	<i>Consumer Personal Reciprocity</i>	CPR is defined as a consumer's conscious tendency to engage in a reciprocal and mutually beneficial relationship with a brand provider.	C and E
Rosenbaum and Massiah (2007)	<i>Consumer Voluntary Reciprocity</i>	CVR infers extra-role behaviours that are not contractually bound and will not receive formal rewards. Consumers who receive socio-emotional support from other consumers reciprocate by displaying helpful and discretionary behaviours that enhance the organisations' service performance and quality.	C, E and B
Chan and Li (2010)	<i>Customer-to-Customer Reciprocity (in virtual community)</i>	CCR reciprocity consists of voluntary and discretionary behaviours of giving help not only to those who help the giver but also to other members in the virtual community who need help and who would provide assistance on request.	C, E and B

Note: \* Dimensionality: C – Cognition, E – Emotion, and B – Behaviour

Conceptual models of reciprocity for business-to-consumer and business-to-business relationships have also been proposed. For example, Kaltcheva and Parasuraman (2009) introduced the personality-relatedness and reciprocity (PRR) framework, a relational framework suitable for analysing a wide range of retailer-consumer interactions. In their PRR framework, the reciprocity dimension reflects the degree to which consumers pay attention to the level of reciprocity in their interactions with the marketer, or to comparative outcomes. Specifically, comparative outcomes in marketer-consumer interactions were defined as the economic and social difference between the consumer's outcome and the marketer's outcome (Corfman and Lehmann, 1993; Oliver and Swan, 1989).

Furthermore, Lee et al. (2008) developed a conceptual model to define importer's reciprocity. The model posited that business performance plays a significant and positive role on the importer's economic and social satisfaction. Specifically, economic satisfaction led to calculative commitment, which in turn positively affects mutualistic benevolence. And social satisfaction in turn fosters benevolence motivated by altruism. Lee et al., (2008) found both mutual benevolence and altruistic benevolence play a positive role in nurturing reciprocity in the relationship. Therefore, it is evident that reciprocity in marketing studies includes not only economic but also social outcomes, this research on the consumer-to-consumer SNSs context will focus on social values.

There have been several recent studies on the impact of reciprocity on SNSs. Hennig-Thurau et al. (2004) showed that in online discussion forums, altruism was the foundation for generalised reciprocity, in that recipients of the resource, when asked for help, were more willing to reciprocate to the giver. Sadlon, Dever and Nickerson (2008) studied user behaviour on the website Digg (digg.com, a news aggregator with an editorially driven page) and found that those who submitted stories that became popular also actively read and voted for each other's stories. Lauterbach et al. (2009) studied CouchSurfing.com (a hospitality exchange SNS) and suggested that the high degrees of interaction and reciprocity among users were enabled by a reputation system that allowed users to fulfil promises for one another. The strength of a friendship tie was the most predictive factor in whether an individual would vouch for another. Similarly, Teng, Lauterbach and Adamic (2010) studied reciprocity behaviour in online reputation systems (e.g., Amazon), and found that reciprocity played an

important role in determining ratings of user reputation.

Researchers have also developed scales to measure reciprocity. For example, Yau et al. (2000) developed relationship marketing orientation scale in an industrial context, operationalising reciprocity as one of four dimensions of the scale. The authors adopted Sin et al.'s (2005) conceptualisation and defined reciprocity as a provision of favours (i.e., making of allowances for the other), in return for similar favours or allowances to be received when needed at a later date. Pervan et al. (2009) considered interpersonal contexts, and developed a valid two-dimensional measure which included exchange of goods and response to harm. Those studies, however, did not identify the factors or emotional drivers behind reciprocity, and are therefore insufficient to enable the construction of a holistic conceptual framework.

### **2.3. Key Theories which Underpin Reciprocity**

There are four key theories that underpin reciprocity and have been most recognised and cited in literature. These are Reciprocal Action Theory (Gouldner, 1960), Equity Theory (Adams, 1965), also called Balance Theory (Walster, Berscheid and Walster, 1973), Resource Exchange Theory (Foa, 1971), and Rational Choice Theory (Coleman, 1990). The essence of each theory is reviewed in the following subsections and these will be used in hypothesis development.

#### **2.3.1. Reciprocal Action Theory**

Sociologist Alvin Gouldner (1960) suggested that reciprocity is essential in all societies and present in all individual interactions. His Reciprocal Action Theory (RAT) posited that in an exchange relationship, action taken by one party will be reciprocated in kind by the other party (Gouldner, 1960).

RAT suggested that reciprocity is initiated when three conditions are met: 1) the amount of prior help (Wilke and Lanzetta, 1970); 2) the recipient's need at the time the prior benefits is best owned; and 3) the dependency of the potential recipient at the time reciprocal help can be given (Gouldner, 1960). Therefore, the process of reciprocal exchange comprises a mutual exchange of favours and reinforcement, which implies actions that are contingent on being rewarded by reactions from others, leading to a mutually gratifying pattern of exchange of

resources (Gouldner, 1960). Reciprocity thus reflects its original French meaning of *réciprocité*, “moving backwards and forwards” (Oxford Dictionary, 2013, [Origin]).

Gouldner (1960) also briefly remarked on reciprocity in terms of its balance of exchange, which is similar to the Equity Theory (Adams, 1965) discussed in the following subsection (see §2.3.2). He noted that without the reciprocity of service offer and return social equilibrium and cohesion could not exist. All interactions among members of society rest on the scheme of giving, and returning the equivalent (Gouldner, 1960). He also emphasised that individuals internalise the norm of reciprocity in the process of their socialisation, and that mutual interest is served by adherence to the norm (Gouldner, 1960).

### **2.3.2. Equity Theory and Balance Theory**

Adams (1965) developed Equity Theory (ET), and posited that the perception of equity results from the comparisons of inputs (i.e., effort) and outcomes (i.e., rewards). The author argued that exchange behavior is affected by beliefs that the distribution of outcomes within a community should be impartial and fair. Cohen and Greenberg (1982) also noted that individuals need fairness and equity in social exchange. Therefore, an equitable relationship occurs when individuals perceive that, compared with their inputs, they are receiving relatively equivalent outcomes from the give-and-take (Watkins et al., 2006). Mathews and Green (2009) suggested that unpleasant feelings (i.e., indebtedness) or gratitude may arise when inequity was observed in communal and exchange relationships. Therefore, emotional outcomes could motivate individuals to obligate to reciprocations in order to reduce those unpleasant feelings (Folger, 1986) and escape from being perceived as anti-social (Mathews and Green, 2009).

Similarly to ET, Balance Theory (BT) (Walster et al., 1973) emphasised individuals' desire to maintain a cognitively consistent state, and also predicts the occurrence of reciprocity. According to Walster et al. (1973) there are two techniques that individuals could potentially reinstate equity in an unbalanced relationship: 1) individuals can reinstate actual equity by properly modifying their own inputs or outputs in the exchange, and 2) individual can reinstate psychological equity by properly altering perceptions of their own inputs or outputs in comparison to those of other exchange partners or by reducing the perceived importance of the inequity (Walster et al., 1973; Watkins et al., 2006).

### **2.3.3. Resource Exchange Theory**

Foa's (1971) Resource Exchange Theory (RET) extended Gouldner's (1960) work by

specifying the pattern of resource exchange between two or more social units, and proposed that people exchange six types of resource: love (i.e., expressions of affectionate regard and support), status, information, money, goods, and services. Other than money and goods, which are not directly exchanged in SNSs, all other types of resources are observable there. According to Foa (1971), an individual's power or tendency to engage in reciprocal exchange depends on his or her possession of different types of resources, and an individual in a position of power, who is able to offer more resources, would expect greater reciprocation (Foa and Foa, 1974). This formulation implicitly indicates the existence of an unbalanced power position in a personally based reciprocal relationship.

Foa's (1971) RET also suggested that each type of resource exchanged could be a mechanism to induce reciprocal behaviour, because these could generally influence recipients' (of favours), preferences about the exchange, such as who was the giver (i.e., status) and value imbedded in the giving (i.e., expression of respect). Social Exchange Theory (SET) (Blau, 1964; Turner, 1970) is very similar to RET and is based on the premise that the nature of exchange relationship can be viewed in both economic and social. The research reported in this thesis deems that the value recognition process could be relatively more implicit in a virtual environment, but the formulation (i.e., perception of social capital owned in SNSs) is important for explaining what type of social resource prevails, and for cognitive assessment of the value of reciprocation.

#### **2.3.4. Rational Choice Theory**

Rational Choice Theory (RCT) has been studied in sociology since 1920's (e.g., Weber, 1922), and has been further promoted by Coleman (1990). Coleman (1990) assumed that individuals act rationally in order to maximise the differences between benefits and costs. In other words, RCT suggested that individuals are motivated by self-interest to maximise their welfare subject to constraints (Neal and Heckman, 1996). Coleman's (1990) view has greatly motivated many experimental modelling in economic studies (Blume and Easley, 2008), and has also provided key assumptions for analysis of technology use in computer-mediated communications (e.g., Arrow, 1990; Sen, 1977; Nielsen, 1995; Pelaprat and Brown, 2012). In addition, Pelaprat and Brown (2012) noted that RCT has been key in the analysis of social behaviour in virtual environments with internet user interactions being described as the optimisation of the search for information (e.g., Evans and Chi, 2008; Katz and Byrne, 2003;



Russell, et al., 1993), and motivated marketers to use incentives to encourage users to contribute to online service (e.g., Ba et al., 2003; Hsieh and Counts, 2009; Kraut, et al., 2005). Furthermore, RCT claimed that all social phenomena can be explained as the aggregation of discrete, isolated decisions made by individuals (Buchan, et al., 2002; Molm, Collett and Schaefer, 2007). Therefore, many social phenomena can be reduced to problems of social cooperation, for example, acting because one expects to receive an eventual benefit in return, or simply put, as an expectation of reciprocity. Pelaprat and Brown (2012) studied three types of online societies and suggested that in virtual communities, which emphasised, the utility derived from social exchange, self-interest motivates collaboration.

It is through the lens of RCT that the online reciprocal exchange (i.e., reciprocal following) behaviour as forms of reciprocity become objects of inquiry. Pelaprat and Brown (2012) raised two major questions which persevered in RCT. First, why spend time replying to posting if there is no clear benefit? Second, why volunteer time and energy to send new postings with no expectation that others will reply to them? A previous research conducted by Kollock's (1999) in online gifting has provided one answer to it, the author claimed that virtual community members who devote their time and energy to reply and assist others without the expectation of immediate return might do so because of the low costs of digital collaboration.

However, when self-interest and utility cannot easily be deduced, it is argued that no exchange or reciprocity exists at all. Pelaprat and Brown (2012) suggested that the risk of adopting RCT as the sole theory for explaining reciprocity is the assumption that a model of self-interest is at play in each observable behaviour. Hence, RCT may end up concerning itself more with the integrity of its own models than explaining the meaning or sociality of individual activities (Pelaprat and Brown, 2012), therefore, it may fail to represent important aspects of social life.

### **2.3.5. Potential Theoretical Gaps**

Each of the four key theories reviewed exhibited an opportunity or gap for this research to investigate.

- Reciprocal Action Theory (Gouldner, 1960) described reciprocity from a general perspective, but does not precisely specify the relevant mechanisms that lead to reciprocal behaviours. Therefore this research aims to identify factors influencing

reciprocal behaviour, specifically in virtual environments, and to determine whether the norm of reciprocity, which has already had strong cultural roots (e.g., in Chinese culture), is transferrable between the physical and virtual environments.

- Equity Theory (Adams, 1965) and Balance Theory (Walster et al., 1973) both focused on how to restore balance in an inequitable relationship as a means to cancel the feeling of indebtedness. However, in virtual environments, intensity of the feeling of indebtedness may be less strong than in face-to-face situations, especially among strangers, hence other emotional factors may be more prevalent than balance restoration in catalysing reciprocal behaviour, and worth further investigation.
- Resource Exchange Theory (Foa, 1971) identified that status is a form of resource for social exchange, therefore in virtual environments the value embedded in status exchange is one of the key interests of this research. When the currency of value exchange is standardised as a simple following action, the cognitive evaluation becomes more complex and the value perceived may vary according to the situation. Therefore what is behind the scene of “following” may be worth more investigation.
- Rational Choice Theory (Coleman, 1990) suggested that recipients of value are driven by self-interest, so that cost-benefit analysis determines the occurrence of reciprocity, and the emotional elements of the recipient are not considered. This research will bridge this gap by exploring and quantifying the emotional elements involved in reciprocity in virtual environments.

## **2.4. Related Theories which Underpin Reciprocity**

There are four related theories which underpin reciprocity. The literature reviews for these theories are suggested by the findings from the exploratory research. This is because the cognitive factors influencing reciprocity are embedded in social status that is symbolised in SNS users’ social profiles. The following theories are useful in providing theoretical reasons for focusing on status signals (i.e., social profile) in SNSs.

### **2.4.1. Social-Identity-Deindividuation Effect**

Social-Identity-Deindividuation Effect (SIDE) was first developed by Lea and Spears (1991) to describe the effects caused by over-attribution of similarity and group solidarity in

computer-mediated communication. For example, in the absence of face-to-face contextual signals, for example in Weibo, the possibility of over-attributing information about the relationship initiator is increased, often involving the construction of a fanciful image of the initiator (e.g., that he or she has a large number of followers). Spears and Lea (1994) suggested that SIDE is especially true when users meet through online support communities and dating sites. They found that community members seemed to behave positively towards each other, which made them feel they had a lot in common. When reviewing a perspective date's profile, users are more likely to see themselves as similar to the other and therefore become more interested in them than they originally would have been (Spears and Lea, 1994). Furthermore, the key assumption of SIDE is anonymity. This changes the relative salience of personal and social identity, obscures individual features and interpersonal differences, and can have a profound effect on interpersonal and community-based behaviour (Postmes, Spears and Lea, 1998).

#### **2.4.2. Self-Presentation Theory**

Self-Presentation Theory (SPT) (Schlenker, 1980) is based on the assumption that in social situations people make efforts to manipulate identity-relevant information in order to influence how other people form subjective opinions about them. SNSs provide a sense of anonymity which allow user to have better control over the perceptions and judgement of encounters by managing their self-generated social image. Therefore, SPT can be used to explain SNS users' reciprocal behaviours based on identity related issues. The process of this social maintenance practice is also known as impression management (Boyd, 2004). Specifically, in the SNS context, it is the management of an individual's identity information, such as, social status, profile photos, and postings that can reflect one's intelligence, personality and value orientation.

SNSs allow users to manage impressions and build the kind of relationship they desire. Specifically, users generate and present to others an image that they believe is their ideal or authentic self, which provides the "greatest internal satisfaction and external approval" (Schlenker, 1980, p. 7). In order to gain social approval (e.g., receiving follow backs, likes and comments about their postings), the impression management process attempts to avoid judgement and rejection. According to SPT, SNSs should provide a comfortable environment in which to network because the sharing of information is determined predominantly by the

individuals who show appreciation and grant approval to the counterparties (e.g., follow back on one's followers). Therefore, users have the ability to choose the information they wish to disclose, and to carefully articulate postings that create the social image they choose to present. The presented images are expected to trigger a greater level of social approval and acceptance, leading to greater reciprocity.

In many virtual communities, users are consciously able to construct a virtual representation of themselves, such as online gaming avatars, bios for professional development, and profiles for online dating. Therefore, SNSs set up a valid research context for researchers to investigate the process of how social signals are interpreted and assisted in relationship building. In one of the earliest academic studies on virtual communities, Boyd (2004) investigated Friendster.com as a locus of publicly articulated social networks that allowed users to convert online appearances of self and connect with others in the community. And the extension study by Donath and Boyd (2004) suggested that public self-exposures of connection plays the role of critical identity signals that assist users navigate the virtually networked society, in that an extended social network may serve to validate social identities presented in users' social profiles.

### **2.4.3. Social Presence Theory**

Short et al. (1976) were among the first to explore Social Presence Theory (SPT) and defined it as “the degree of salience of the other person in a mediated interaction and the consequent salience of the interpersonal interaction” (p. 65). Building on Short et al.'s (1976) work, Kehrwald (2008) studied SPT in an online learning environment, which considered how social actors represent themselves in their online communities through social profiles. Kehrwald (2008) referred social profile as a personal brand that indicates an individual's availability and willingness to connect and engage with others, especially among stranger-to-stranger, in their virtual community.

Researchers have suggested that social presence could be demonstrated by many approaches. These include how postings are constructed, how those postings are interpreted by others and responded to, and how a user's level of participation/bonding could generate indirect reciprocation from others who he/she had never previously encountered directly. Therefore, social presence also defines how community members relate to one another, which in turn affects their ability to exchange value effectively (Kehrwald, 2008). The emergence of SNSs, which allow more new social relationships to be established, has provided a new series of social presence characteristics to be investigated.

#### 2.4.4. Service-Dominant Logic and Reciprocal Value

Within the marketing literature the Service-Dominant Logic (*S-D Logic*) proposed by Vargo and Lusch (2008) provides a general theoretical framework to conceptualise reciprocity and reciprocal engagement behaviour. Specifically, the seventh foundational premise (*FP7*) states that “enterprises can only offer value propositions” (p. 11). Based on this premise, Glaser (2006) suggested that reciprocal value propositions are founded on the conception of complementary objectives between participants in a value co-creating process, and that there will be at least two evaluators with their value perspectives linked together as reciprocal promises of value. The concept of reciprocal value propositions represents a more recent area for development. Ballantyne, Williams and Aitken (2011, p. 180) argued that value propositions, when reframed within the S-D logic as reciprocal promises of value, “support relationship development, knowledge renewal and dialogical communication between participants.” Ballantyne and Varey (2006, p. 344) also pointed out that “there can be no satisfactory relationship development unless exchange participants reciprocally determine their own sense of what is of value, and begin this process by developing reciprocal value propositions.” In established relationships, reciprocal value is easier for social network users to determine, because past behaviours can indicate which members are more likely to show support than others. But determining reciprocal value is harder for establishing new relationships, and therefore assessing social capital is the one of the main methods to determine if there is potential reciprocal value for a user in virtual environment.

Truong, Simmons and Palmer (2012) empirically tested *FP7* as reformulated by Ballantyne et al. (2011) in mobile TV markets, and identified constraints of reciprocal value propositions whereby because of unbalanced power between suppliers and customers, the proposition “beneficiaries always determine what is of value in their own terms” (p. 205) is not fully supported. In SNSs, the exhibition of power distance among users is substantially less than in business-to-customer contexts, hence reciprocal value can be always determined by beneficiaries and will in turn also impact on reciprocity. Furthermore, in social media, social value creation is based on two-way interactions (i.e., users’ following and following back, and posting and re-posting actions). Such actions have been widely studied in social networking analysis; however actors’ initial value exchange and co-creation of social value have been ignored, because a relationship has been automatically assumed which is not always the case in real life. Therefore this researcher seeks to understand, based on the theory of reciprocity,

how initial value exchanges are perceived.

## **2.5. Social Distance and Reciprocity**

Social distance is an important concept in psychology, sociology, anthropology, management, and political science (Fiedler, Haruvy and Li, 2011), and previous studies of social distance has found social distance is one of the most influential factors catalysing reciprocity (e.g., Buchan, Croson, and Solnick, 2008; Garbarino and Slonim, 2009; Kashlak, Chandran, and Di Benedetto, 1998; Lee, et al., 2008; Schwierien and Sutter, 2008). Therefore, the following sub-sections draw on the social distance literature to facilitate understanding of its impact on reciprocity.

### **2.5.1. Definition of Social Distance**

Bogardus (1940, p. 72) defined social distance as the "degree of co-operative behaviour that may be expected in a particular social situation." In other words, it is the degree of sympathetic understanding that exists between persons, between groups, and between a person and their group (Bogardus, 1940). It is the perceived distance/ dimension of closeness between interacting individuals or groups (Dufwenberg and Muren, 2006) and is very different from locational distance (Nedim, 2009). Charness and Gneezy (2008) referred to social distance as the emotional proximity induced by a situation. Roth and Malouf (1979) and Roth and Murnighan (1982) found that the availability of information can have a strong effect on choice even if that availability does not change theoretical predictions. Overall, Fiedler et al. (2011) suggested that theories of social distance would predict substantially different behaviour in a disembodied and wide-ranging network than in one with close physical and emotional proximity.

### **2.5.2. Social Distance and Reciprocity**

Studies have found that reciprocity is influenced by cultural distance (Kashlak, et al., 1998; Lee et al., 2008), and many internet user show regard for others despite the apparent social distance inherent in online interaction (Charness et al., 2007). More specifically, experimental evidence on gender differences demonstrates that in an economic game setting women are generally less trusting but more reciprocating than men (Buchan et al., 2008; Garbarino and Slonim, 2009; Schwierien and Sutter, 2008). Table 2.7 summarises some of the key social distance and reciprocity studies since 1969, which are largely from the economic game literature.

Table 2.7: Summary of Key Social Distance and Reciprocity Studies

Author	Definition of Social Distance	Key Findings
Berkowitz (1968)	Social class	Oxford working-class boys tended to exhibit a strong reciprocity orientation in that their help-giving was greatly affected by the level of help they had received earlier. These reciprocity tendencies were most pronounced when the person the boys could help came from a different social-class level.
Ackert, Church and Davis (2006)	Level of exposure to information in a two-person exchange, such as the decision choice of one player being exposed to another or not	Reciprocity is not affected by knowledge of the choice set, but depends critically on the possible revelation of the decision maker's identity.
Charness, et al. (2007)	In-group and out-group	Many people show regard for others, even with the apparent social distance inherent in internet interaction. In all cases, a substantial minority makes choices indicating positive reciprocity; the proportion doing so varies inversely with social distance.
Hoffman et al. (1996)	The degree of reciprocity that people believe is inherent within a social interaction	Reciprocity is affected by knowledge of the choice set, the more information one player knows about the other, the narrower the social distance and results in greater return.
Fiedler, Haruvy and Li (2011)	Familiarity with the other respondent in a virtual community game setting (a manipulated variable)	In virtual world experiment, the proposers are more likely to select the socially closer responders despite the lower rate of investment returns, and the latter reciprocate by returning a higher proportion than the socially distant responders.
Song, Cadsby and Bi (2012)	Normative difference in terms of anonymity and location proximity	Reciprocity was not responsive to social distance but to affect-based trust.

As seen from the table above, the notion of social distance includes differences such as social class, race/ethnicity or sexuality, with different groups being mutually exclusive. In order to systematically understand social distance, this research drew attention on social psychologist Nedim's (2009) classification of social distance, who conceptualised the concept in three ways: affective, normative and interactive. Each of these conceptualisations are elaborated in the following subsections.



### 2.5.2.1. Affective Social Distance

Affective social distance is the most widespread conception of social distance and focuses on affectivity (Nedim, 2009). Emory Bogardus (1947), the creator of “Bogardus social distance scale,” (see Table 2.8) typically based his scale on this subjective-affective conception of social distance, which is the feeling reactions of persons (i.e., sympathy, degree of warmth, intimacy, or indifference, to particular social relationships) toward other individuals and toward groups of people (Bogardus, 1947). Thus, for him, social distance is essentially measured by how much or little sympathy the members of a group feel for another individual or group (Bogardus, 1947).

Table 2.8: Bogardus’ Social Distance Scale

Scale descriptors	Score
“As close relatives by marriages”	1
“As my close personal friends”	2
“As neighbours on the same street”	3
“As co-workers in the same occupation”	4
“As citizens in my country”	5
“As only visitors in my country”	6
“Would exclude from my country”	7

Source: Adopted from Bogardus (1947, p. 307)

The simplicity of Bogardus’ scale has been questioned by other researchers. Babbie (2012) noted that social interactions and attitudes in close relationships may be qualitatively different from social interactions with far-away contacts. However, Bogardus’ conceptualisation is not the only one in the sociological literature (e.g., Charness and Gneezy, 2008; Kashlak, et al., 1998; Lee et al., 2008). Several sociologists have suggested that social distance can also be conceptualised on the basis of other parameters such as the normative discrepancies in a society (Simmel, 1950) and the frequency of interaction between different parties (Nedim, 2009), therefore, these perspectives are discussed in the following subsections.

### 2.5.2.2. Normative Social Distance

Normative social distance specifies the distinctions between “us” and “them,” or “insider” and “outsider” (Simmel, 1950). It is different from social distance as an affective category, because of its relatively greater objectivity (i.e., cognitive evaluation) and more structured consideration of social relationships (Nedim, 2009). Many economics game experiments

determine social distance from a normative point of view, using variables such as gender, age, social class (e.g., Charness and Gneezy, 2008; Dufwenberg and Muren, 2006; Slonim, 2004). For example, Buchan, Croson and Johnson (2006) studied the influence of country, cultural orientation, and social distance on social preferences between Asian countries and the U.S. They measured social distance in terms of “in-group” and “out-group,” and found that cultural orientation is the strongest factor in differentiating social distance, considerably stronger than country of origin. Similarly, in SNSs, the normative dimension of social distance could be inferred from users’ social status which is most commonly reflected in users’ number of followers (Hofer and Aubert, 2013). The number of followers is like a social class identity, and can help users to distinguish the level of social influence in virtual environments (Hofer and Aubert, 2013).

### **2.5.2.3. Interactive Social Distance**

Interactive social distance focuses on the frequency and intensity of interactions between two parties (Nedim, 2009). It is suggested that the more social actors interact, the closer they are socially. Social distance can be reduced through continuous social interaction, which can potentially help to form a social bond. Rosenbaum and Massiah (2007) suggested that consumers who receive social support demonstrate reciprocating behaviours to show their appreciation. Likewise, Wasko and Faraj (2005) also found that individuals with high network centrality invest more time and effort to the development of virtual communities by providing supports to other members. Glaeser et al. (1999) demonstrated in a US study that in trust games the degree of social connection between the sender and responder generally predicts the level of trust and reciprocation. In their research, “social connection” was defined as the “number of friends they have in common, being members of the same race or nationality and the duration of their acquaintanceship” (p. 4). In a dictator game experiment, Hoffman et al. (1996) experimentally demonstrated the effect of social distance, and concluded that as social distance (i.e., isolation) increases, amounts of offers given decrease.

In SNSs, the interactive dimension of social distance could potentially be inferred by assessing the intensity of interactions among users, which is commonly reflected in users’ number of postings. The interactivity here does not measure the direct interactions between two unconnected users. Therefore, the number of postings serves as a reference point for other users to evaluate the level of effort and/or altruistic behaviour one individual has made to the

community. For example, if one user who had contributed 3000 postings to the community was followed by another user who has only contributed 10, the perceived social distance would become large, and this reduced level of social distance could potentially impact on the likelihood of reciprocal action.

Wikstrom and Frostling-Henningssoon (2002) proposed that consumers need social space in which they can experience feelings of closeness, security, and fun through social interactions. In virtual communities, individuals appear predisposed toward adopting a pro-social orientation towards one another: even complete strangers who perceive some potential for a relationship with another will interact in a more mutual or communal manner (Howard, Gengler and Jain, 1995). Indeed, when a feeling of close social distance or social connectedness (Dahl, et al., 2005) or an affinity toward another individual is experienced at the outset of a relationship, this can provide the necessary motivation for concern over the other's well-being.

Therefore this research is concerned with how social media users' perceived closeness helps them to be bridged or connected. Because social distance can be reduced through continuous social interaction, which can potentially help to form a social bond, the research will focus on the relationship-initiating stage before any direct interactions happen. When SNS users' choice of who to reciprocate back through is assessed, examining their social distance can be beneficial for social media businesses to decide on how their users' social identities can be most effectively structured and presented. An effective presentation of one's social profile may help to reduce social distance and trigger reciprocation.

## **2.6. Social Capital**

This section of the literature review builds on exploratory findings (see §3.5.4) with regard to the concept of social distance discussed in the previous section. Specifically, the feeling of social distance between SNS users is determined by the comparative outcome of users' social capital. Therefore an in-depth review of social capital is provided to assist conceptual model development and scale operationalisation in the later stages of this research.

### **2.6.1. Definitions of Social Capital in Literature**

Hanifan (1916), a social reformer, one of the first authors to use the term social capital, referred to it as “goodwill, fellowship, mutual sympathy, and social intercourse among a group of individuals and families” (p. 130). This view has been considered specifically to highlight, for people with a business and economics perspective, the importance of the social structure (Routledge and von Amsberg, 2003). As Smith and Kulynych (2002) noted, Jacobs (1961) was next scholar who use the term in a discussion of urban vitality, where she referred to social capital as a network of value and stated that “networks are cities, irreplaceable social capital” (p. 138).

More precisely, Nahapiet and Ghoshal (1998, p. 243) defined social capital as “the sum of the actual and potential resources embedded within, available through, and derived from, the network of relationships possessed by an individual or social unit.” And on a simple term, Lin (2001) defined social capital as an investment in social relations with expected returns. This definition suggested that individuals who invest time and effort to maintain a social network can then benefit from embedded resources. For example, Gilewicz (2009) studied an online professional social network (i.e., LinkedIn) and found that as people leave their jobs, keeping in touch with colleagues from their current organisation can create future opportunities. This example directly reflects Sander's (2002, p. 213) view, which stated that “the folk wisdom that more people get their jobs from whom they know, rather than what they know, turns out to be true.”

## 2.6.2. Types of Social Capital

The term social capital is popular because of the wide-ranging of social consequences it can explain, and its diversity of uses has led to a multiplicity of definitions (Putnam, 2000). Eastis (1998) suggested that social capital is multidimensional and must be conceptualised as such if it is to have any explanatory value. Therefore, Putnam (2000) suggested two main components of the concept: *bridging* social capital and *bonding* social capital. Bridging refers to the value assigned to social networks between socially heterogeneous groups; while bonding refers to that of social networks between homogeneous groups of people. In other words, social capital is about the value of social networks, how people interact with each other – bridging between diverse people, bonding between similar people and both with norms of reciprocity (Dekker and Uslaner, 2001; Uslaner, 2001).

Adler and Kwon (2002) systematically reviewed social capital studies and summarised the concept into three types based on Putnam's (2000) suggestion. The categorised definitions are summarised in the Table 2.9 (adopted from Adler and Kwon, 2002 and updated with additional literature). These definitions vary depending on whether their focus is primarily on: 1) the relations an actor maintains with other actors; or 2) the structure of relations among actors within a collectivity; or 3) both types of linkages (Adler and Kwon 2002). Overall, Adler and Kwon (2002, p. 23) defined social capital as “the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor.” This definition includes the social capital that is available to an actor of established relationship (i.e., internal bonding) from the social capital that the actor can mobilise by creating new relationship (i.e., external-bridging) (Adler and Kwon, 2002).

### 2.6.2.1. Bridging Social Capital

Bridging social capital is focused on the structural (i.e., the overall pattern of connections between social actors) and the cognitive dimension (i.e., those resources providing shared representation, interpretations, and systems of meaning among social actors) (Nahapiet and Ghoshal, 1998), and it focuses on external (Woolcock, 1998) or communal (Oh, Kilduff and Brass, 1999) relations, which refer to the value assigned to social networks between socially heterogeneous groups (Putnam, 2000).

Bridging social capital can be broadly considered as the sum of the resources (Bourdieu and Wacquant, 1992), actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network (De Tocqueville, 1995) of more or less institutionalised relationships of mutual acquaintance and recognition (Belliveau, O'Reilly and Wade, 1996). Similarly, Knoke (1999) considered this type of social capital as the process by which social actors create and mobilise their network connections within and between organisations in order to gain access to other social actors' resources. These resources represent the brokerage opportunities in a network (Burt, 1997), from which people can gain human and financial capital (Burt, 1992).

### **2.6.2.2. Bonding Social Capital**

According to Nahapiet and Ghoshal (1998), bonding social capital focuses on the relational embeddedness, which is a kind of “personal relationships people have developed with each other through a history of interactions” (p. 244). Therefore, building bonding social capital is a behaviour that can be taught through attending to individuals' surroundings over time (Portes, 1998). Coleman (1990) suggested this type of social capital is not a single object, but a variety of different objects that have two characteristics in common: “they all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure” (Coleman, 1990, p. 302). In other words, social capital is anything that “facilitates individual behaviour or collective action, generated by networks of relationships, reciprocity, trust, and social norms” (Coleman, 1998, p. 153). The basis of instrumental/bonding social capital is that individuals contribute their resources because benefactors and recipients are part of the same social structure, therefore, they might not see “a direct repayment from their contributions, but, they will be held in greater honor by the society” (Portes, 1998, p. 8). An example of this mentioned by Portes (1998) is the donation of a scholarship to an individual who belongs to the same ethnic group. Portes (1998) suggested that the recipient of the scholarship might not know the donor personally, but the donor prospers based solely on fact that the recipient is a member of the same social group. Therefore, the donor is not expecting his donation to be directly repaid by the recipient, but, as stated above, he/she will receive the honour of the community. Therefore, bonding social capital could also be perceived as sympathy (Robison, Schmid, and Siles, 2002). In short, the concepts of bridging and bonding social capital facilitate a theoretical framework for the conceptualisation of status information in SNS users' social profiles that resembles certain characteristics of social capital.

Table 2.9: Definitions of Social Capital

External vs. Internal Dimensions	Authors	Definitions of Social Capital
External/Bridging	Baker (1990, p. 619)	“A resource that actors derive from specific social structures and then use to pursue their interests; it is created by changes in the relationship among actors.”
	Belliveau et al. (1996, p. 1572)	“An individual’s personal network and elite institutional affiliations.”
	Bourdieu (1986, p. 248/243)	“The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition.” “It is made up of social obligations, which is convertible, in certain conditions, into economic capital and may be institutionalised in the form of a title of nobility.”
	Bourdieu and Wacquant (1992, p. 119)	“The sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition.”
	Bowles and Gintis (2002, p. 419)	“The power of community governance.”
	Boxman, De Graaf and Flap (1991, p. 52)	“The number of people who can be expected to provide support and the resources those people have at their disposal.”
	Burt (1992, p. 9)	“Consists of friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital.”
	Burt (1997, p. 355)	“The brokerage opportunities in a network.”
	Knoke (1999, p. 18)	“The process by which social actors create and mobilise their network connections within and between organisations to gain access to other social actors’ resources.”
Portes (1998, p. 6)	“The ability of actors to secure benefits by virtue of membership in social networks or other social structures.”	

Source: Adopted from Adler and Kwon (2002, p. 20) and updated with additional literature

Table 2.9: Definitions of Social Capital (continued)

External vs. Internal Dimensions	Authors	Definitions of Social Capital
Internal/Bonding	Brehm and Rahn (1997, p. 999)	“The web of cooperative relationships between citizens that facilitate resolution of collective action problems.”
	Coleman (1990, p. 302)	“Not a single entity, but a variety of different entities having two characteristics in common: they all consist of some aspect of social structure, and they facilitate certain actions of individuals who are within the structure.”
	Coleman (1988, p. 95)	“Anything that facilitates individual or collective action, generated by networks of relationships, reciprocity, trust, and social norms.”
	Fukuyama (1995, p. 10)	“The ability of people to work together for common purposes in groups and organisations.”
	Fukuyama (1997, p. 378)	“The existence of a certain set of informal values or norms shared among members of a group that permit cooperation among them.”
	Inglehart (1997, p. 188)	“A culture of trust and tolerance, in which extensive networks of voluntary associations emerge.”
	Lin (2001, p. 12)	“The investment in social relations with expected returns in the marketplace.”
	Newton (1997, p. 579)	“Subjective phenomenon formed by values and attitudes which influence interactions.”
	Portes and Sensenbrenner (1993, p. 1323)	“Expectations for action within a collectively that affect the economic goals and goal seeking behaviour of its members, even if these expectations are not oriented toward the economic sphere.”
	Putnam (1993, p. 167)	“Facilitate co-operation and mutually supportive relations in communities and nations and would therefore be a valuable means of combating many of the social disorders inherent in modern societies.”
Putnam (1995, p. 67)	“Features of social organisation such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit.”	
Thomas (1996, p. 11)	“Voluntary means and processes developed within civil society which promote development for the collective whole.”	

Source: Adopted from Adler and Kwon (2002, p. 20) and updated with additional literature



Table 2.9: Definitions of Social Capital (continued)

External vs. Internal Dimensions	Authors	Definitions of Social Capital
Both Internal & External	Ferragina (2010, p. 73)	“The importance of community to build generalised trust and at the same time, the importance of individual free choice, in order to create a more cohesive society.”
	Hanifan (1916, p. 130)	“Social cohesion and personal investment in community – goodwill, fellowship, mutual sympathy and social intercourse...the community as a whole will benefit by the cooperation of all its parts, while the individual will find in his associations the advantages of the help, the sympathy, and the fellowship of his neighbours.”
	Loury (1992, p. 100)	“Occurs in social relationships among persons who promote or assist the acquisition of skills and traits valued in the marketplace. It is an asset which may be as significant as financial bequests in accounting for the maintenance of inequality in our society.”
	Nahapiet and Ghoshal (1998, p. 243)	“The sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilised through that network.”
	Pennar (1997, p. 154)	“The web of social relationships that influences individual behaviour and thereby affects economic growth.”
	Schiff (1992, p. 160)	“The set of elements of the social structure that affects relations among people and are inputs or arguments of the production and/or utility function.”
	Woolcock (1998, p. 153)	“The information, trust, and norms of reciprocity inhering in one’s social networks.”
	Torche and Valenzuela (2011, p. 181)	“Two ideal-typical forms of social capital – reciprocity and trust – based on the meaning of the social relations that embed them. Reciprocity is the type of social capital embedded within personal relations, triply defined in the factual, social and temporal dimensions by co-presence, reciprocity and memory, respectively. Trust is the type of social capital embedded within relations with strangers, defined by the condition of impersonality or anonymity.”

Source: Adopted from Adler and Kwon (2002, p. 20) and updated with additional literature

Overall, the central tenets of social capital theory are that social relationships can be productive resources (Coleman, 1988) and that social capital facilitates coordination and cooperation for mutual benefits (Putnam, 1995). Building on Nahapiet and Ghoshal (1998), Tsai and Ghoshal (1998) empirically justified how social capital facilitates reciprocal behaviour, such as resource exchange. However, SNSs differ notably from physical organisational settings in that interaction among users is through faceless online communication. Consequently, it is still unclear whether the impact of social capital on reciprocal behaviour found in the organisation setting could be generalised to SNSs.

Reciprocity in the physical setting normally requires a concrete reward system to reinforce the mechanism of mutual benefits. There is however no such concrete rewarding system in SNSs, so that reciprocal behaviours such as follow back, like back or comment back cannot be successful without the active participation of pro-social SNS users. Any lack of motivation from pro-social users impedes the connections of the wider network of SNS users. Under such circumstances, because the resources inherent in the online social network mediate between individuals and hence foster their intention and activeness to perform voluntary reciprocal behaviour, social capital becomes more important. Social media users play different roles in their communities, where their behaviour is largely determined by how much resource they own, such as their number of followers, and their ability to get their postings recognised (see §3.5.4). These are the types of virtual social capital that help individuals to make their voices heard in social media environments. Social capital development on the internet via SNSs such as Twitter or Weibo is a new area of research. According to one study social capital in social media is predominantly bridging social capital (Ellison, Steinfield and Lampe, 2007). This research will therefore focus on how different types of virtual social capital (i.e., bridging and bonding social capital) are recognised and operated in relation to reciprocal behaviours.

### 2.6.3. Evaluations and Measures of Social Capital

Because of the complex definitions of social capital, there is no consensus on how to measure it. Sociologists Bankston and Zhou (2002) have argued that social capital is difficult to measure because it emerges across both an individual-level and a group-level; and the benefits of social groups are not held by individual actors, but are the results of the participation of actors in advantageous social networks (Bankston and Zhou, 2002). Therefore, this complex nature of social capital allows researchers to adopt different angles when evaluating it, some addressing negative connotations and some more positive. There are four negative consequences of social capital that have been found in modern society: “excess claims on group members, exclusion of outsiders, restrictions on individual freedom, and downward levelling norms” (Portes, 1998, p. 16). In contrast, Putnam (1995) has used the notion in a much more positive light. Social capital can also be viewed as a producer of civic engagement (Putnam, 1995), and as a broad societal measure of the communal health (Alessandrini, 2002), which both represent the characteristics successful SNSs try to achieve. Therefore, this research will focus on the positive effects of social capital.

There are various measures of social capital from different perspectives that have undergone extensive validity testing to a range of populations, and used across a range of fields (see table 2.10). For example, indicators for social capital measure have been operationalised in the form of name generators (e.g., Burt, 1997), resource generators (e.g., van der Gaag and Snijders, 2005), position generators (e.g., Lin and Dumin, 1986; Erickson, 2004; Lin and Erickson, 2008), participation (e.g., Narayan and Pritchett, 1999), and structural hole (e.g., Burt, 1992, 2001). Although an established literature that has distinguished social capital from other social constructs, many researchers has continued to operationalise social capital as a composition of its antecedents and outcomes (Perkins and Long, 2002), including trust, altruism, attachment, participation, and social support (e.g., Benabou and Tirole, 2006; Berg et al., 1995; Croson and Buchan, 1999; Kanagaretnam et al., 2009; Kolm and Ythier, 2006; Leider et al., 2009). One measure that combines both the construct of bridging and bonding social capital is particularly widespread (i.e., over 3000 citations, Appel et al., 2014) – the Internet Social Capital Scale (ISCS) (Williams, 2006). Williams (2006) developed the ISCS in response to concerns that the research of computer-mediated communication lacked a standard approach to measure the relationship between the use of virtual environments and social interactions (Appel, et al., 2014), and ISCS was intended to measure outcomes

attributed to social capital.

Table 2.10: Measures of Social Capital

<b>Authors</b>	<b>Key Indicators</b>	<b>Findings</b>
Burt (1997)	<i>Name generators</i>	Name generators pose one or more questions about the ego's contacts ("names") in certain social contexts, which may include role content, closeness, geographic limits, or specific periods of time.
Snijders (1999)	<i>Resource generators</i>	Resource generators directly refer not to occupational prestige but to accessed social resources.
Lin and Dumin (1986)	<i>Position generators</i>	Position generators use a sample of ordered structural positions salient in a society (e.g., occupations, authorities, work units, class or sector) and ask respondents to indicate contacts, if any, in each of the positions.
Narayan and Pritchett (1999)	<i>Participation</i>	The social capital accumulated because of this participation has individual benefits, and also creates collective benefits through different routes.
Burt (1992, 2001)	<i>Structural hole</i>	The structural hole argument is that social capital is created by a network in which people can break connections between otherwise disconnected segments.
Perkins and Long (2002)	<i>Cohesiveness</i>	The level of cohesion of a group affects its social capital.
Williams (2006)	<i>Bridging &amp; bonding social capital</i>	The authors recognised the bridging and bonding dimensions of social capital and developed the Internet Social Capital Scale measure outcomes attributed to social capital in an online environment.

Williams (2006) operationalised bridging social capital based on a combination of criteria put forward by Putnam (2000) – “outward looking,” “contact with a broad range of people,” “a view of oneself as part of a broader groups” and “diffuse reciprocity with a broader community” and bonding social capital – “emotional support,” “access to scarce or limited resources,” “ability to mobilise solidarity” and “out-group antagonism.” The bridging and bonding subscales consisted of ten items, each measured on a 10-point Likert scale (see Table 5.7 and 5.8 in the Chapter 5). Analysis of the “Williams-Bridge” and “Williams-Bond” factors indicated strong validity and reliability, however, the two factors were strongly positively correlated. Williams argued that the positive and significant correlation should be

expected because the factors were so theoretically related. Since the ISCS has the closest relevance to the context of this research, it has been partially adopted and modified to best capture the dimension of bridging and bonding social capital in a culturally differed SNSs.

## **2.7. Emotion and Reciprocity**

The interest in the relationship between the emotions and moral behaviour (e.g., reciprocity) dates back to Darwin (1872/1965), and research has shown that in “real life” reciprocity is supported by emotions. For example, Pervan et al. (2004) believed that reciprocity relies on supporting virtues to operate effectively, these are: generosity, empathy and conviviality, and these virtues are commonly recognised as emotions or feelings (e.g., Decety and Michalska, 2010; Becker, 1986). In addition, Cialdini’s (1993) discussion of reciprocity is largely associated to how to trigger people’s feeling of indebtedness, liking and gratitude, which emphasised the important role of emotion in catalysing reciprocal behaviour.

Recently, Garde-Hansen and Gorton (2013) suggested that the ordinary experiences of being online have emotional impact within everyday life, and the concept of emotion has begun to permeate social media studies (e.g., Goggin and Hjorth, 2009; Lasen, 2010). Studies of emotion and feeling on one hand, and learning on digital culture, new media, and information communication technology on the other, have also begun to converge (e.g., Vincent and Fortunati, 2009, 2014). Hence, emotion is seen as a valid and important construct to investigate even in virtual environments. The following subsections review some of the key emotions studied with respect to reciprocity: feelings of conviviality, enjoyment and liking; feelings of gratitude; feelings of guilt and indebtedness; and feelings of empathy and sympathy.

### **2.7.1. Feelings of Conviviality, Enjoyment and Liking**

Conviviality and enjoyment are normally caused by being liked by others, and in turn reciprocal liking emerges, therefore these three emotions are similar in nature. According to Becker (1986), conviviality is a disposition to participate in, and take pleasure in, social life, and this concept can certainly be extended into virtual communities if members find resources that are valuable to them. Bagozzi (1995) and Price and Arnould (1999) both found that the enjoyment of fulfilling others’ demands in the process of reciprocal exchange can introduce complex layers of emotional reinforcement.

Pervan et al. (2004) suggested that reciprocity as a pathway to achieving stabilised relationship

may be possible through arm's length exchanges with a bare minimum of social interaction. However, Bagozzi (1995) suggested that those who gain pleasure from social interaction with others, and do not interact only out of a desire to gain particular goals, reinforce reciprocity's role as a stabilising factor in relationships (Price and Arnould, 1999). Pervan et al. (2004) also suggested that the cost of reciprocity can be reduced by conviviality because the enjoyment of its expression moderates any perceived costs of contributing.

Chan and Li (2010) in their study of virtual communities also emphasised the importance of conviviality: they used the term "enjoyment." These authors found that individual enjoyment of a virtual community affects the propensity of reciprocity. Similar results were also found in Bagozzi and Dholakia's (2006) online brand community, the authors found that positive emotions of happiness and delight significantly enhance members' desire to reciprocate to other individual in the community, hence individuals who experience enjoyment from a community are more likely to contribute resources to that community (Wasko and Faraj, 2005). In addition, Webster and Martocchio (1992) suggested that enjoyment (i.e., "playfulness") comprises a subjective interaction experience, and is an important emotional element of the flow experience that determines interpersonal engagement (Hoffman and Novak, 1996).

Reciprocity of liking, also known as reciprocal liking, is a type of reciprocity caused by the emotion of liking (Cialdini, 1993; Forgas, 1992; Zajonc and McIntosh, 1992). Many major social-psychological theories – such as Interdependence Theory (IT) (Thibaut and Kelley, 1959) – predicted the emergence of reciprocity of liking, where liking is a direct emotion. In other words, IT posited that people will like individuals with whom they have satisfying interactions and mutually rewarding exchanges. Cialdini (1993) suggested that a simple reason for that another individual likes the self is rewarding, because it validated that the self has likable qualities. In addition, Eastwick et al. (2007) suggested that individuals who like another particular individual often wish to continue interacting with that individual in the future by providing costly support in times of need. These authors also inferred that liking and helping are linked, because individuals tend to reciprocate helping behaviours, a tendency that should extend to the reciprocation of other paybacks such as liking (Eastwick et al., 2007).

### **2.7.2. Feelings of Gratitude**

There is rich empirical literature on the emotion of gratitude, focusing on whether grateful

individuals will repay a benefactor (e.g., Komter and Vollebergh, 1997; Mauss, 1923/1990; Simmel, 1950; Trivers, 1971; de Waal, 1996, 1997), and such repayment behaviour has sometimes been taken to imply feelings of gratitude (Komter and Vollebergh, 1997). Gratitude is generally understood as an emotion, the core of which is pleasant feelings about the benefit received (Bertocci and Millard, 1963). This core feature is reflected in one definition of gratitude as “the willingness to recognise the unearned increments of value in one’s experience” (Bertocci and Millard, 1963, p. 389). Therefore, gratitude as an emotion can be conceptualised as a process of interpersonal appraisal which influences consideration of its function. For example, Algoe and Haidt (2009) found that gratitude was commonly associated with a reappraisal of the benefactor’s quality of giving and that it promoted motivations for strengthening relationships toward the benefactor. Broadly speaking, gratitude reminds people about the norm of reciprocity, and thereby plays an important role in establishing and maintaining social relations. Sociologist Georg Simmel (1950), a pioneer in elaborating the role of gratitude in reciprocity, called gratitude “the moral memory of mankind” (p. 388). He viewed gratitude as the motive that prompts individuals to give in return, and thus forms the reciprocity of service and counter-service (Komter and Vollebergh, 1997)

Other researchers have conceptualised gratitude in different and often overlapping ways. Generally, gratitude is thought to be a positive pro-social emotion that can foster mutually beneficial relationships. Guralnik defines gratitude as “a feeling of thankful appreciation for favours received” (1971, p. 327). Gratitude is also thought to be an “empathic emotion,” as it is experienced when people empathise with their benefactors’ intentions and the costs incurred while helping (McCullough et al., 2001). Research has indicated that feelings of gratitude can contribute significantly to several beneficial life outcomes, such as the development of friendship (Waugh and Fredrickson, 2006). Other emotion theorists view gratitude as the combination of admiration and joy, whereby admiration arises from approval of the benefactor’s action, and joy is felt when the action is thought to be personally favourable (Ortony, Clore, and Collins, 1988).

From a social perspective, most of the research indicated above has analysed gratitude as the moral basis of reciprocity, which is the requirement for mutual exchange and reciprocity (Gouldner, 1960). And in the fast moving social media context, reciprocity is an immediate response to the positive predisposition (i.e., gratitude) of informational exchange partners. Therefore, by acting as a moral and ethical obligation to the norm of reciprocity, gratitude not

only serves to reinforce bonds at the level of interpersonal relationships, it is also a means of establishing social harmony and forming a shared beliefs (Komter and Vollebergh, 1997), which should be promoted and encouraged in newly formed virtual communities.

In addition, there is one type of reciprocity called calculated reciprocity, which is calculated and moderated by feedback (Harnden-Warwick, 1997). This form of reciprocity happens primarily with individuals who do not have intimate relationships (Wilke and Lanzetta, 1970), and the continuation of helpful behaviour is contingent upon the partner's reciprocation (de Waal and Luttrell, 1988). Harnden-Warwick (1997) suggested that calculated reciprocity relies on cognitive evaluation and advanced memory, which are required if individuals are to express gratitude in response to positive reciprocal behaviour. This also suggests that reciprocity demands advanced cognitive skills for recognising partners, detecting opportunistic behaviours, and mentally keeping a record. In particular, the sequence of give-and-take requires a feeling of appreciation associated specifically with the helpful individual. Gratitude, then, acts as a mediator between give-and-take, encouraging people's emotions in such a way as to bring about a positive feeling of obligation to reciprocate in turn (Trivers, 1971).

### **2.7.3. Feelings of Guilt and Indebtedness**

In their article, *Beyond Reciprocity*, Algoe, Haidt and Gable (2008) suggested a need to revisit assumptions about the situational features of these positive emotions, because recent research has shown that reciprocal behaviour can also be related with negative emotions (Watkins et al., 2006). The authors noted that an extreme form of such socially compliant reciprocity is triggered by the unpleasant feeling of guilt and indebtedness. However, Watkins et al., (2006) emphasised that indebtedness is not contrary to gratitude, but rather gratitude is more referred to as moral basis.

Roseman (1984) defined guilt as the negative emotional state that individuals experience in response to either a positive but undeserved or a negative but deserved event. Despite its negative valence, guilt is deemed to be a functional emotion, because it notifies individuals that they have violated personal or social norms, therefore motivates reparative behaviours (Tangney et al., 1996). In marketing, guilt has been studied in relation to impulse buying (O'Guinn and Belk, 1989; Rook, 1987) and overspending (Parisi, 1995). These are all signs of consumers' reciprocal behaviour towards sellers. In these instances, intrapersonal concerns specific to the consumption situation can motivate guilt responses. However, consumer guilt



is not entirely self-focused: it can also be a way of reinforcing the existing relationship for mutual benefits.

A related concept is the feeling of indebtedness, which has been described in the context of the recipient of a benefit from another as a state of obligation to repay the other (Greenberg, 1980). This is highly associated with the tit-for-tat type of reciprocity (Fredrikson, 2004). Greenberg (1980) argued that a feeling of indebtedness could generate pressure and obligation for the recipient of favour or gift to make repayment in order to cancel the debt in the unbalanced relationship. The pending obligation constituted by the indebtedness before the presentation of the return gift or favour, is favourable to the social peace (Kolm, 1995). Research in physical contexts has suggested that in certain extreme situations, social status (i.e., social influence power) could be impeded (Homans, 1961) due to the state of indebtedness, which could also potentially lead to limited freedom to act (Blau, 1964). Although the threat to social status may not be as obvious in more anonymous virtual communities as in the physical context, it may still have implications in terms of preventing the loss of face among Chinese social network users.

Dahl et al. (2005) in their “three Rs of interpersonal consumer guilt: relationship, reciprocity and reparation” explained how guilt can serve as a motivator for reciprocal action using three theories. The first is Social Appraisal Theory, which states that an individual determines that an outcome is relevant to his or her personal well-being (Smith and Ellsworth, 1987). Once relevance is established, the individual is motivated to make a subsequent appraisal. The second theory is social connectedness (Baumeister and Sommer, 1997). It describes that a feeling of social connectedness, or an affinity toward another individual that is experienced at the outset of a relationship, can provide the necessary motivation for concern about the other’s well-being. Thus, even if a relationship with, or strong attachment to the person does not exist, social connectedness may be sufficient to stimulate individuals to experience guilt as result of a negative action toward that person, (Baumeister and Sommer, 1997; Leith and Baumeister, 1998). The third theory is Cognitive Dissonance (CD) (Festinger, 1957), which suggested that an individual who has behaved in a certain way will experience CD if the behaviour violates a norm and if the individual feels responsible for the occurrence of the behaviour (Festinger, 1957). Thus, in a situation where an individual typically reciprocates his or her social connectedness to a salesperson, the individual, after failing to make a purchase should experience dissonance if he or she feels socially connected to the salesperson and has control over purchasing decisions. This dissonance is likely to be expressed in feeling of guilt or

indebtedness.

#### **2.7.4. Feelings of Empathy and Sympathy**

Empathy has been defined as the understanding and sharing of a specific emotional state with another individual (Decety and Michalska, 2010). Becker (1986) described empathy as a form of vicarious experience that allows an individual some insight into another's psychological state. Pervan et al. (2009) suggested that the concept of empathy can be useful to understand reciprocity in that it allows the evaluation of a good or evil from a number of perspectives. For example, in general, empathy could improve the effectiveness of social exchange through clearly targeted returns and reparations (Pervan et al., 2009). Allsop, Fifield and Seiter (2002) studied empathy and reciprocity as explanations for why people comply with request for help. Their results showed that people who had previously experienced similar events (e.g., locked keys in the car and had been helped) were more likely to comply with request for help. This type of reciprocity has been commonly regarded as generalised or indirect reciprocity (e.g., Nowak and Sigmund, 1998a, 1998b, Putnam, 2000) where empathy served as a mediator in reminding individuals the shared experience of their own.

Further, empathy is considered to play an important role in Chinese business relationships (Yau et al., 2000). It is extremely important for an individual to be able to sense what business partners are trying to achieve through their returns or restitution, this can reinforce the disposition to reciprocate and quicken the return to productive social exchange (Pervan et al., 2009). Findings from Western management literatures also suggested that as relationships strengthen they are characterised by a higher degree of inter-firm adaptation (Hallen, Johanson and Seyed-Mohamed, 1991), and instinctive reactions to one another (Anderson and Weitz, 1992), which could partially reflect a growing empathy between exchange partners (Pervan et al., 2009).

Sympathy is the perception, understanding, and reaction to the distress or need of another human being (Decety and Michalska, 2010). More specifically, sympathy is a concern for the well-being of another, therefore it does not require the same emotional state to be shared. Instead, its concern is motivated by another group or individual who is in need (Lishner, Batson, and Huss, 2011), therefore sympathy can awaken a positive emotional response (i.e., reciprocity), and that response enhances the value of the other person. However, in this respect sympathy could be very insubstantial, due to the subjectivity of each individual user's social status and personality.

## 2.8. Reciprocity in Chinese Culture

The Chinese expression of reciprocity is called *Lishang Wanglai* (礼尚往来); *Li Shang* means moral judgment, specifically towards respect and courtesy, and *Wanglai* means social exchange. Thus, the direct English translation of the Chinese concept reciprocity is social exchange due to respect and courtesy. The other meaning of the character *Li* is gift, and in Chinese culture gift-giving behaviour has become a major component of reciprocity (Wang, Razzaque and Keng, 2007).

There is an interesting reciprocity story about Confucius. In the early Spring-Autumn period (BC 770) in China, Confucius started recruiting students and giving lectures in his home. This piece of news attracted the attention of Lu Ding Gong (King of Lu), and he always invited Confucius to lecture at the palace. The housekeeper of a rich business man named Yang Hu was also a fan of Confucius, and specifically paid visits to Confucius, but Confucius refused to see him. Then Yang Hu purposely left a whole roasted pig at Confucius' home. Since reciprocity was highly regarded by Confucius, Yang Hu finally got a return visit from Confucius due to the gift-giving (Dai, BC476-221).

However, the word *Lishang Wanglai* (reciprocity) did not come into print until the Warring period (BC476-221) in the book of "*Liji – Quli: Shang*" (The Book of Rites – Specific Etiquette: Chapter One) by Sheng Dai (BC476-221, specific year unknown), a disciple of Confucius. This book contains a collection of rules, guiding courteous behaviour in the Chinese society until today. In the old days, reciprocity was more deeply regarded in the upper classes of Chinese (e.g., academics and politicians), and failure to comply with etiquette would be heavily condemned and would result in losing face value, even being downgraded in social class, especially if social ties are strong (Hwang, 1987). The fact that the norm of reciprocity is covered in the first chapter of the book shows its importance to Chinese culture. Dai (BC476-221) noted that propriety suggests reciprocity. It is inappropriate to receive without giving, or vice versa.

Over 2000 years of culture heritage, reciprocity has become the most well-known and respected social norm for all Chinese people in their everyday life. Hwang (1987) noted that reciprocity works in most Chinese social contexts because people are taught to return favours since school, and know that to disrespect this norm will lead to the social stigma of being

considered an ingrate. Recently, Chang (2010) hypothesised a spectrum of reciprocities – generous, expressive, instrumental and negative – governed by a spectrum of criteria – moral judgment, human feeling, rational calculation and spiritual belief. Her theories replace static models of the operation of networks with a pattern of dynamic processes which she demonstrates are at work in the daily, cyclical, ordinary and extraordinary life of a village; and she proposes that the driving force of these processes is social creativity. Therefore, this research will explore if the norm of reciprocity holds in virtual environments.

## **2.9. Chapter Summary**

This chapter provided a review of the concept of reciprocity in different disciplines (e.g., cultural anthropology, evolution, international relations, and social psychology) (§2.2.1). This research adopts two linguists' suggestion of seeking to understand reciprocity in general as “in return” (Girju and Paul, 2011) and describes it in general as an exchange practice performed by two participants (i.e., benefactor and recipient), linking two events (i.e., actions or activities), the original event and the reciprocal event, which occur in a sequential order.

A systematic review of the conceptualisation of reciprocity in social sciences (§2.2.2) revealed that social science researchers have considered the emotional, cognitive and behavioural dimensions of reciprocity (see Table 2.5). However, most of the experimental economics literature has treated reciprocity as a one-dimensional construct (i.e., behavioural) and rather than including all other aspects in a holistic view, they have focused on different aspects independently.

A review of the relevant literature in marketing studies suggests that treating reciprocity as a multi-dimensional construct with emotional outcomes as well as behaviour designed to stabilise exchange (Pervan et al., 2009), is better suited to the exchange potentialities in relationship marketing (§2.2.3). In addition, reciprocity in marketing studies includes not only economic outcomes but also social outcomes, so that this research in the consumer-to-consumer SNSs context will focus on the social value aspect. A few researchers have also developed scales to measure reciprocity (e.g., Dawson, 1988; Yau et al., 2000; Pervan et al., 2009), yet those studies fail to identify the factors or emotional drivers behind reciprocity, and are therefore insufficient to enable the construction of a holistic conceptual framework. Drawing on these different approaches to conceptualising reciprocity, this research

investigates each of the single dimensions suggested by previous literature, but frames them within a process driven-model which includes both antecedents (e.g., emotional and cognitive factors) and consequences (i.e., reciprocal behaviour).

Furthermore, four key theories which underpin reciprocity in literature were reviewed. These are Reciprocal Action Theory (Gouldner, 1960), Equity Theory (Adams, 1965)/Balance Theory (Walster et al., 1973), Resource Exchange Theory (Foa, 1971), and Rational Choice Theory (Coleman, 1990) (see §2.3). Each of the four key theories reviewed exhibits an opportunity or gap for this research to investigate. For example, RAT described reciprocity from a general perspective, but Gouldner's explanation does not precisely specify the relevant mechanisms that lead to the reciprocal behaviours. Therefore this research aims to identify such factors. ET/BT both focus on how to restore balance in an inequitable relationship as a means to cancel the feeling of indebtedness. However, in virtual environments, the intensity of feelings of indebtedness may be not as strong as in the face-to-face situation, especially among strangers, hence other emotional factors may be more prevalent than seeking merely to restore balance in catalysing reciprocal behaviour. RET has identified that status is a resource for social exchange, therefore in virtual environments the value embedded in status exchange is one of the key interests of this research, and it also resembles the condition of "amount of prior help" suggested by RAT and Wilke and Lanzetta (1970). RCT has ignored emotional elements of the recipient, therefore this research will bridge this gap by exploring and quantifying the emotional elements when people practice reciprocity in virtual environments.

There are four related theories which underpin reciprocity: Social-Identity-Deindividuation Effect (SIDE) (Lea and Spears, 1991), Self-Presentation Theory (Schlenker, 1980), Social Presence Theory (Kehrwald, 2008), and Service-Dominant Logic with a focus on reciprocal value (e.g., Ballantyne et al., 2011; Glaser, 2006; Truong et al., 2012; Vargo and Lusch, 2008) (§2.4). The literature review for these theories are motivated by the findings from exploratory research (i.e., social profile serves as a starting point for SNS users to assess each other's status online), which suggests that the cognitive factors influencing reciprocity are embedded in the status symbolised in SNS users' social profiles. These theories are therefore useful in providing foundations for investigating concepts such as bridging and bonding social capital.

A review of social distance was conducted due to its prevalence in reciprocity research (e.g., Buchan et al., 2008; Garbarino and Slonim, 2009; Kashlak et al., 1998; Lee, et al., 2008) (§2.5). This was followed by a review of social capital, a concept suggested by the exploratory research. Specifically, the feeling of social distance between SNS users is determined by the comparative outcomes of users' bridging and bonding social capital (§2.6). Researchers have empirically found how social capital facilitates reciprocal behaviour, such as resource exchange within the organisation (e.g., Tsai and Ghoshal, 1998; Nahapiet and Ghoshal, 1998). However, SNSs differ notably from physical organisational settings in that in the former interaction among users is through faceless online communication. Consequently, whether the impact of social capital on reciprocal behaviour found in organisational settings could be generalised to SNSs is still unclear: this uncertainty calls for further investigation.

Further, a review of key emotions studied with respect to reciprocity was provided, which includes: feelings of conviviality, enjoyment and liking; feelings of gratitude; feelings of guilt and indebtedness; and feelings of empathy and sympathy (§2.7). This research explores whether these emotions are prevalent in virtual environments, and how they impact on reciprocity.

Lastly, reciprocity in Chinese culture was addressed (§2.8). Reciprocity has become the best-known and most respected social norm for Chinese people in their everyday lives. Therefore, this research will explore if the norm of reciprocity holds its historical value in virtual environments.

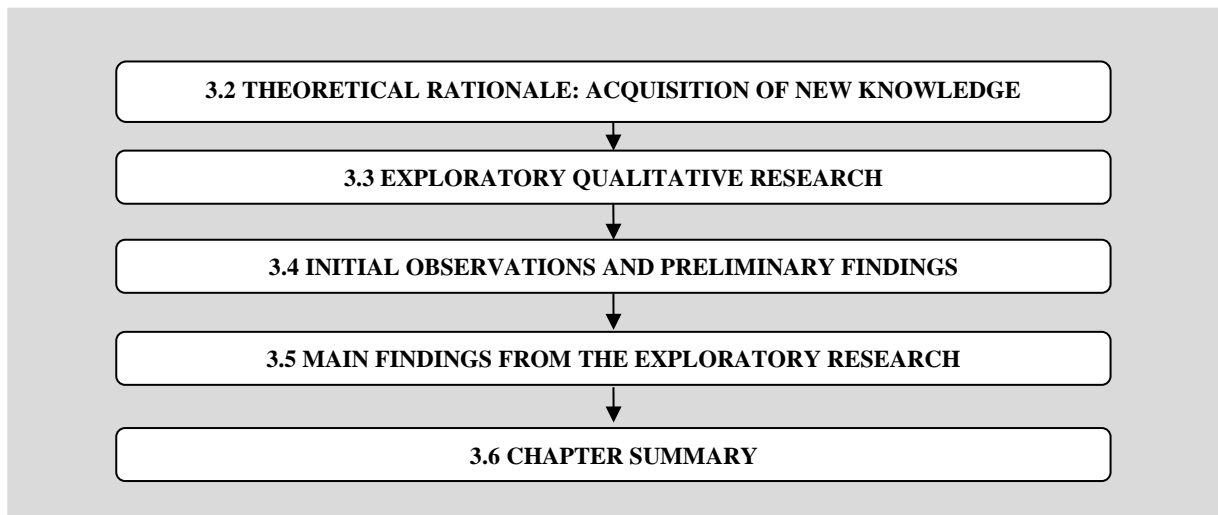
## CHAPTER 3: EXPLORATORY QUALITATIVE RESEARCH

### 3.1. Chapter Overview

This chapter provides an overview of the exploratory qualitative research (design and findings) undertaken to investigate, in social media contexts, the existence of reciprocity and factors influencing reciprocal behaviour. Specifically, this chapter provides preliminary insights into the relevant themes associated with reciprocity in social media: these are subsequently engaged in the development of a conceptual model (see Chapter 4: §4.2), a quantitative experimental design (see Chapter 5: §5.5). These findings also inform the relationship between reciprocity and its focal antecedents (see Chapter 4: §4.5).

This chapter is structured as follows (Figure 3.1). First, an overview of the theoretical rationale underlying the interpretive research is provided (§3.2). Next, the qualitative research procedures are addressed, including the philosophical worldview, the strategy of inquiry, the research methods, assumptions, verification and outcomes of the study in relation to the literature (§3.3). Then the initial observations and main findings are reported (§3.4 & §3.5). The Chapter concludes with a summary of exploratory findings (§3.6).

Figure 3.1: Structure of Chapter Three





### **3.2. Theoretical Rationale: Acquisition of New Knowledge**

The underlying purpose of this qualitative research on reciprocity in virtual environments is the acquisition of new knowledge, which involves identification of themes which have not been previously found. These themes will be used to describe a phenomenon of theoretical interest, which informs the development of constructs and conceptual models for later empirical testing.

The majority of past reciprocity research has used quantitative approaches to research designs (see §2.2). Quantitative research has been useful in quantifying and objectively evaluating the exchange pattern and behavioral tendency of reciprocity. But it is limited by its nature to develop new knowledge about problems and issues arise from new social contingencies, and not all issues concerning reciprocity in virtual environments are composed of constructs that have been identified or measured in face-to-face environments. The possible differences between face-to-face and virtual environments affecting the occurrence of reciprocity may not only be the “why” of that social phenomenon, but also the “what” and “who” drive that. Through understanding these aspects, constructs may be developed, as measurable theoretical concepts (MacInnis, 2011), which hold both systemic (i.e., theoretical meaning) and observational (i.e., operational meaning) meanings (Kaplan, 1964; Peter, 1981). Due to the lack of theoretical understanding of reciprocity in virtual environments, the observational meanings of the construct of interest may guide the development of the conceptual model.

### **3.3. Exploratory Qualitative Research**

According to Creswell (2008), a qualitative approach is one in which researchers often make knowledge claims that primarily based on constructivist perspectives, such as manifold meanings of individual experiences, which are socially and historically constructed, with an intention to develop a theory. This research’s area of enquiry (i.e., reciprocity in virtual environments) is currently poorly understood, making a qualitative approach appropriate. Specifically, this phase of the research adopts a social constructivist world view, a phenomenological research strategy and a hermeneutic analysis.

Hermeneutics refers to analysis of texts for coherent explanation and suggests that all human understanding is achieved by considering the interdependent meaning of parts and the whole that they form through the process of iteration (Klein and Myers, 1999). Therefore, data

analysis is built from particular phenomenon to specific themes/concepts/constructs, and the researcher's interpretations of the meaning of the data (Creswell, 2008). Creswell (2008) also noted that those who involve in this form of inquiry honour an "inductive style" with a focus on individual meaning, and the importance of interpreting the complexity of a situation. Hence, the researcher will interpret the data within the context of study and infer the meanings based on the each individual's personal experience in social media.

### **3.3.1. Philosophical Worldview: Bridging Positivist and Interpretivist**

Creswell (2008) used the term "worldview" as meaning "a basic set of beliefs that guide actions" (Guba, 1990, p. 17): these are labelled elsewhere as paradigms (Lincoln and Guba, 2000) and epistemologies (Crotty, 1998). The usual juxtaposition of qualitative research against quantitative research makes it easy to miss the fact that qualitative research itself encompasses two traditions: positivist and interpretivist (Lin, 1998). Lin (1998) suggested that qualitative work can be positivist, because it can attempt to document practices that lead consistently to one set of outcomes rather than another, to identify characteristic that commonly are related to patterns that hold across different venues and with different actors. According to Lin (1998), "positivist work seeks to identify qualitative data with propositions that can then be tested, while interpretive work seeks to combine those data into systems of belief whose manifestations are specific to a case" (p.162).

This research follows Lin's (1998) arguments which suggest that the province of positivist research is to discover causal relationship (e.g., identifying specific factors in influencing reciprocity based on previous literature such as the concept of social distance). Based on Lin's (1998) recommendation, the researcher would take the data themselves as observations, try to discover which pieces of information are associated, and then evaluate the strength of the association by thinking through "counterfactuals and problems of reliability and representativeness" (p.166). One of the key advantages of adopting a positivist view is that it leads the researcher to think in terms of plausible causes (Lin, 1998). Specifically, by evaluating any particular hypothesis in the context of the universe of possible causes, the researcher is kept from settling on one alternative too quickly (Lin, 1998). As a result, this approach also leads to a better understanding of general phenomena.

What the positivist approach does not give, however, is an understanding of causal

mechanisms (Lin, 1998). While it allows the researcher to discover whether two or more constructs are linked consistently, it does not explain why the link exists. Discovering and delineating the difference between these causal mechanisms is work most suited to an interpretivist approach (Lin, 1998). It seeks to understand what general concepts like “reciprocity” and “social distance” mean in their specific operation, and to uncover the conscious and unconscious explanations people have for what they do or believe (Lin, 1998). Therefore this research considers that the province of interpretivist research is to discovering causal mechanisms (e.g., the operational constructs for social distance and types of emotions triggered in different types of reciprocal behaviours – direct vs. indirect reciprocity). The interpretivist (Crotty, 1998) or social constructivist (Creswell, 2008) worldviews assume that individuals seek understanding of the societies in which they belong to, and cultivate subjective meanings of their personal experiences (Creswell, 2008). As a result, these meanings are wide-ranging and manifold. Based on the social constructivist view, this research relies as much as possible on the respondents’ personal experiences of reciprocity in social media. Creswell (2008) noted that subjective meanings can be conveyed socially and are shaped through interaction with others (hence “social constructivism”), through both social and cultural norms (Crotty, 1998). Creswell (2008) and Crotty (1998) agreed that social constructivist researchers’ own experiences shape their interpretations, and they positioned their research to allow interpretation to flow from their personal views, cultural backgrounds, and individual experiences.

To allow the researcher to address the causal relationship in the processes of reciprocal interaction among social media users, this research adopts both types of the philosophical worldview. It allows the researcher to pay attention to the specific contexts in which users utilise the SNSs. The combination of positivist and interpretivist approaches thus provides both the causal “what” and the causal “how” the socially constructed norm/belief (i.e., reciprocity) operates among the respondents in Chinese social media. Overall, the generalising power of the positivist approach gives the researcher a sense of the important constructs and the scope of a problem; the intensity of the interpretivist approach provides the explanations necessary to conclude that a set of relationships is significant theoretically and substantively (Lin, 1998).

### **3.3.2. Strategy of Inquiry: Phenomenological Research**

Reviewing the literature on qualitative research, five major traditions of inquiry have been categorised by Creswell (1998), namely, biography (narrative research), phenomenological research, grounded theory, ethnography, and case studies. In order to understand the essence of the Chinese social media users' reciprocal following phenomenon, a phenomenological research strategy is adopted. Specially, phenomenological research seeks "to understand the meaning of experiences of individuals about the phenomenon" (Creswell, 1998, p. 38); and by understanding "lived experiences marks phenomenology as a philosophy as well as a method" (p. 15). The research procedure (e.g., in-depth interviews) involves interviewing a limited number of respondents through broad and persistent engagement, in order to develop relationships and patterns of meaning (Moustakas, 1994); and the researchers put forward their own knowledge and experiences in order to comprehend those of the respondents in the research (Creswell, 1998).

### **3.3.3. Research Method: In-depth Interviews**

The exploratory stage of this research adopts a hermeneutics methodology. Klein and Myers (1999) defined hermeneutics as the analysis of texts for coherent explanation and suggested that all human understanding is achieved by considering the interdependent meaning of parts and the whole that they form through the process of iteration (Klein and Myers, 1999). Semi-structured in-depth interviews are utilised as an appropriate data collection tool, allowing the researchers to explore participants' feelings, memories and interpretations that cannot be observed in other ways.

Creswell (1998) noted that the key approach of qualitative research is to carefully and purposefully select suitable candidates to answer the research questions. For the initial qualitative research, the researcher made no attempt to randomly select respondents. To find respondents who are Weibo account holders in mainland China, aged 18 and above, the researcher employed a purposive snowballing technique (i.e., friend referrals). In order to reduce the potential bias of this technique, the sample is consisted of friends of the researcher's Weibo friends only (who had no interactions in real life). The key advantage of this technique is that it can help the researcher to effectively target a specific hidden population. In addition, with the referrals in place, potential participants could quickly build interpersonal trust with the interviewer and increase the confidence in expressing their views

in the interview process.

Eight participants were interviewed until saturation was achieved. Data saturation refers to a point of diminishing returns in a qualitative sample (Ritchie, Lewis and Elam, 2003), suggesting that more data collected does not necessarily gain more knowledge. Since the areas of interest for this research is precisely and narrowly defined, a smaller sample has enabled the researcher to gain substantial knowledge for the designing of the next stage of quantitative research.

The interview protocol (see Appendix I for Participants Information Sheet, Interview Consent Form and Interview Guide) concerning how respondents perceived and understood the concept of reciprocity was pre-determined from literatures around reciprocity in the physical social contexts, such as those concerned with the impact of social distance on reciprocity (e.g., Charness and Gneezy, 2008; Glaeser et al., 1999; Hoffman et al., 1996; Howard, et al., 1995; Wikstrom and Frostling-Henningssoon; 2002).

The researcher conducted the interviews (eight respondents) in Chinese (text dialog-based) through Tencent QQ (the Chinese version of Skype, which is a real time messenger with a penetration rate over 90% of computer users in mainland China), with each interview lasting from 60 to 90 minutes in duration. To ensure reliability, the Chinese transcripts were translated into English by an accredited translation agency, and back translated into Chinese by another independent agency.

To reduce the possibility of data being lost in translation, particularly through the Chinese metaphors used by respondents, both Chinese and English versions of the transcripts were used in the analysis process. The process of analysing interview transcripts (using Nvivo 7.0) resulted in themes that corresponded to each of the research objectives specified.

#### **3.3.4. Assumptions of Qualitative Research**

Creswell (1998) suggested that qualitative research methodology labours under certain assumptions, therefore a combination of the methodological assumptions of qualitative research suggested by Creswell (1998) and Merriam (1998) is outlined and discussed in relationship to the context of this research in Table 3.1.



Table 3.1: Assumptions of Qualitative Research

Assumptions	Relationship to this research
Qualitative research is more concerned with process rather than outcomes	The process by which the various factors in influencing the likelihood of reciprocity are more important than the outcomes of reciprocal behaviours.
Qualitative research is intended to interpret meaning	How social media users cope with and make sense of virtual life experiences in a social media environment is the core of this research. This is an area that requires interviews with those involved in the experience.
Qualitative research involves fieldwork in which the researcher is the primary data collector and analyst	The data collection for the present research is through online interviews and analysis by the researcher.
Qualitative research is inductive in nature, and the researcher studies the topic within its context, and uses an emerging design	After examining the interview data, it is possible to determine the existence of reciprocity in Chinese social media, and factors influencing reciprocity, thus facilitating a conceptual model of reciprocity in Chinese social media, and enabling concepts, hypotheses, and theories to be developed.
Qualitative research is concerned with the nature of reality	This is an exploratory research in a relatively newly emerged social media context, the information relative to the reality of Weibo is on interpretations of respondents through quotes, and generate themes/concepts that reflect verbatim recorded, and report evidence for themes identified.
Qualitative research is concerned with the role of values in a study, the researcher admits the value-laden nature of the study and actively reports his or her values and biases as well as the value-laden nature of the information gathered from the field	The nature and success of Weibo is based upon certain values held by the respondents, such as freedom of speech, supporting each other's social well-being, and co-creation of value. These are shared values shaped by the unique nature of social media in China which promoted Weibo. Lastly, I, as the sole researcher, share similar values and virtual life experience as those who participated in Weibo for I also am a regular user of the same site as they are.

Source: Assumptions are adopted from Creswell (1998) and Merriam (1998)

### 3.3.5. Methods of Verification

There are three strategies that can be used to verify the validity and accuracy of the research outcomes. The first strategy is declaring researcher bias (Merriam (1998). Merriam (1998, p. 205) suggested that “one way to ensure validity in a qualitative study is by clarifying the researcher’s assumptions, worldview, and theoretical orientation at the outset of the study.” Similarly, Creswell (1998, p. 202) suggested that “the researcher comments on past experiences, biases, prejudices, and orientations that have likely shaped the interpretation and approach to the study.” The researcher of this research has a basic understanding of consumers’ social media behaviour, and their reciprocal behaviours triggered the researcher’s interest in this line of research.

In order to avoid biased opinions caused by the researcher's assumptions, the interview guideline was semi-structured and allowed respondents to come up with their true thoughts and feelings. There were no judgemental questions in the interview, but rather encouragement of elaborations in responses. However, because the interview guidelines were developed based on literature reviews covering reciprocity in physical settings, certain concepts and constructs might not have been perceived as relevant to what respondents personally experienced online. If such irrelevance is observed, the focus will be shifted to the new emerging themes mentioned by respondents.

The second strategy is to use "rich and thick" description (Creswell, 1998). Creswell (1998, p. 203) justified this strategy by stating: "rich and thick description allows the reader to make decisions regarding transferability because the writer describes in detail the participants or setting under study." Where such descriptions were found, the researcher has reported them in detail, giving respondents opportunities to judge the evidence for themselves. The last strategy is peer examination (Creswell, 1998), such as "asking colleagues to comment on the findings as they emerge" (Merriam, 1998, p. 204). Creswell (1998) suggested that peer examination provides an external check on the research process, specifically, the examiner acts as a "devil's advocate," keeping the researcher honest by questioning about methodologies and analytical interpretations critically.

In this research, a senior scholar in New Zealand Asian Institute (NZAI) and a Chinese scholar from Shanghai Jiaotong University (SJU, a Universitas21 partner with The University of Auckland) with a linguistic study background, were invited as peer examiners. Two debriefing sessions were held (i.e., 1<sup>st</sup> at half-way through the interview process, and 2<sup>nd</sup> at initial report of findings stage) through face-to-face communication with the NZAI scholar, and online communication with the SJU scholar.

### **3.3.6. Purpose of the Research and Its Relation to the Literature**

The exploratory research conducted among Weibo users was intended to make available an accurate a description of the reciprocity phenomenon in social media. In this process, two things were accomplished relative to the literature regarding reciprocity in non-physical contexts.



First, as noted in Chapter One, this research is unusual in focusing on reciprocity in a virtual environment. The existing literature regards the concept as mainly focused on the physical living environment, specifically face-to-face interactions between people who have already established relationships. This research will examine the old concept in a new context, and factors influencing reciprocity will be identified.

Specifically, in physical contexts the traditional ideas of “favour,” “help” and “benevolence” are viewed as the antecedents of reciprocity, whereas in virtual social media contexts reciprocity is contextualised as the simple following action. This is because the following action is a kind action, a type of social resource, and according to Foa (1971) an expression of affectionate regard and support that may trigger social exchange such as “reciprocal following.” In addition, social status cues such as the number of followers and number of postings are unique concepts in the social networking environment; therefore understanding of these concepts will assist interpretation of the reciprocity phenomenon from a new perspective.

Second, this research could make available a source of information relative to social media development in China that has previously been unknown to the Western social media researchers. Though the development of Chinese social media has not received enough attention in the Western literature, the researcher believes that future research in social media will eventually call for further attention to the fast developing and changing Chinese market; and this must include the successful SNS offered by Weibo.

### **3.4. Initial Observation and Preliminary Findings**

Eight Weibo users participated in the in-depth interviews. The sample has an equal gender split and captures users with different levels of expertise in Weibo applications. Table 3.2 provides an overview of the respondents’ demographic information and motivations for adopting Weibo in the first place.

Table 3.2: In-depth Interview Respondent Summary

Respondent <sup>1</sup>	Age	Gender	Occupation	Experience <sup>2</sup>	Motivation <sup>3</sup>
Lin	30	Female	Sales representative	Low-Medium	Curiosity & social connectivity
Chrissie	24	Female	University student	Medium	Curiosity & social connectivity
Kun	32	Female	Business owner	Medium-High	Information driven & sense of security
Farewell	30	Female	Housewife	Low-Medium	Curiosity, information driven & social connectivity
Yang	25	Male	Marketer	Low-Medium	Information driven & sense of security
Sun	25	Male	Photographer	Medium-High	Information driven
Kai	33	Male	IT consultant	High	Curiosity, information driven & social connectivity
Max	32	Male	Travel agent	Medium-High	Information driven

Note: 1. Pseudonym; 2. Experience – level of familiarity and expertise in using Weibo (self-reported); 3. Motivations for adopting Weibo.

### 3.4.1. Motivations for Adopting Weibo

There are four key reasons that respondents started using Weibo: curiosity, social connectivity, information driven, and sense of security. A table of detailed interview verbatim transcriptions about the motivation for adopting Weibo can be found in Appendix II. In addition to these stated motivations in adopting Weibo, respondents were influenced by celebrities, successful public figures and “real life” friends in selecting who to follow. Then, gradually, they experienced serendipity and formed their value system in selecting who to follow back.

Overall, the initial observation of the participants confirms the relevance of their past experience with Weibo. All are deemed to be appropriate candidates for this research.

### 3.4.2. Types of Social Ties on Weibo

The findings from the exploratory research showed that Weibo users' interactions can be classified into three types based on the nature of their social relationships. These are 1) affective social ties (i.e., people who you know in real life such as friends and relatives); 2) one-directional ties (i.e., people who you know of but via one way communication only such as celebrities and politicians): reciprocity does not happen very often in this type of social tie, therefore it has been excluded from this research; and 3) non-social ties, such as those with strangers.

Among these three types of social ties, the focus of this research is to understand SNS users' reciprocal behaviour in relation to the third type of social ties (i.e., stranger-to-stranger). The reasons for focusing on this specific social tie are threefold. Firstly, both previous research and exploratory findings from this research (see §3.5.1) show that among people who have close social ties (i.e., established relationships such as family and friends) in Weibo, reciprocity is largely influenced by feelings of indebtedness or *renqing* (人情) (“emotional debts” in Chinese). This is described by Cialdini (1993), as the “reciprocity reflex” which is considered to be a compliance strategy, employed in order to avoid being perceived as anti-social. Hence, people with affective ties in Weibo directly transfer their real life feelings to their online life, therefore reciprocity is largely influenced by their past experiences in their social interactions, rather than their online activities.

Secondly, Weibo users who have one-directional ties can hardly receive any returns from whom they follow, because of the unique features of these individuals (e.g., celebrities). It is commonly known that rather than these social exchanges being “real,” these users' accounts are mostly managed by agents to create publicity.

Lastly, most personal Weibo users have pseudonyms so that their real social identities can be protected and their expressions of feeling (e.g., comments relate to political issues) can be more freely expressed and are hard to trace by individuals/authorities. Therefore, investigations into stranger-to-stranger online relationship can potentially provide a more true and accurate account of the social phenomenon of reciprocity.

### **3.4.3. The Impact of Anonymity and Social Profile Information on Reciprocity**

The exploratory research conducted among Weibo users found that reciprocity exists in virtual space in the form of reciprocal following and reciprocal postings/commenting (higher level of involvement than reciprocal following). However, due to the anonymity of the social network setting, and the remote distance created by the internet, the occurrence of reciprocity takes a different process (elaborated in §4.3) than do “real life” scenarios. Overall, anonymity provides both opportunities for, and barriers to, reciprocity. On one hand, every user has a pseudonym, hence their real social identity is protected, and no social interaction, whether meaningful or meaningless, will impact directly on his/her non-virtual social life. This allows for strangers to make social connections relatively more freely and to disconnect from each other without a strong feeling of guilt and indebtedness.

One the other hand, anonymity results in a lack of information for users and leads directly to a sense of insecurity for them, a phenomenon commonly observed among female users. This is because there is only limited information available for users to get to know each other, and such information as there is seen exclusively in their social profiles. Therefore an individual’s social profile serves as the gateway for relationship building and is a critical impression management tool. In addition, the anonymous social setting tends to foster relatively weak social ties, which in turn tend to result in weaker reciprocity, because users are not socially indebted to each other and have no strong obligation to comply. As a result of the exploratory research, the conceptual model development will focus on how information that resides in users’ social profile (e.g., the number of followers and the number of postings) impacts on their reciprocal behaviours.

The nature of SNSs includes fast and vast movement of information, and instantaneous interactions, therefore users’ decision-making process cannot be comprehensive and rational and their decisions are often based on conducting incomplete searches and making trade-offs between values. Hence, information-overload is a major hazard of contemporary living in social media. Cialdini (1993) was especially interested in automatic (or mindless) compliance and claimed that the ever-accelerating pace and informational crush of modern life would make such unthinking compliance more and more prevalent. In fact, people do not have the time or cognitive capacity to process all the messages they are subjected to, so many messages

remain unattended in their psyches until they are reawakened by subsequent messages. Cialdini (1993) uses the phrase *click-whirr* to signify people's unthinking responses to stimuli. This type of decision making process by decision makers is also commonly referred as bounded rationality (Roth and Erev, 1995; Gale, Binmore and Samuelson, 1995), that is individuals make an attempt to achieve fully comprehensive objectives takes into account their cognitive limitations (Roth and Erev, 1995).

In situations of repeated decision making in the social networking environment, such as “who and why should I follow back?” Users with limited resources available often try to identify both cognitively and emotionally with the means, or sub-goals. Hence, certain social cues are more important than the others, and information presented in one's social profile becomes the gateway for Weibo users to make opportune decisions.

The exploratory research shows that in their “reciprocal following” decision making social media users do rely on the social profile information, especially when they have limited time and are trying to keep updated to their parallel life in virtual space. For example:

*“If I do not have the time to investigate my followers (social profile), then most often I would follow back on him first; if it (the content of his Weibo) is not good then I would stop following.” (Chrissie, 24, female, student)*

*“A person's profile page has a big influence on my follower section especially when I am under busy working modes, I will only use that information (e.g., the number of followers) to decide whether I will follow back.” (Kun, 32, female, business owner)*

*“Sometimes I am too busy and once I have more than 4-5 followers at once when I refresh my account, I do not really have time to follow back on all of them, I am a pretty lazy guy..., and it (checking profile page) is the easiest way to tell who they are, it is a short cut for me, especially when I do not have too much time to look into details... but most of my follow back decisions are made based on their profile page.” (Kai, 33, male, IT consultant)*

*“That is actually the truth (reading followers' profile page); it takes too long to read everything they wrote, so it (profile page) is handy.” (Max, 32, male, travel agent)*

Social profiles in Weibo shows their users' social status in terms of their social capital. This can be measured by the number of their followers, their social bonding/engagement with the community as a whole in the form of number of postings and their sociability/selectively in the form of number of followings (i.e., number of people a user follows). Of these three key indices, when Weibo users assessed their followers' worthiness the number of followers and the number of postings received most of the attention, while most of following back behaviours were based on the comparisons of their social status with that of their followers. Social distance is therefore the physiological distance of users' perceived discrepancies between each other's social resource owned (i.e., value embedded in the number of followers/postings). In other words, reciprocal behaviours are driven by rational analysis of costs and benefits.

The numerical figures that are embedded in each user's social profile can be directly seen as a measure of who they are from two perspectives; firstly, the level of resource they possess in the online social community and, secondly, the level of contribution they have made. This has provided these busy users with an efficient way to determine their social responses. Simple comparisons of number of followers can result in a sense of their differentiation in terms of social class and comparisons of number of postings can indicate who puts more effort into the building of the community. Sometimes this process can be more sophisticated, some users suggesting that the ratio comparison of number of followers/postings can indicate the authenticity of a user. On one hand, a large ratio may indicate either that he/she is an extremely influential public figure or that "fake fans" have been bought to forge a false impression. On the other hand, a small ratio may indicate that such a user has no true value contribution to attract followers, therefore reciprocal actions are not triggered.

### 3.5. Main Findings from the Exploratory Research

#### 3.5.1. The Existence of Reciprocity in Social Networking Sites

When SNSs have a dynamic of give-and-take, they are exciting, engaging and sustainable. Successful “offline” communities are often built upon a sense of social belonging, where people are not only welcome to participate, but invited and encouraged to share a part of themselves with the larger group. The same may hold true for “online” community building. Inviting the contributions of the SNS users will help to sustain and grow engagement at the level of both the individual and the community. Reciprocity is therefore one of the key factors that help communities to work.

In small and geographically proximate environments, reciprocity is often based on face-to-face interactions. In these circumstances, one might, for example, physically help someone to care for a child, to move their belongings: one might then reasonably expect them to help in return at a later time. The research question in this research is whether such reciprocity exists in large and virtual environments.

The findings of the exploratory research indicated that there are two main types of Weibo users who follow the norm of reciprocity, but they do so to different extents.

1. Those who always follow back on many users (i.e., anyone and everyone) and;
2. Those who only followed back when there was a mutual benefit (see §3.5.4.3).

Therefore, reciprocity exists commonly, but it is not an absolute norm that everyone follows in social media. Both groups practiced reciprocity, but to different degrees. Half claimed to be consciously reciprocal in their real life, but felt reluctant to reciprocate when followed by strangers in social media. For example:

*“I would say 60% of the time I would adopt the courtesy of reciprocity and following back with my fans.” (Kun, 32, female, business owner)*

*“I decided not to care too much about courtesies when interacting with people on the web. But through what you have asked me, I have clearly followed the courtesy of reciprocity to some extent.” (Kai, 33, male, IT consultant)*

*“I think the courtesy of reciprocity and seeking for mutual benefits is probably used in dealing with interpersonal relationships. In the cyber world, the courtesy of reciprocity can only be related with having manners. For example, if your followers are very polite, then you should treat them politely too. In everyday life, we should exercise the courtesy of reciprocity to people who care and are willing to help us, otherwise we will not have real friends. I think the courtesy of reciprocity and the internet can hardly be related but in real life I am someone who would pay particular attention and care to exercise the courtesy of reciprocity.” (Chrissie, 24, female, student)*

Therefore the norm of reciprocity was not fully respected in social media, but those who followed it benefited from “serendipity” through “receiving unexpected information and meeting interesting people” (Sun, male, 25, photographer). And some users did not even pay any attention to the norm of reciprocity or purposely ignored it. For example:

*“I do respect reciprocity in everyday life, but it does not seem like I care about this on Weibo, [...] as I did not expect any responses or rewards when I followed people, I just wanted to read their postings, and I did not think of increasing the number of followers on Weibo. So reciprocity to me is just irrelevant. (Lin, 30, female, sales representative)*

“Those who always followed back on many people” behaviours are interpreted in this research as a “reciprocity reflex” (Cialdini, 1993). The reciprocity reflex amongst social media users with affective ties is not what the norm of reciprocity describes, but is rather a psychological trigger, a “hot button” that is wired into every person, and that, even if users recognise it, they find almost impossible to resist. Specifically, reciprocity reflex in SNSs represents an automatic and mindless reciprocation (e.g., following back) due to a sense of social obligation/norm/peer pressure. For example:

*“Without following the norm of reciprocity, you will not get through your way especially if you have not got a place to stand in the society, [...] you need to have the right atmosphere for people to exchange and talk without keeping a distance from others, not even a little bit, [...] you simply follow the norm and that will lead to harmony.” (Sun, 25, male, photographer)*



*“Yes, I do (respect the norm of reciprocity in real life). It is a social standard in Chinese society, you cannot avoid it, [...] if someone shows his kindness to you, and you have to return it with kind, that is how I was brought up. If you do not, you may face trouble as people will think you are mean and not sociable, and they will not be nice to you again, [...] yes, (I follow norm of reciprocity on Weibo), because all relationships are built on kindness to each other, aren't they?” (Kai, 33, male, IT consultant)*

*“I think that is a social norm everyone follows in China. So do I, because we were taught about it since primary school, [...] yes, I try to follow it (the norm of reciprocity) on Weibo, especially when someone did me a favour, such as receiving comments from other users, and I always remembered to return.” (Max, 32, male, travel agent)*

Social scientist Cialdini (1993) claimed that reciprocity is a built-in human ethological reflex, an automatic instinctive reaction to a stimulus. However, his definition is not comprehensive enough to cover the reciprocity reflex in SNSs. Reciprocity is not radically new to SNS users, but is rather the transfer of social knowledge and practice into another environment.

“Those who only followed back when there was a mutual benefit” behaviours are interpreted as representing non-altruistic-driven reciprocity, especially when exhibited in the social interactions of strangers. The reason this research focuses on strangers' initiation of relationships is that most of the respondents, when they dealt with other users with whom they had established relationships in real life, carried over their beliefs in reciprocity to the SNSs. For example:

*“I will follow those concepts (norm of reciprocity) when dealing with friends (on Weibo).” (Farewell, 30, female, housewife).*

However, following back actions with strangers in social media reflects the power of non-altruistic driven reciprocity, because it opens the possibility of cooperative relationships between individuals who have had no previous relationships, thus reducing the sense of peer pressure. For example:

*“I think the courtesy of reciprocity relates more to the friends in real life, Weibo is more direct. In real life, humans need to expand their friends circle right? But it goes through very complicated processes to make new friends. In Weibo, you can just interact with anyone without any boundary restrictions, even with one sentence you can get to know and follow up with each other, [...] internet is a place to let out your emotions, feelings and opinions etc., [...] there is a high degree of freedom.”*  
(Sun, 25 male, photographer)

*“On the internet you do not really see each other, and if I do not follow back on anyone, no one can blame me and I do not lose face (value). But in real life, we are dealing with real people, friends, even strangers can make me feel embarrassed if I do not practice reciprocity [...] (however) there is no obligation to anyone, and it is a great place to express yourself freely, [...] to a certain extent it (norm of reciprocity) definitely lost its power, but if you have already built up your reputation online, you have to be careful and protect your social image. So reciprocity is still a norm we should follow.”* (Max, 32, male, travel agent)

### **3.5.2. The Diminishment of Reciprocity in SNSs**

As the results shown in the previous section indicate, reciprocity exists in the social networking environment, but the magnitude of intention to return shows a trend of diminishing (i.e., reluctant to reciprocate – the tendency is weaker than it is in real life interactions). This is due to various reasons, such as the large social distance inherent in the internet, personal selectivity, and avoidance of risk, troubles, and unnecessary information etc. Each of these reasons is discussed with respondents’ verbatim further in the subsections.

#### ***Large social distance***

SNSs involve no physical interaction, and the lack of face-to-face interaction may lead to more opportunistic behaviours. These include showing no recognition or appreciation of others’ following. The large social distance makes users feel less obliged to return, and this suggests that impolite behaviour may not be criticised or looked down on as in real life, and its negative impact on users is less cared/worried about. For example:

*“It is because it is on the internet, it is easier for us to get to know things; we do not need to care about our face so it is also easier to put them off, [...] reciprocal following will not happen if there is not much interaction (e.g. constructive commenting, enjoyable social conversations) there.” (Farewell, 30, female, housewife)*

*“Internet is a virtual space, especially when we are strangers to each other, and there is no need to be so polite, because we do not know each other. And that is the beauty of Weibo, if you do not like anyone, just swear at them and block them, simple and easy.” (Sun, 25 male, photographer)*

Participants also suggested that the many reciprocal followings they have initiated were because of their relationships in real life, therefore reciprocity is sometimes achieved based on existing face value (Chinese people believe that if a kind action is not repaid to people who they have already known, it is impolite and they may feel ashamed when they meet again), or on small social distance. For example:

*“The people that I am following will follow back if we know each other (in real life).” (Kai, 33, male, IT consultant)*

*“Following back will promote interactions with each other or because of our face value, you are forced to follow back especially if he is your friend (in real life).” (Sun, 25 male, photographer)*

### **Selectivity**

Weibo has more than 500 million users; hence the total information flow is far too large for any individual to handle. It is common for a Weibo user to receive multiple followings at the same time, and it is prudent to be selective in who to reciprocate to. Many respondents relied on a sense of similarity when making reciprocal followings, such as geographic location and common interests. However, those similarities lay on the surface only, therefore when following back on someone who users do not truly know, selectivity was needed, especially when the information resource is limited.

The research found that experienced Weibo users tended to be more selective than new users, because they have learnt the drawbacks of being reciprocal all the time, such as information overload, time being wasted in processing information and dealing with strangers who have mutual interests. As a result of selectivity, the level of reciprocation was reduced. For example:

*“If I do look into it (social profile); I only check who they follow. If they followed someone interesting, it serves as a hub for me to get to know people who are interesting as well, [...] he (a user with large amount of followers but very few followings) is very picky or arrogant. It is just my perception. It does not say he is bad, in fact it is a very wise approach on Weibo, so you do not receive too much information every day, right? We can only take in a certain amount of information and you want it to be things good for you.” (Kai, 33, male, IT consultant)*

*“No, I do not (follow back on everyone who has followed me). But I used to follow a lot more, but I did a clean out in the last couple months... I try to have an elite group of “donkey friends” (people who are interested in travelling), [...] I think I should (follow the norm of reciprocity), but I do not want to see some useless postings come up on my page every day. So I only selected to follow back on those people who I think post valuable information, [...] I am not too sure (how to select who to follow back), I think it should compare to how many fans a person has, if there is a big difference, it may say something about this person. I found that these influential users normally have huge number of fans, but only follow a few people; I think that is one way to tell other people he is different from other people and being unique, [...] I think in most cases, these are new users and they just follow everyone and expected reciprocal following happens, so they can have some fans, but these fans have nothing to fan about. I was like that in the very beginning, but later realised I need to be selective in who I follow, so I unfollowed a lot.” (Max, 32, male, travel agent)*

Respondents were also asked the reasons for their non-reciprocal behaviour. A common theme was the perceived risks of accepting strangers into their lives, therefore avoidance caused non-reciprocation.

### *Avoidance*

In much computer-mediated communication research in the Western world, self-exposure has been studied. Communications in Weibo and in Western online discussion forums share many similar characteristics. In order to avoid being exploited by other people, members seek privacy, and this significantly reduces the likelihood of reciprocity. Themes derived from this research also show that some Chinese Weibo users are also cautious about who they should be connected with, and try to avoid unnecessary troubles caused by unreliable users. For example, one respondent had a major concern about the reliability issue, stating that:

*“If you follow someone, others may investigate you out of curiosity, now if he is someone unreliable (such as users with no track record of posting behaviours), he may comment randomly about you without even knowing you and may also ask questions that are troublesome. If he keeps on asking and you do not reply, then you will seem to be rude but on the other hand you may also feel that there is no need to explain to unrelated people. I think it will just lead to a dilemma.” (Chrissie, 24, female, student)*

Therefore the best compliance strategy when facing unreliable followers is to avoid trouble; Chrissie stated that *“I think that is adding trouble to me if I randomly follow people.” (24, female, student)*

Other than avoiding the unreliable users, there is also another reason for users to behave selectively and make rational decisions about reciprocal followings and that is avoiding unnecessary information. For example:

*“There are tens of thousands of people, if they follow them all, imagine the amount of unnecessary of information that they’ll receive every day.” (Farewell, 30, female, housewife)*

A sustainable SNS depends on valuable social interactions, and reciprocity is built on the exchange of valuable network resources: however because not all Weibo users are valuable contributors, lack of value often becomes an obstacle to reciprocity. For example:

*“Normally when they have a lot of people that they are following but has no one following back with them, this generally means that the Weibo content is not very good.” (Farewell, 30, female, housewife)*

Another obstacle is the way some Weibo users ask or beg for reciprocation. For example:

*“If by just following me, it really depends who they are, if they are someone, someone really influential, that would get my follow back immediately [...] they are more like beggars to me; some of them even send message to you and ask you to follow back on them. I just ignore them, reciprocal following is not something you can beg for, and you need to earn it with your own ability” (Max, 32, male, travel agent).*

Or reciprocation may be blocked simply because the follower’s low level of social status presents no immediate value. For example:

*“I feel the success when there are a lot of people leaving me comments, a random follower without evidence of their success will not make me feel they are valuable to me.” (Sun, 25 male, photographer)*

Some users also wish to escape from the social burden reciprocity has brought to them, unless the reciprocation provides a benefit. For example:

*“The norm of reciprocity is a good idea but it can be very troublesome. You need to follow it by ‘doing something in return’ even if you do not have the time. Therefore, I really want to escape from it. But it is not the solution because then our tradition may be neglected and forgotten. In social networks, I wouldn't go and follow if it has no benefits for me.” (Farewell, 30, female, housewife)*

### **3.5.3. Emotions Triggered by Following Actions**

In this research, the “original event” refers to a Weibo user’s “following action” towards those who they are interested in or show respect to. When an individual is followed by another user, the following action (which in the social media context can be perceived as a type of gifting) may trigger different types of emotional response in the recipients. The exploratory research shows that when an individual is followed by another, he or she may feel that they are being respected, honoured, or recognised for his/her contributions to the community. For example:

*“I felt I was respected and recognised by them.” (Chrissie, 24, female, student)*

*“It is also recognition to me, I felt honoured when being followed by other users.”  
(Kun, 32, female, business owner)*

*“It means recognition to my posts.” (Farewell, 30, female, housewife)*

*“Being recognised, I guess. I just feel happy that I am being paid attention by other people, and there are actually people who do read my stuff. It’s a great feeling...”  
(Kai, 33, male, IT consultant)*

*“In the beginning, I was really happy, it’s great to see my fans’ base growing, and it’s like an achievement [...] it’s the recognition from others, and I think my posts are benefiting others.” (Max, 32, male, travel agent).*

Reciprocal social interaction (e.g., following and following back) may therefore arise due to emotional reactions to perceived mutual good intentions (i.e., the act of recognition). However, motivations can be mixed: for example, expressing pure sympathy to help other members, trying to avoid being perceived as unsociable, or seeking greater potential reciprocal value in future interactions. Therefore emotions could potentially lead to reciprocity, but in most cases a simple action like following is not sufficient to gauge others’ full intention to reciprocate. The more essential value of the following action may be found by considering who the follower is and whether a future value exchange may exist between the parties.

Emotions have been considered as fundamental motivating forces in human decision-making (e.g., cooperative/reciprocal responses) (Damasio, 1994, 2004; LeDoux, 1996; Rilling et al., 2002), and different motivations may underlie the same surface behaviour (i.e., following back). However, the psychological process of reciprocity may differ between users. Findings from the exploratory research showed that very few respondents’ following back actions were driven by altruism (e.g., to increase their followers’ social capital, although in contrast this often happens among people with existing affective ties). The main motivator was mutual benefit (i.e., seeking reciprocal value, such as to *“follow back on people who have similar level of social status and can benefit from each other’s resources,”* (Kun, female, 32, business owner ) and self-interest (i.e., following back to fulfil personal desire, such as *“due to curiosity,”* Kai, male, 33, IT consultant).

Overall, there were four types of emotions that were found most commonly among respondents. These were feelings of liking, gratitude, empathy/sympathy and indebtedness. The following sub-sections elaborate on each of the themes identified with respondents' verbatim.



### 3.5.3.1. Feelings of Liking

Sometimes following back in social media can be understood as “liking,” which, as suggested by Cialdini (1993), is commonly indicated when users prefer to say “yes” to those they like. The author suggested that extensions of this principle can be: 1) physical attractiveness invokes liking; 2) people like others who are similar/familiar to themselves; 3) people like others who compliment them. Therefore, how do these principles work in Chinese social media? To start with the virtual equivalent of physical attractiveness, Weibo users’ reciprocal behaviour due to liking tend to be driven by the attractiveness of users’ status, content of postings, and as simple as an attractive profile photo or gender, females to be specific. For example:

*“If I like someone, I would definitely follow back on him, [...] someone who is very popular and with lots of followers that kind of people would make me like them.”*  
(Kai, 33, male, IT consultant)

*“I normally follow back on professional photographers who share inspirational works that I like, [...] I also like to chat with people who compliment my works.”*  
(Sun, 25, male, photographer)

*“It is more likely for me to follow back on pretty girls who have attractive profile photos.”* (Kai, 33, male, IT consultant)

*“If the user is a pretty girl I still would like to follow back, you know I am still single. I do not want to miss out on any opportunity, [...] I have a friend who met a girl on Weibo and they are getting married soon, so I believe it could happen to me [smile face sign].”* (Max, 32, male, travel agent)

In line with Cialdini’s (1993) suggestion that similarity between individuals may also trigger likes and result in reciprocity, our respondents confirmed this in their reasons for following back on strangers. For example:

*“I follow people who are similar to me because I can position myself and know how much space is there (for me) to explore, [...] I want to find someone with common language (and) similar experiences, [...] I would feel that they are very enthusiastic*

*and curious people. I can open up my horizon from them, get to know new things that I have never thought about myself.” (Chrissie, 24, female, student)*

*“I will see if he has similar likes or we have got similar lifestyles, [...] I would follow straight away if he is related to my everyday life, [...] I look into our common topics, knowledge towards some opinions, for example, religion and comments towards some issues and so on. I would look into the matters that we pay attention to and the topics that the person posts lately. If there are common areas then our distance would naturally be closer, [...] if these are from perspectives that I am not very familiar with then I may not follow back as I think it does not relate to me that much.” (Kun, 32, female, business owner)*

*“I judge whether to follow back on a stranger base on the stuff that he has posted before, whether it is of my interest. I will follow back if there is common language, such as if we have similar hobbies.” (Farewell, 30, female, housewife)*

The sources of liking might be perceived as conviviality and enjoyment, which have been suggested by previous research (e.g., Becker, 1986; Pervan et al., 2004; Chan and Li, 2010; Webster and Martocchio, 1992). Essentially, liking is about the good feeling others bring into the social interactions. For example:

*“I guess it is good to have more followers, [...] it (recognition by others) makes me happier.” (Kai, 33, male, IT consultant)*

*“In the beginning, I was really happy, it is great to see my fan base growing, and it is like an achievement.” (Max, 32, male, travel agent)*

*“I will be very happy (if someone follows me).” (Kun, 32, female, business owner)*

*“Firstly, it is kind of mutual respect, I am sure when I followed back on them, they will be happy as well, and pay more attention to my future post.” (Yang, 25, male, marketer)*

Lin (30, female, sales representative) had even stronger feelings: when she was followed by other users, she felt that *“these people would be closer to me. In other words, they should be*

*(are) the people who would want to know me and care about me the most.*” In this case her social well-being was enhanced and she became *“more excited if some influential person followed me.”* On a broader level, Weibo could be seen as a platform to enhance people’s social well-being; Farewell (30, female, housewife) stated that *“it (Weibo) should be a useful platform for letting out (feelings and emotions),”* and liking is a reciprocal emotional response to other’s caring for us.

### 3.5.3.2. Feelings of Gratitude

Participants were asked about their feelings when being followed by strangers: all of them perceived that being followed by strangers indicated “recognition” and made them happy, therefore they formed a positive attitude towards their followers, and following back action (if happens) was often the token of their gratitude. For example:

*“I would feel touched (when being followed), [...] I would feel that she cares about me. I would also pay attention to her status, postings and make comments.”* (Yang, 25, male, marketer)

*“I felt I was being recognised, I guess. I just felt happy that I was being paid attention by other people, and there were actually people who do read my stuff. It was a great feeling, you knew it, [...] if someone who is very popular followed me that will definitely make me happier, [...] and this will make me like them as well.”* (Kai, 33, male, IT consultant)

*“I felt there is recognition of my personality and taste, it is recognition of me, and it is also a recognition of what I said and what I follow, [...] and I should recognise their recognition in return.”* (Kun, 32, female, business owner)

*“If he follows you, it’ll be his recognition of you, [...] they like my Weibo postings.”* (Lin, 30, female, sales representative)

*“I would feel that I have got encouragement and recognition.”* (Sun, 25, male, photographer)

*“It (being followed) is recognition from others, and I think my postings are benefiting others, [...] I would follow back only when I feel others’ are truly helping me and helping me grow.” (Max, 32, male, travel agent)*

### 3.5.3.3. Feelings of Empathy and Sympathy

The exploratory research found that participants' reciprocal behaviours were also driven by two closely related emotional constructs, empathy and sympathy, two concepts that are often used interchangeably. Although sympathy often begins with empathising with the same emotion another person is feeling, empathy can also be extended to other emotional states, such as liking and gratitude. Sympathy was found to be blended with both understanding (empathy) and sympathetic giving, in the form of following to those who are relatively new and, lower status users. For example:

*“It is like we have shared feelings, we understand each other, [...] it is a different feeling, it makes me feel good because I help them, and I shared valuable stuff with them, they may want to thank me by following me, [...] if they are just new users but contribute a lot in a short period of time, I certainly show some sympathy to them and help them to be exposed to other people, [...] it just reminds me of when I first started using Weibo, therefore people help me, so I think I could help these new users as well. I am sure my following back on them could make them happy as well. By the end of the day, Weibo is a place to make us all linked, we all want to be recognised by others. If you contribute but no followings, you will eventually drop off it (using Weibo), because no one is showing appreciation.” (Kai, 33, male, IT consultant)*

*“I was showing sympathy towards them when I followed back on them, I became who I am now on Weibo and also went through the beginner stage, so I can understand their feeling, and eager for followers. But now I am more calm, and do not expect anything in return, and I am sure people who appreciate my contribution will show their support.” (Max, 32, male, travel agent)*

Most of the respondents also showed their empathetic emotions toward their followers, hence the importance of mutual understanding. Thus emotions are much involved in the decision making about reciprocal following. For example:

*“Maybe we felt the same way that we understand each other. As I only update status about my emotions/feelings normally, [...] it is a mutual emotional feeling, maybe it is this kind of influence, [...] and the strangers that I follow may have some kind of*

*similar emotional feeling and attitude towards work as me, [...] I think the biggest gain is mutual emotional feeling and understanding, [...] it is not like I do not follow back on all users (who have fewer followers than me), if they just started using Weibo, of course I show my support as well, especially towards those who have potential to contribute to Weibo.” (Yang, 25, male, marketer)*

*“Two friends have just got to know each other. Except for the attraction of each other’s personality, what else has strengthened the friendship? I reckon it is through mutual understanding and help for each other.” (Kai, 33, male, IT consultant)*

*“When being followed by an individual, I would think that we are on the same boat.” (Chrissie, 24, female, student)*

*“It (following back) is like a mutual understanding between each other, [...] if I have been followed by a person who is like me then I will take it as recognition of me.” (Farewell, 30, female, housewife)*

*“I felt smaller distance between us due to mutual understanding.” (Sun, 25, male, photographer)*

### 3.5.3.4. Feelings of Indebtedness

In the physical world, especially in Chinese culture, a feeling of indebtedness is one of the strongest emotional drivers for reciprocity. Reciprocity due to a feeling of indebtedness is often described as reciprocity reflex (Cialdini, 1993), which is a compliance strategy to avoid being perceived as anti-social when people have close social ties (i.e., established relationships such as family and friends). Findings suggest that due to *renqing* (“emotional debts” in Chinese) the reciprocity reflex was often automatic among users with affective ties (i.e., relationships in the physical world). One participant described this response as an “*impulse behaviour in Chinese society*” (Farewell, female, 32, housewife), which reflects that to maintain a healthy relationship Chinese people place a high value on the obligation of reciprocation. For example:

*“If you do not follow back or interact with them, you are violating the social rules, you would feel embarrassed when you see them next time (i.e., in real life) because you owe them something.” (Yang, 25, male, marketer)*

Therefore the most effective way to quickly repay debts and avoid being perceived by peers as unsociable is to simply reciprocate. For example:

*“If I have posted stuffs, I feel successful when there are a lot of people leaving me comments, [...] I would reply to them one by one, [...] both complimentary and derogatory senses of comments made by viewers make me feel it is an obligation to return their help. I owe them thanks.” (Sun, 25, male, photographer)*

*“Surely I will return their favours of sharing my postings, but it may not be an immediate response; I will remember what they have done for me and pay it back when needed, [...] when they make a new posting, I can just ‘like’ it, it is easy, it just shows that I like it, and I paid attention to what he has posted.” (Kai, 33, male, IT consultant)*

However, feelings of indebtedness have been not been found to be strongly associated with reciprocity for everyone in virtual environments, especially among stranger-to-stranger interactions, for example:

*“I have to say there was no strong feeling of indebtedness since I do not really know them in real life, but I do feel I owe something to them and I need to pay it back to make them feel I pay attention to them as well.” (Kun, 32, female, business owner)*

*“I only felt indebted to follow back on those who actually contributed valuable information to Weibo.” (Farewell, 30, female, housewife)*

*“But that feeling (of indebtedness) is not that strong any more, especially when I got over 2000 fans, I am used to it now; unless there are some really influential users following me.” (Max, 32, male, travel agent)*

In summary, these findings support the idea that the following action is a kind action (also see Zhu and Brodie, 2014), which triggers people’s positive emotional responses and leads to reciprocal behaviour, such as following back. If reciprocity is not given, some users’ social well-being will not be enhanced; there are also negative emotions or consequences, such as reduced self-efficacy and participation. When Chrissie (24, female, student) was asked about her feelings when not being followed back by strangers on Weibo, she said:

*“I would think that I am not good enough to attract others’ eyes, [...] if I do not receive followers, I probably would not post either.” (Chrissie, 24, female, student)*

In short, the four major types of emotions (i.e., feeling of liking, gratitude, empathy and sympathy and indebtedness) found in the exploratory research confirmed previous literature about emotions involved in reciprocal behaviour in the physical environment (e.g., Becker, 1986; Pervan et al., 2004, 2009; Simmel, 1950; Watkins et al., 2006; Yau et al., 2000).



### **3.5.4. Cognitive Evaluation: Social Capital**

Economists Fehr et al. (2002) in their research on reciprocal and cooperative human behaviour indicated that in any kind of social exchange situation, not all types of the exchange are governed by enforceable contracts (e.g., law, impartial courts and polices), because not all obligations that occur in the various contingencies of exchange situations can be clearly formulated. Therefore, by defaulting implicit obligations an individual can always improve its material payoff relative to a situation where it meets its obligations (Fehr et al., 2002). Adopting these authors' standpoint makes the implicit or unenforceable obligations to social norms even harder to enforce in virtual environment, because the material payoff (returns) depends on the value perceived by recipients, which is harder to define.

This led to one of the original ideas of this thesis: the question of what could help social network users to consolidate the value presented in the value exchange process and facilitate compliance to the norm of reciprocity. Beyond the scope of emotional elements in catalysing reciprocity, this research has also identified three key factors that influence the likelihood of reciprocity between strangers in Weibo, and these are often found in the process of cognitive evaluations of the benefactors' (i.e., followers) social profile. And such practice of evaluating SNS users' social profile confirms theories about the importance of social identity and social presence (e.g., SIDE, Self-Presentation Theory and Social Presence Theory). The first two factors can be broadly understood as elements of SNS users' social networking influence signaled in their social profile, which reflect two aspects of social capital, namely "bridging social capital" and "bonding social capital." Another factor is "expected reciprocal value" which is derived from the evaluation of social capital embedded in users' social profiles.

The terms "bridging" and "bonding" social capital have been used in many social capital studies (e.g., Dekker and Uslaner, 2001; Putman, 2000; Uslaner, 2001; Woolcock, 1998), and because of their relevance in explaining the phenomenon they are adopted in this section to describe themes identified in this exploratory research. Specifically, bridging and bonding social capital can be used to conceptualise the contextual information of SNI indices (e.g., the number of followers/ postings). As previously mentioned, bridging social capital represents resources that users derive from specific social structures (Baker, 1990) and elite affiliations (Belliveau et al., 1996), therefore in the context of SNSs, the number of followers is considered to be a proxy to represent one aspect of bridging social capital. In contrast,

bonding social capital is understood in theory as capital that facilitates co-operation (Putnam, 1993) and promotes development for the collective whole (Thomas, 1996). Therefore, the numbers of postings and commenting behaviours are considered to be proxies to represent aspects of bonding social capital. The following subparagraphs elaborate more on each of these factors' influence on reciprocity, with respondents' verbatim remarks as supporting evidence.

#### **3.5.4.1. Bridging Social Capital**

Bridging social capital is the term used to describe users' social power in influencing others, which is reflected by their number of followers in their social profile page. It also represents users' level of reputation, believability, degree of voice being heard and recognised by others. Examples with regard to number of followers as an index for social influence and reason for reciprocation based on bridging social capital are listed below.

*“The number of followers is just like his supporters or believers. To me this is a kind of influential power, [...] I think the number of followers would be the most influential (out of all elements in the social profile) in deciding whether to follow back.” (Chrissie, 24, female, student)*

*“The number of followers means whether your articles are good or bad and how many people are following you, [...] I would go to his Weibo and have a look, follow him if there are a lot of followers, [...] and because Weibo users with more followers may indicate some degree of appeal to the general public. I also belong to the general public, if all the people in the population know something then I should know it too.” (Lin, 30, female, sales representative)*

*“The number of followers represents bloggers' influential power, attractiveness, and whether their opinions are widely agreed by the mass population, [...] I would say it (the number of followers) influences me the most when deciding on who to follow back. More followers (owned by an individual) would mean that you have got some recognition from the community.” (Kun, 32, female, business owner)*

*“I perceive the number of followers as an indicator of a user’s level of influence, and level of recognition from others. If you are a ‘grass root’ user (a term used by Weibo users to describe themselves as ordinary people) like me, getting anywhere above 1,000 followers is an achievement. It seems like a small number on Weibo, but I tell you, it is pretty hard, there are so many clever people in there and the competition is quite strong, the moment you stop contributing, people would easily forget about you.”* (Kai, 33, male, IT consultant)

*“The number of followers would be an indication for a user’s level of influence on Weibo and his reputation, [...] it tells if this person is influential and valuable to me, [...] you have to be able to identify if this person would be beneficial to you in the future, if not what’s the point to follow back.”* (Max, 32, male, travel agent)

As can be seen from the above responses, the exercise of comparing users’ social capital can result in a perceived equivalence of power. Specifically, it refers to participants’ evaluation of their counterpart’s level of social influence through a comparison of their number of followers. As suggested in the literature (e.g., Lee et al., 2008), users’ influential power over or under their followers’ often results in a sense of social distance. Overall, most respondents would have liked to follow back on those who had more followers than themselves and they received fewer follow backs from those who were more influential than themselves. For example:

*“Those who have got fewer followers than me would follow back on me immediately after I followed them. If strangers (who followed me first) have more followers than me then naturally I will be interested in them and I would of course want to follow back on them on most occasions, [...] I will not follow back on people who have fewer followers than me because I don’t feel I can benefit from them.”* (Kun, 32, female, business owner)

*“I would pay attention to the kind of people who own a lot of social resources, such as lots of followers. Their scope of network, experiences and knowledge are the areas that attract people, [...] and for these people do not follow back on me, I guess that may because I don’t have too much influence.”* (Farewell, 30, female, housewife)

*“I think Chinese people like to follow role models, and how many fans you have indicates if you are a role model, especially if he is better than you, you certainly get valuable stuff from him, [...] it is like I am a website designer, if someone from my field with better knowledge than me, and gave good comments on my work, it will assure me, and make me more confident. But if someone just started his work and also commented on my work, it will not make me feel excited, because I know I am better than him.” (Kai, 33, male, IT consultant)*

*“I follow back on him because he is an influential person with lots of followers, he may be a celebrity, and celebrities would not normally follow everyone, if he followed you, it’ll be his recognition of you and I certainly have to show respect to him as well.” (Lin, 30, female, sales representative)*

From a structural perspective, bridging social capital can also represent the brokerage opportunities in a network (Burt, 1997) and the opportunities to gain access to other social actors’ resources (Knoke, 1999). In this case reciprocal behaviour influenced by these potential benefits can be considered as driven by self-interest. Similar results are also found in the context of SNSs. When respondents were asked about what number of followers represents in terms of value to them, they tended to mention two major areas of understandings: network expansion and affiliation with elites. Both of which can be related to the western concept of social capital or the benefits, from a Chinese perspective, of having a “*guanxi*” (关系). And this was particularly drawn on in descriptions of the affiliation benefits that could be received from reciprocal following. For example:

*“I follow back on successful people with large amount of fans, because I admire them, I want to gain access to their network and learn from them. They really have influenced me. Sometimes just a word they said would boost my confidence level, [...] I can broaden my horizon by following them, and learn things from them.” (Chrissie, 24, female, student)*

*“If you do not follow back, how will it open up your social network? It is only through following back you get more people to know about you, [...] following back can expand your social network and increase the amount of information that you will receive.” (Kun, 32, female, business owner)*

*“Who does not want to be affiliated with better people? If an expert recognises what you say, understands you, of course I am happier, [...] I would like to be affiliated with someone with more influence than me, and it can help me expand my viewers as well.” (Kai, 33, male, IT consultant)*

*“Being followed by someone who is more influential than me can help me become a better person, and help me grow my popularity, [...] yes, I would like to be affiliated with better people than me; it helps to grow as well. I would rather like to be recognised by someone better than me, it makes look better. If all my followers have fewer fans than me, I do not think my value is great. Influential followers mean lot to me, and I can get more value out of them as well. If they comment on my post, their followers will also see it, and it could potentially get me more followers.” (Max, 32, male, travel agent)*

Furthermore, the results showed that Weibo users who followed the norm of reciprocity with strangers used trust/reputation systems in order to limit their interactions to those they considered trustworthy. For example:

*“If he has a high publicity, I will not investigate much because of their level of trust already established on Weibo, but for strangers I probably would look at their number of followers.” (Chrissie, 24, female, student)*

*“I think it is that ‘V sign’ on top of their high number of followers ( ‘V sign’ means verified and very important person, it is a status sign meaning the person has got approved by Weibo and has gained social approval), [...] it is just credibility (to the person).” (Sun, 25, male, photographer)*

*“I will only follow back on people if they are very opinionated and reputable with a reasonable amount of followers.” (Kun, 32, female, business owner)*

### 3.5.4.2. Bonding Social Capital

Another type of cognitive evaluation in the process of making decisions about reciprocal following is the assessment of a counterpart's number of postings and comments made on their postings. In this research, the term "bonding social capital" is adopted from the social capital literature to embrace the meaning of number of postings/comments and is defined as a user's level of participation/engagement status in the community as a whole or direct social exchange of information (i.e., comments) activated with other users. In other words, how engaged a user is with the community/other social network individuals could potentially be reflected by how many contributions or efforts to support others he or she makes.

Specifically, Weibo users utilise the number of postings as a proxy to evaluate their followers' level of potential future interactions with themselves and with the community as a whole. From a social distance perspective, the number of postings may indicate an individual's level of bonding with the community, and may result in a perception, by other users, of distanced or closed social relationships. One respondent believed that "*those who are socially far away from me are less likely to keep interactions going*" (Kun, 32, female, business owner) because that situation involved a weak sense of obligation.

#### ***The Number of Postings and Indirect Reciprocity***

The findings of the exploratory research suggested that number of postings represents an individual's level of bonding with the community, achieved by participating, contributing, sharing and devoting themselves to the sustainable growth of a social network. For example:

*"If they post a lot which means they must share a lot, they what most people do on Weibo, most of the postings are shared, one pass onto another. So if someone is very active in passing on information, he may help to pass mine as well, so a highly participated user is also a good person to follow back, because you know he has lots of interesting sharing stuffs around, [...] and in long run, I expect him to be sociable as well, so we can exchange information and resource, I do not want someone just follow me but do nothing afterwards. It is good to have more followers, but it is not fun to have loads of followers, but no one is actually interacting with you."* (Chrissie, 24, female, student).

*“The number of postings is also very useful, at least I can directly tell if this person is contributing or not, if this person is being an active member but not just a lurker.” (Max, 32, male, travel agent).*

*“It (the number of postings) represents one’s contribution, level of participation, [...] sometime it does (help in making reciprocal following decisions), if a person posts a lot, it definitely means he is active, not a ‘dead fan’, and I like active users, [...] it is possibility, active users are more likely to share other’s postings so that it is not a bad thing to have some followers like that around you, [...] if he doesn’t post a lot, I wouldn’t follow him. As this means he doesn’t really play around with Weibo, [...] this is the most basic condition (for me to follow back with someone).” (Yang, 25, male, marketer).*

*“It (the number of postings) means how much you have contributed, are you an active member, and whether you participated and be part of the Weibo community, [...] only continuous postings can attract people’s attention and get your Weibo in front of everyone, [...] when I look at the number of postings, I also check out a user’s number of followers. If the number of followers is relatively small but there are large amount of postings, it may mean he is not so good.” (Kai, 33, male, IT consultant).*

*“If they contribute to Weibo, there is a high potential they would contribute to me, if they do not contribute too much, surely they will not contribute to me either, so these kind of people are definitely not on my follow back list, [...] (I would follow back if) they are either similar to me or better than me, the key thing is they do contribute, not just lurking. I do not like lurkers and I do not follow people who just lurk around.” (Kai, 33, male, IT consultant)*

Further exploratory findings suggest that for those who were sceptical or curious about their followers, they often checked their followers’ number of postings (which reflects their contributions, ability and tendency of sharing in the community) in order to determine if they were “sincere followers” (Lin, 30, female, sales representative). And Kai (33, male, IT consultant) also emphasised the relatively higher reliability in relying on this index rather than

the number of followers, “*you can fake number of ‘fans’, but it is pretty hard to fake the number of postings.*”

In addition to providing interpretations of the number of postings, participants also commented on the potential reasons for some users’ high number of postings. The overall theme represented in these comments was social anxiety, which represents one’s willingness to socialise. For example:

*“I think the number of postings annotates that he might be quite lonely or simply just wants to let people (who doesn’t know him) know more about him.” (Chrissie, 24, female, student)*

*“I think the number of postings would also indicate the desire of wanting others to know you (i.e., the amount of attention that you seek) and the type of attitude that you want to promote.” (Lin, 30, female, sales representative)*

Drawing on the above evidence from the exploratory research, it is argued that contributions made by constantly participating are often perceived as a signal of how engaging a user is, even if the perceiver does not look into the details of the content of any specific posting. Therefore the number of postings serves as a proxy for users to tell whether a user is a bonded member of the community. Even if no direct benefits are received from such an individual, his/her past helping behaviours to others could trigger reciprocity. This form of reciprocity is commonly referred to as indirect reciprocity (e.g., Fehr and Gächter, 2002; Nowak and Sigmund, 2005), and this is consistent with Putnam’s (2000) view of generalised reciprocity, meaning that giving without expecting return, but in the confident expectation that return will be given when needed.



### ***Direct Bonding (i.e., commenting activities) and Reciprocity***

Behaviour-wise, valuable and enriching comments/replies towards another Weibo user could also show one's social bonding with other individuals, and this is a form of direct bonding, which is a more explicit and involved process of value/benefit transfer. And such direct interactivity often triggers direct reciprocity, where value transfer is directly shifted in between the giver and the receiver. For example:

*“If there are people leaving good replies and comments on my postings, I will of course pay more attention to his postings because I feel that we have common language.” (Chrissie, 24, female, student)*

*“If there are a lot of people who have followed me, then I will not even need go and see. Whoever left me comments I'll check that person out.” (Sun, 25, male, photographer)*

*“Comments take more time and thinking. It is like when people just ‘like’ (i.e., a functional button) my postings, I will not be as excited as when I receive comments.” (Kai, 33, male, IT consultant)*

The above examples represent the importance of direct interactions or engagement among social media users, which could suggest that the sustainability of a social network relies on interactions. Therefore rather than just focusing on the indirectly inferred value perceptions found in the previous section, it is important to empirically test the influence of direct interaction.

Overall, the researcher found that social capital plays an important role in facilitating reciprocal behaviours within the context of Weibo. Social capital provides the cues for value to be perceived by recipients, which assists in the cognitive evaluation of the value transfer process and it is believed to have a direct impact on the tendency for reciprocation.

### 3.5.4.3. Expected Reciprocal Value Derived from Cognitive Evaluation

“Expected reciprocal value” refers to recipients’ expected future returns from benefactors when forming reciprocal relationships in SNSs, and involves seeking potential mutual benefit from benefactors, especially among those with no existing social ties and no previous interaction. It is believed that expected reciprocal value is the consequence of the user’s immediate cognitive evaluation of social capital. It is also worth noting that expected reciprocal value is largely embedded in the cognitive evaluation process of social capital, and respondents often used the term mutual benefits to describe it. As a result, the value this factor carries is not mutually exclusive from the social capital factors previously identified, but rather serves as a recapitulative factor in helping the researcher to further understand the underlying means of social capital in facilitating reciprocal behaviour.

Some users consider being followed by another user as a favour (i.e., recognition and emotional support), and return the favour by following back, a simple action which creates the value of “*mutual respect*” (Kun, 32, female, business owner) and “*extended social path*” (Farewell, 32 female, housewife). However, some users neither considered being followed as a favour nor believed that following back would benefit them in any circumstances; therefore this value proposition was rejected. Rather, they believed that “*respect is earned not given away freely*” (Sun, 25, male, photographer), so what they perceived the value to be was the expected reciprocal value. This view is consistent with Ballantyne and Varey’s (2006) argument that “there can be no satisfactory relationship development unless exchange participants reciprocally determine their own sense of what is of value” (p. 344) (also see the seventh foundational premise in S-D logic in §2.4.5). Therefore, these users often took one more step to evaluate the equivalence of power with their followers by “*reviewing my follower’s past postings*” (Farewell, 32, female, housewife) or “*checking out what sorts of followers they have*” (Sun, 25, male, photographer). The traditional understanding of the norm of reciprocity as an obligation therefore has limits; and identifying the potential of reciprocal value serves as a filter.

In SNSs, reciprocal value is often intangible. There are two primary subcategories included in intangible value: benefits from others’ social capital, and exchange of supports. These are often revealed in different stages of relationship development. For example, when an influential user follows another individual who is less influential, the following behaviour can

be regarded as a favour to the less influential individual, because it holds the intangible value of prestige by affiliation. This affiliation with a higher social capital individual could trigger reciprocity through following back. Intangible exchanges of support/recognition are also considered to be a favour that can be offered by one user to another. Examples include offering emotional support to someone by commenting on their postings, or receiving comments from others when postings are shared.

In the context of this research, users' reciprocal following behaviour is largely reflected as mutual recognition, and the process involves identifying the reciprocal value from the recipient's perspective. And for reciprocal action to happen, recipients who received following by others normally try to seek potential mutual benefits based on the limited profile information available. For example:

*“I think seeking for mutual benefits is the only thing that can be related to Weibo. On Weibo, if you helped someone, they will remember you and praise you. I think Weibo indirectly promotes the notion of seeking for mutual benefits, [...] following back not only helps in increasing each other's followers and influential power, but it also helps us to spread the good or bad news.” (Chrissie, 24, female, student)*

*“The benefit from following back is you pay attention to each other's status change/updates every now and then, getting information you need. Secondly, once I followed back I would be able to hear what he says in the future, so we are exposed to each other, more information will be shared, [...] also, only when these followers are deemed as useful to me then I will follow back, so I do have a standard in which I choose to follow back, [...] while if everyone is contributing, it is kind of creating valuable inputs together, because everyone is contributing and everyone is taking what they need, can I call it co-benefiting?” (Farewell, 30, female, housewife)*

*“Yes, it is reciprocal value, it mutually benefits both of us, he gets my resource and follows back, and I get to tap into his social network, [...] Pretty much, as I have mentioned before there is value for both of us, he can get valuable information from me, and I can utilise his influence in his network, together we have the opportunities to get our information broadcast wider and get more followers, that is the logic of*

*Weibo and all social media, you link with people who can help you to grow.” (Max, 32, male, travel agent).*

### **3.6. Chapter Summary**

This chapter provided an overview of the exploratory qualitative research undertaken to investigate the existence of reciprocity, users’ concepts of reciprocity and factors influencing reciprocal behaviour in social media. The underlying purpose of this qualitative research on reciprocity in virtual environments is the acquisition of new knowledge by identifying themes which have not been previously found (§3.2).

In order to understand the essence of Chinese social media users’ reciprocal following, a phenomenological research strategy was adopted. The exploratory stage of this research adopted a hermeneutics methodology with an in-depth interview method (§3.3). Eight Weibo users participated in the in-depth interviews. The sample had an equal gender split and captured users with different levels of expertise in Weibo applications. Each interview lasted from 60 to 90 minutes. The process of analysing interview transcripts (processed in Nvivo 7.0) resulted in themes that corresponded to each of the research objectives specified.

An initial exploration about motivations for adopting Weibo revealed four key reasons: curiosity, social connectivity, information driven, and sense of security (§3.4). Type of social ties and the impact of anonymity and social profile information on reciprocity in SNSs were discussed to set up the focus of the research context (§3.4.2 & §3.4.3).

The main exploratory findings indicated that reciprocity does commonly exist in SNSs (§3.5.1), but the magnitude of intention to return shows a diminishing trend due to various reasons, such as the large social distance inherent in the internet, personal selectivity, and avoidance of risk or troubles (§3.5.2). Those who put cognitive effort into overcoming these barriers tended to continue to a further level of analysis. This included assessing the social traits of other users, as seen in their social profiles, in order to learn about their benefactors’ (i.e., followers) engagement, contribution and social influence in the community.

There were four types of emotions that were most commonly found to catalyse reciprocal behaviours among respondents. These are feelings of liking, gratitude, empathy/ sympathy and indebtedness (§3.5.3).

Beyond the scope of emotional elements catalysing reciprocity, this research has also identified three key factors in influencing reciprocity and these are often found in the process of cognitive evaluation on users' social profile. The first two factors can be broadly understood as elements of users' social networking influence signaled in their social profile, which reflect two aspects of social capital: bridging and bonding social capital (§3.5.4.1 & §3.5.4.2). The last factor is named "expected reciprocal value," which is derived from the evaluation of social capital embedded in users' social profile (§3.5.4.3). The value this factor carries is not mutually exclusive from the social capital factors previously identified, but rather serves as a recapitulative factor in helping us to further understand the underlying means of social capital in facilitating reciprocal behaviour. In addition, it also acknowledged that exchange participants reciprocally determine their own sense of what is of value, therefore it's important to further investigate how bridging and social capital are perceived in the evaluation process.

Overall, the exploratory research identified the emotional and cognitive factors influencing reciprocal behaviour in a Chinese SNS (i.e., Weibo), and these findings inform the conceptual relationships between reciprocity and its focal antecedents, which is discussed in the next Chapter.

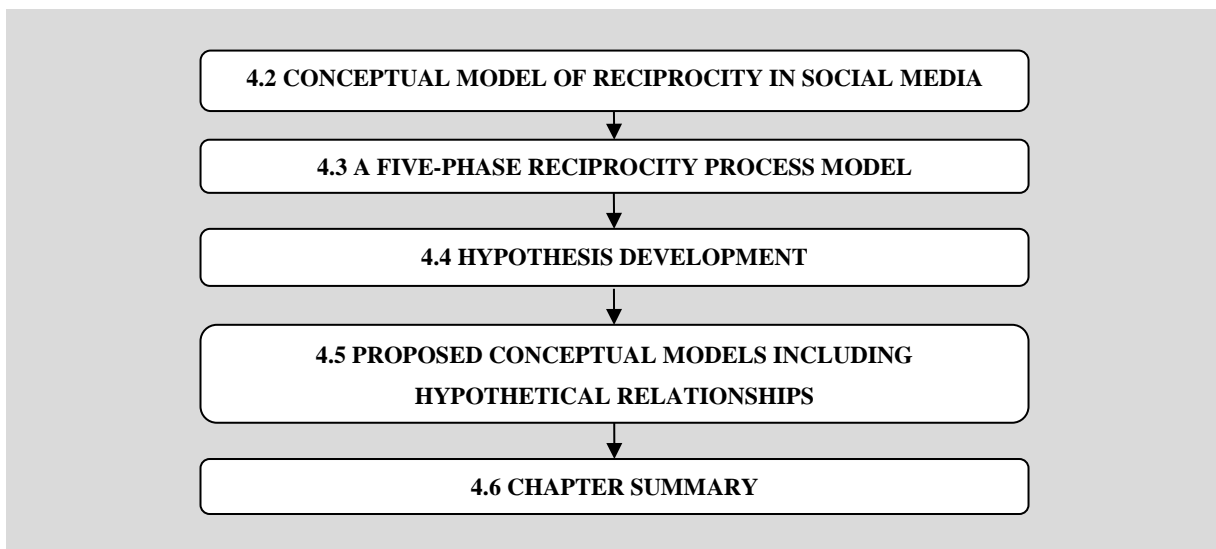
## CHAPTER 4: CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

### 4.1. Chapter Overview

This chapter synthesises relevant concepts reviewed from the literature (Chapter 2) and findings from the exploratory research (Chapter 3) for the purpose of conceptual model development and hypothesis generation.

Specifically, this chapter first proposes a conceptual model of reciprocity in Chinese SNSs on the basis of 1) two major school of thought concerning the process of cognitive evaluation and emotional response, and 2) key exploratory findings (§4.2). The following sections elaborate in detail on each of the constructs of interests using evidence from both existing literatures and the exploratory findings, and presents a Five-Phase process model which visually represents the reciprocity phenomenon in a Chinese SNS (i.e., Weibo) (§4.3). Hypotheses that indicate hypothetical relationships in the proposed conceptual models are generated for empirical testing (§4.4 & §4.5). Lastly, a summary of the chapter is provided (§4.6). Figure 4.1 illustrates the structure of this chapter.

Figure 4.1: Structure of Chapter Four



## 4.2. Conceptual Model of Reciprocity in Social Media

### 4.2.1. Conceptual Model Development

Most of the prior research on reciprocity has been conducted in physical, face-to-face contexts. There is minimal research on how reciprocity functions in virtual, computer-mediated environments. As a result, it is not clear whether reciprocity in a virtual environment occurs in the same way as it does in a physical context, nor are the factors influencing reciprocity identified. With ever-increasing levels of business and social interaction occurring in virtual spaces, it is important to develop a clear understanding of how reciprocity does and does not occur, and of the factors impacting on the likelihood of its occurrence.

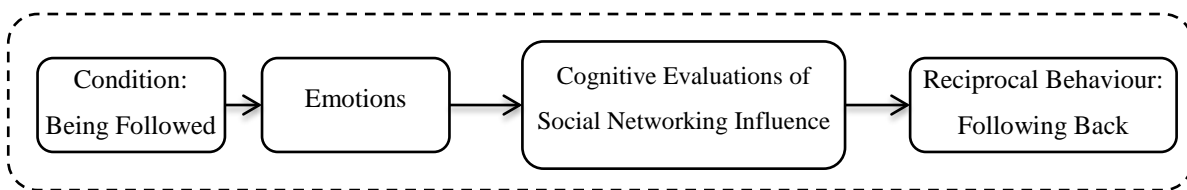
This research context has three specific differences from the context of most prior research. First, the research is conducted in a virtual, computer-mediated environment. Second, Weibo users use pseudonyms rather than real names, which provides a level of partial anonymity that cannot occur in face-to-face exchange. Third, the research is conducted in a *Chinese* SNS, which could have a material impact on results. Prior research indicates that Chinese culture has a more nuanced understanding of both reciprocity and social status than Western culture, as well as stronger adherence to perceived social norms (see §2.9). All these factors suggest that reciprocity in this context may function differently to that seen in different research contexts. As a result, it is important to develop a new conceptual model that is appropriate for this situation.

The exploratory research reveals that users of a Chinese SNS experience a variety of psychological pathways in practicing reciprocity in their everyday use of Weibo. Each of the pathways discussed below represents a school of thought on how reciprocity is enacted through Weibo users' emotional responses and cognitive evaluations. The first school of thought that is reflected in Weibo users' practice of reciprocity is the *Emotion – Cognition* approach.

***The Emotion – Cognition approach:*** Zajonc (1980) and Zajonc and Markus (1984, 1985) suggested that emotions can occur as a direct consequence of consumers' exposure to a stimulus/initial action. Zajonc and Markus (1984, 1985) did not neglect the fact that emotions can be triggered by cognitive evaluations, however they did not consider cognition as a compulsory condition for emotions to take place. The authors believed that a sufficient

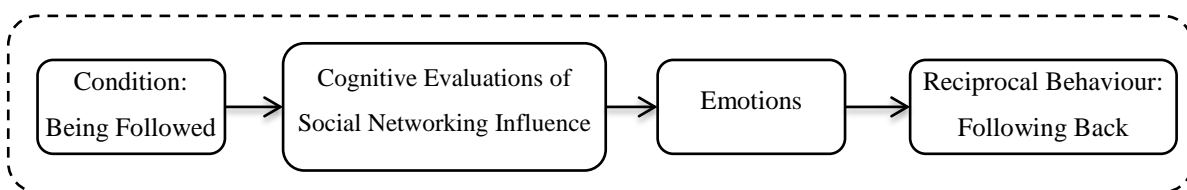
stimulus could lead to emotional judgements, which are pre-conscious and pre-cognitive (Zajonc, 1980). And such a stimulus can be the reciprocity reflex described by Cialdini (1993), or *renqing* (“emotional debts” in Chinese) which could trigger automatic reciprocal behaviours. According to this school of thought, Weibo users’ reciprocal actions can be illustrated in the following process (see Figure 4.2), in which emotions triggered when users are being followed by their followers could lead to cognitive evaluation of the value embedded in the followers’ initial action.

Figure 4.2: The Emotion – Cognition Approach



**The Cognition – Emotion approach:** In contrast to Zajonc and Markus, Lazarus (1991) claims that cognition is a required condition for emotions to take place. The author suggested that cognition is a precursor to emotions. In other words, an individual cannot have an emotional response to a stimulus without a certain level of cognitive elevation of that stimulus (Lazarus, 1991). Based on this school of thought, SNS users’ reciprocal action can be illustrated in the following process (see Figure 4.3), in which cognitive evaluation of the value embedded (i.e., high/low social network influence) in the initial action (i.e., being followed) leads to emotions which then trigger reciprocal actions.

Figure 4.3: The Cognition – Emotion Approach



Pelaprat and Brown (2012) argued in favour of Rational Choice Theory (Coleman, 1990) and its emphasis on goals and benefits in studying users’ behaviours in social media. However, the value embedded in the initial action (i.e., being followed by others) can be ambiguous and hard to evaluate, because the material benefits cannot be measured. Therefore, this research would argue that one should not understand the value of the objects simply in terms of material loss or gain, but the value embedded in social status (i.e., social networking influence)



of the exchange partners.

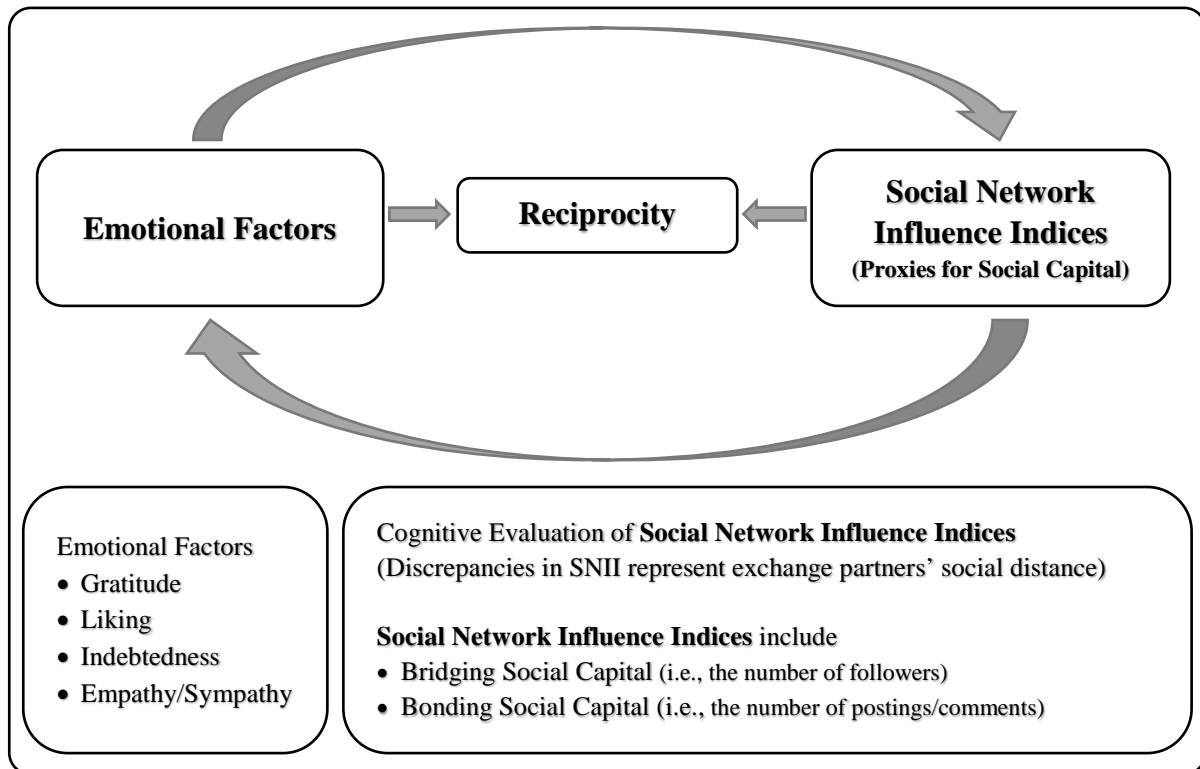
Both of these schools of thought received support from the exploratory research findings, but the participants also showed ambiguities in remembering how exactly their initial relationships were formed. The cognitive evaluation of followers' social networks is based on simple indices, the emotions being triggered go through an iterative and revolving process, and the decision making normally happens in a very short period of time.

Furthermore, the relationship between cognition, emotion and behaviour has been described as a combination by Clark and Fairburn (1997). The authors suggested that it is the combined efforts that govern the way people deal with events in their everyday lives. In other words, what an individual believes about what he/she thinks and feels, and how an event is understood and perceived, determines how an individual responds to it (Bergin and Garfield, 1994). Specifically, Rand (1964) believed that rational individuals know, or make it a point to discover, the sources of their emotions, the basic premises from which they come. If their premises are wrong, they can correct them, hence emotions and cognition constitute an iterative process that reinforce each other on action. Rand (1964) also suggested that individuals never act on emotions for which they cannot account, or the meaning of which they do not understand. This suggests that the guide is not emotions, but the person's mind. According to Rand (1964), however, this relationship cannot be reversed. If people allow their emotions to be the cause of actions and their mind as their passive effect, and if they are guided by their emotions and use their mind only to rationalise or justify them, then they are acting immorally (Rand, 1964).

Based on two schools of thought and other researchers' viewpoints (iterative process) (e.g., Clark and Fairburn, 1997; Rand, 1964), a conceptual model is proposed that reflects the psychological process of reciprocity in Chinese SNSs (see Figure 4.4). It is believed that the emotions and cognitive evaluations work as a combination in an iterative form, and reinforce each other in decision making about reciprocal action. The emotional factors are derived from the exploratory research, which includes feeling of gratitude, liking, indebtedness and empathy and Sympathy. The cognitive evaluations focus on the social network influence indices (SNIIs), such as the number of followers and postings, which are deemed to be proxies for bridging and bonding social capital, respectively. The interactive process (featured in circular arrows in Figure 4.4) suggests that if an individual's premises are wrong, emotions can be corrected, and such correction may be informed by an in-depth cognitive evaluation (Rand, 1964). An elaboration of the model from a proceed-driven view is also presented and can be

found in a later section (see Figure 4.5 in §4.3).

Figure 4.4: Conceptual Model of Reciprocity in Chinese SNSs



In the SNSs context, positive emotions (triggered by being followed by others) may be further enhanced if a user realises that he/she has received followings from an influential individual. Such positive emotions could disappear if he/she has only attracted non-influential/non-active users. Therefore the assessment of others' social network influence (through indices) becomes critical in moderating one's emotional responses.

However, not everyone will have the luxury of time or the opportunity to be extremely rational about a simple decision in SNSs. Therefore when emotion(s) is/are triggered or enough value is perceived (see §4.3.1 & Figure 4.5), reciprocity can occur at any stage of the process. Overall, as the reciprocal relationship evolves, helping behaviours take turns between partners (Greenburg, 1968).

In addition to the two major influential factors of emotions and social network influence indices, reciprocity also varies across personal traits, such as age, gender, social experience (e.g., in working lives) and user experience (new vs. experienced users). These are deemed to be potential covariants to the process of achieving reciprocal outcomes. However, these are not the focus of this research and are not quantified in it.

#### 4.2.2. Social Distance in Social Networking Sites

The most heavily researched factor affecting reciprocity in the physical face-to-face environment is social distance (e.g., Kashlak et al., 1998; Lee, McLoughlin, and Chan, 2008; Buchan et al., 2008; Garbarino and Slonim, 2009; Schwieren and Sutter, 2008). However, these social distance discussions were mainly based on feelings of proximity in either geographical location, or well defined social classification, or kinship, which are shown to be largely irrelevant to the context of virtual environments. As a result, social distance may be defined and observed from a different perspective. The findings from the exploratory research suggest that psychological distance dominates how social network users relate to each other.

Assessing social distance by identifying “similarity” in terms of mutual interest seems like a rationale to determine whether reciprocation is likely (see §3.5.2). However, this approach is only effective when users have plenty of time. Social media is a fast evolving platform and the information flow can be overwhelming, therefore it requires its users to be responsive and to process information in a timely manner. In order to reduce users’ time in responding to requests and making decisions, most social media services provide a profile page that contains key information to assist users to make quick decisions. In the context of Weibo, how one individual perceives his/her distance from other users is largely influenced by one’s social status (e.g., the number of followers and postings) being presented, especially in unfamiliar relationships. Previous research has also suggested that the maintenance of an online social profile is purposed for conveying an SNS user’s status, interests and personality in the community (Brown et al., 2007; Dholakia, Bagozzi and Pearo, 2004; Muniz and O’Guinn, 2001). Therefore, when Weibo users invite other members to be part of their own social circle the invitation includes information about who they are, as a means of signalling what resources they possess.

SNSs wish to motivate members to contribute, and they moderate content by displaying social comparisons – information designed to show members how they compare to others in the community (Harper, Li, Chen, and Konstan, 2007). In this case, Weibo users sometimes consciously or unconsciously assess their follower’s social network influence indices, such as the number of followers and the number of postings (see §3.5.4). Such an assessment may

lead to a feeling of difference (e.g., my follower is more influential than me, because he/she has more followers than me – power distance).

The distance can be derived from different sources. One description used by interview participants in Weibo refers to “similarity,” and is mainly about content similarity, which is based on mutual interest, tastes and opinions in the Weibo content, which requires relatively more time and effort to evaluate. And the most commonly referred to source of comparison for judging social distance is users’ perception of difference in social status, such as the discrepancy perceived in levels of social influence in the community, and the strength of bonding when their social networking influence indices (e.g., the number of followers) and level of participation/contribution (e.g., the number of postings) are compared with each other.

Taken together, these exploratory findings indicate that perceived social distance is the result of comparisons of the social networking influence indices. In order to conceptualise and operationalise the social distance in a virtual environment, this research operationalises the number of followers as a proxy for one’s bridging social capital and the number of postings as a proxy for one’s bonding social capital (see §3.5.4 for justification and §5.6.1 for scale operationalisation).

In addition, in previous research social distance in the physical context has been discussed with regard to its functional value in catalysing reciprocity. Smaller social distance can increase trust among social exchange actors (e.g., Song et al. 2012; Buchan et al., 2008; Garbarino and Slonim, 2009). However, in the exploratory research trust was not intensively addressed, users emphasising instead on the value embedded in the social comparison of social capital. Some empirical research provides a clue to this link by demonstrating the crucial role of social capital in sustaining export clusters (e.g., Lee et al., 2008). Achieving such bonding among cluster members represents a shift in thinking from social capital as rational self-interested economic leverage, to social bonding in a shared sense of community with a common fate.

The ultimate value of SNSs is arguably to enhance users’ social well-being through value-added communications. Findings from the exploratory research suggest reciprocal following is one way to enhance social well-being through mutual respect and recognition. The likelihood of reciprocal following in the context of SNSs depends on the value (which is embedded in one’s social network influence indices – proxies for social capital) presented to

others, and how that value is recognised. Therefore this research will further examine the extent to which SNS users are influenced by these social network influence indices (i.e., the number of followers/postings).

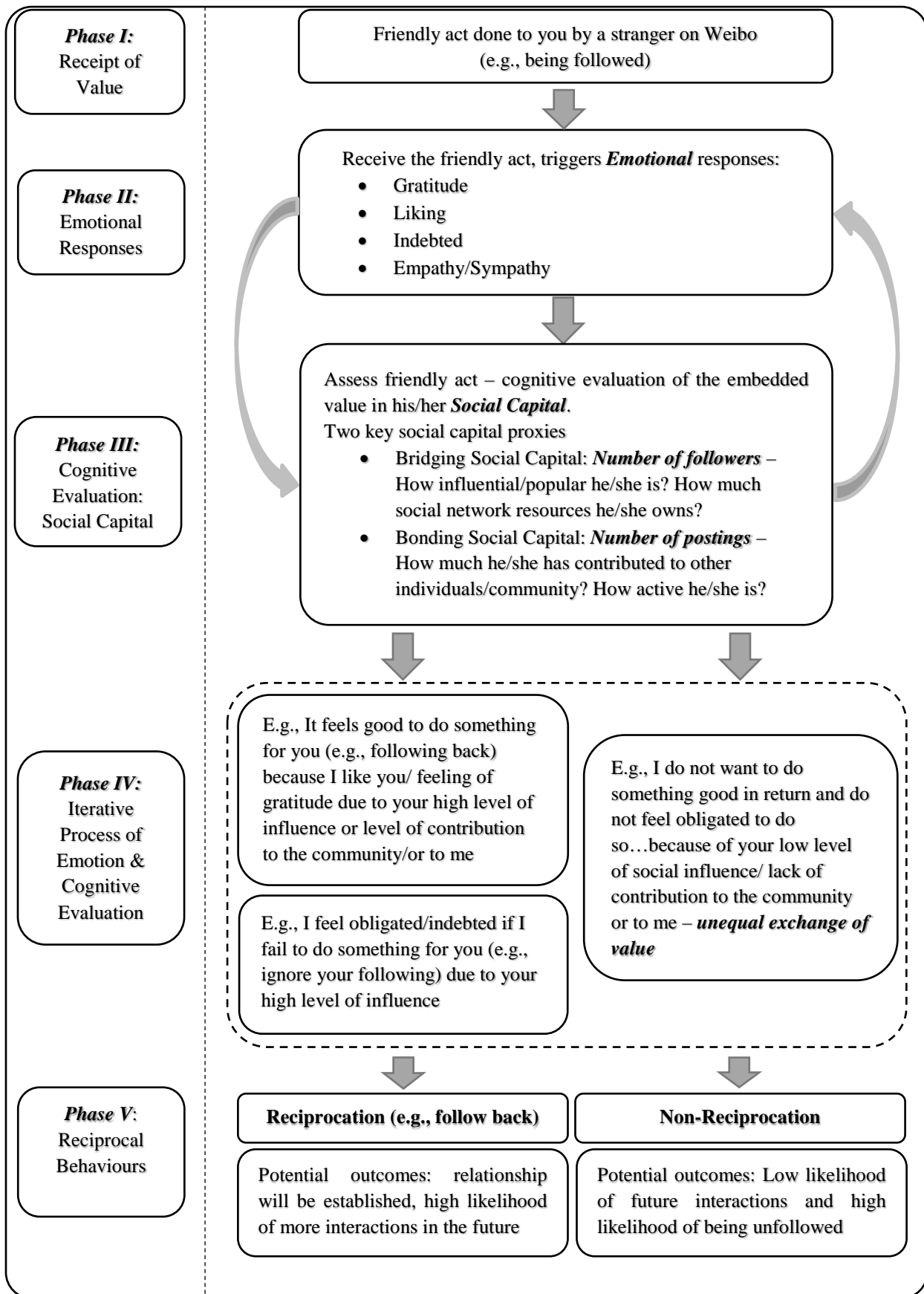
### **4.3. A Five-Phase Reciprocity Process Model**

Previous research on reciprocity has focused heavily on describing the nature of reciprocal exchange, including such factors as the mutual exchange of benefits, balanced exchange and social compliance (e.g., Gouldner, 1960; Cialdini, 1993; Kolm and Ythier, 2006; Lee et al., 2008; López-Pérez, 2009). Simple observation supports the notion that there is a broad common understanding of phenomena such as gift giving and exchange of favours (e.g., Yau et al., 1998; Sin et al., 2005; Lampel and Bhalla, 2007; Mobius and Szeidl, 2007). This suggests that there is a well understood and broadly accepted process of value exchange that includes normative conceptions of reciprocity.

In order to analyse the value exchange process through the lens of reciprocity, this section of the research will elaborate the overall conceptual model proposed in the previous section on the basis of a more process-driven view that explains the phases SNS users go through that lead to reciprocal behaviours. The Five-Phase Reciprocity Process Model is therefore proposed, and also serves as a summary of the exploratory research that sought to elaborate the psychological process of reciprocity in Weibo (see Figure 4.5).

The Five-Phase Model includes: I) receipt of value, II) emotional responses, III) cognitive evaluation, IV) the iterative process of emotion and cognitive evaluation, and V) reciprocal behaviour. Each phase of the model is discussed in detail in the subsections.

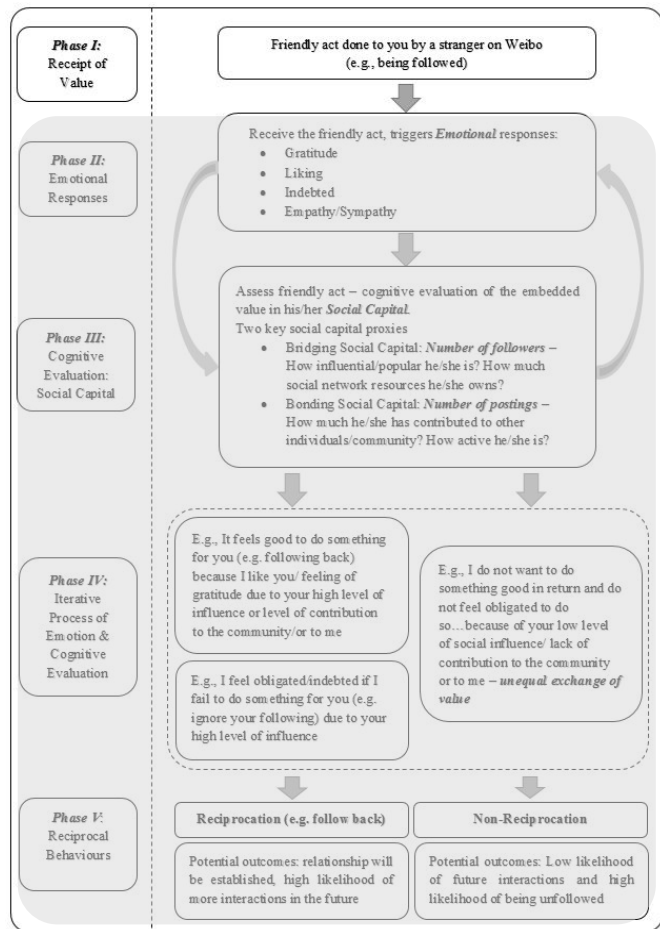
Figure 4.5: Five-Phase Reciprocity Process Model in SNSs





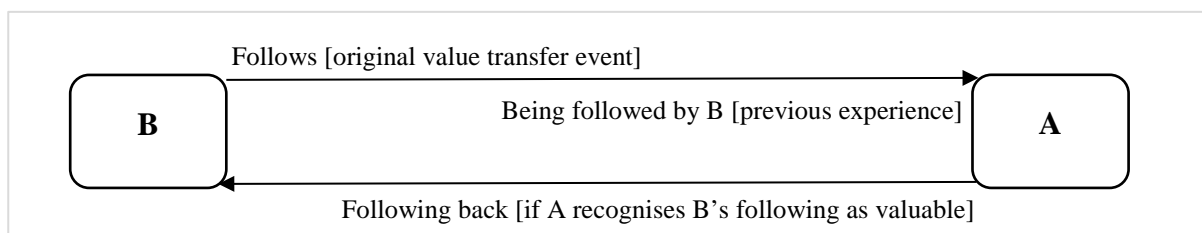
### 4.3.1. Phase I: Receipt of Value

The first phase of the model is the receipt of value, which is commonly known as the friendly act or kind act (e.g., a favour or a gift) done for you. According to Cialdini (1993), the rule of reciprocity says that we should try to repay, in kind, what another person has provided us. Hence, reciprocity as a social behaviour is based on previous experience. Initially, value is transferred from one party to another. The previous experience of receiving value triggers the reciprocal return of value, which completes one circle of reciprocity. In this research, the previous experience is deemed as the original value transfer event. If an individual *A* is being



followed by *B* on Weibo, *B*'s following behaviour becomes the previous experience or the original value transfer event, and to *A*, this is the phase of receipt of value (see Figure 4.6).

Figure 4.6: Process of Reciprocal Following in Weibo



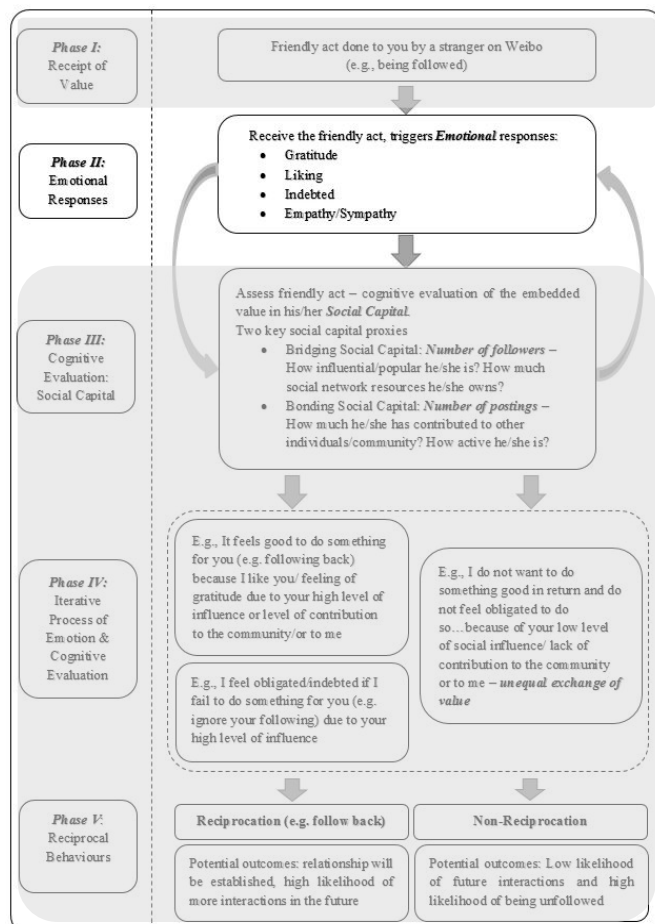
If *A* recognises *B*'s following behaviour as valuable to him/her (e.g., because he/she is being respected) or realises the value that could potentially exist (e.g., “the follower is socially more influential than I am”), *A* will take the action of following back (see Figure 4.6). The following back action is therefore the reciprocal action in response to the following action. This is a typical form of reciprocity in SNSs and it has become a common phenomenon in Weibo. In addition, reciprocity in this case is often unprompted.

To a certain extent this is different from a face-to-face situation where returns can be directly requested or reminders sent when needed. Hence, in a virtual social network setting reciprocity is therefore more difficult to achieve. The following back action seems like a simple and low-involvement activity because the behaviour only requires a click on the follower’s page. However, in reality, it is observed that there are large differences in reciprocal followings, for example the number of followers is usually greater than the number of people a given average person follows. This implies that users are selective in who to follow back.

The “selectivity” (see §3.5.2) suggests that reciprocity is only activated when certain criteria are met, and the value of the following action depends on how the receivers perceive it. This led the researcher to investigate the psychological process of reciprocity. Findings from the exploratory research suggested that when an individual is followed, the decision whether to form a reciprocal relationship or not will involve both emotional responses and cognitive evaluations. Each of these components is detailed in the following subsections.

### 4.3.2. Phase II: Emotional Responses

The exploratory research findings revealed four major types of emotional response: feelings of liking, gratitude, empathy/sympathy and indebtedness. Collectively these emotions reflect an individual’s feeling when being followed by strangers on Weibo (see §3.5.3). These emotional responses have also been identified in previous research (e.g., Pervan et al., 2004; Becker, 1986; Cialdini, 1993; Chan and Li, 2010; Webster and Martocchio, 1992; Bagozzi and Dholakia, 2006). This suggests that when value/benefit is received, it triggers similar types of emotional effect regardless of context

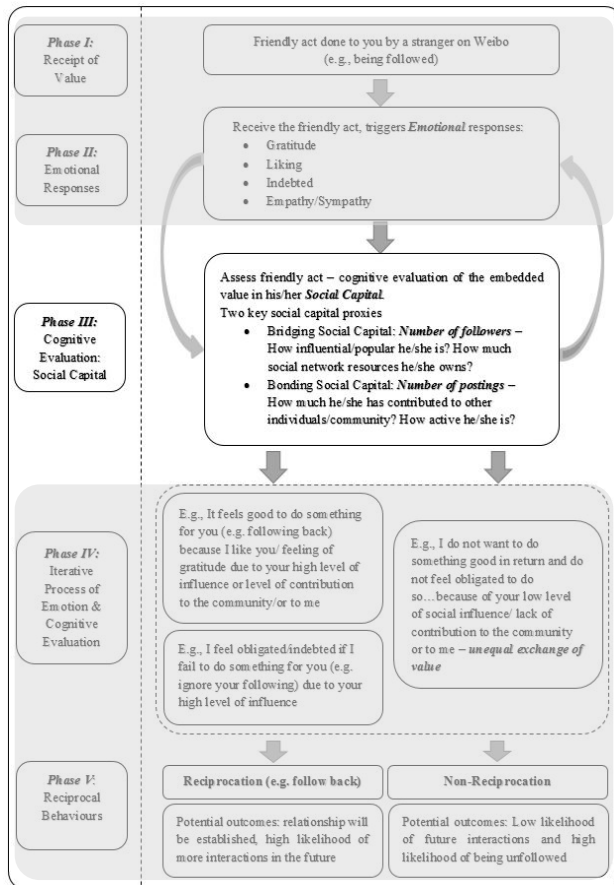


(physical vs. virtual). However, the strength of emotions might be different due to 1) the amount of value/benefit perceived, bearing in mind that value/benefits are relatively more concrete and explicit in face-to-face than in virtual environments; and 2) the social distance inherent in the internet (i.e., faceless interaction, with pseudonyms on Weibo). These two factors suggest that the strength of obligation to reciprocate is likely to be reduced: in the exploratory research, feelings of indebtedness were not strongly indicated by all respondents.

In practice, these emotions are not mutually exclusive. Respondents often reported multiple feelings. Emotions also evolved when further explorations (e.g., checking on the number of followers) were done. This process indicates that when cognitive evaluations are processed emotions can be modified, therefore emotion may be less a direct cause of reciprocity but more an effect of cognitive evaluation. In past research, economic game theorists explaining reciprocity have tended to ignore participants' emotional feelings, and have instead been inclined to believe that participants' reciprocal behaviours were triggered by avoidance of retaliation (e.g., Charness et al., 2007; Chaudhuri et al., 2002; López-Pérez, 2009). In contrast, the exploratory findings suggest that Weibo users' reciprocal behaviours were mainly motivated by the wish of users to enhance each other's social well-being.

#### **4.3.3. Phase III: Cognitive Evaluation**

There is an old saying in Chinese culture, "If you have received a drop of beneficence from other people, you should return to them a fountain of beneficence" (Hwang, 1987, p.92). This is one of the social norms widely followed in Chinese society. On one hand, it emphasises that no matter how much value you receive, you have to show your appreciation, and on the other hand, that the return should be more than what you received. Therefore, a simple following action may only take a click on your mouse, but the value it carries may be worth the return of a "fountain of beneficence." Therefore, when users determine whether reciprocation is needed, evaluation of the value embedded in the giving action is extremely important.



This research focuses on how strangers form a relationship based on the norm of reciprocity. Respondents’ previous experience or direct social exchange other than one being followed by another, is extremely limited. Exploratory research indicates that because information on SNSs is quite limited, users tend to find alternative pathways to put a value on their followers’ following actions. Interview respondents suggested that the indices of number of followers and number of postings were the first information seen by them, and that their reciprocal following decisions were made usually based on these indices. Some respondents also suggest that other informative cues such as

content and profile photos were relevant to decision making. However, this information either takes too much time to read (e.g., the content of past postings) or leads to biased judgements (e.g., attractive profile photos). Therefore, the number of followers and the number of postings are considered to be the focus of users’ cognitive evaluation processes.

Cognitive evaluation represents “the mental action or process of acquiring knowledge and understanding through experience and the senses” (Oxford Dictionaries, 2013). Emotionally, SNS users value others’ helping behaviour, because being followed may mean recognition of their contribution, respect or support etc. However, how much a following is worth depends on how many/who their followers are. Lazarus (1991) posited that emotions are based on the cognitive evaluations individuals make of stimuli in the event. Evaluations are consciously or unconsciously judgments and interpretations of stimuli and for an emotion to occur these evaluations must be associated with SNS users’ own personal experience and aims. Therefore, in order to put a weight on the following actions that have ambiguous value attached, users normally go through a cognitive evaluation of a follower’s social profile, which includes value proxies that users generally assess. One is the proxy for bridging social capital – the number of followers; and the other is the proxy for bonding social capital – the number of postings.

Together these two value proxies summarise a users' social network influences and imply how much reciprocal value he or she can offer.

According to the exploratory research, the number of followers is often the first index users look at. One reason for this is that it is positioned on the most noticeable place in a user's social profile page, and is followed by the number of postings. Users deem the number of followers as the most important index for assessing a user's level of social capital, level of social influence, level of popularity and a broader sense of social hierarchy. Respondents assume that users with more followers are more likely to be respected in the community, more influential, more likely to be believed in, and more worth making friends with. The number of postings is a more obvious index for users' contribution to the community, and except in the case of celebrities it tends to be positively and highly correlated with the number of followers. Some respondents suggested that sometimes the number of postings is the true reflection of how active a user is in the community and can reveal where users gain their followers from. This is because the number of followers is too easily manipulated (through buying fake fans), but the number of postings is accumulated over time, and therefore requires time, effort, consistency and originality – harder to fake.

Together these indices are a good indicator of a user's social network influence and it is believed that the embedded value of these indices can moderate the likelihood of reciprocity. Hence, whether the following action will be perceived as valuable depends on who performed the action. This is very similar to the importance of "who you know" in the conduct of business in China. The exploratory research indicated that a user's number of followers has a direct effect on how others interact with him/her: the more followers a user has, the more likely he/she will be followed back, because the following action has been enhanced by "who you know" (greater social influence and extensive social connections). The one being followed by the user may want to be affiliated with him/her in order to tap into his/her network, or may simply want to show gratitude and appreciation. These exploratory findings reflect Foa's (1971) resource exchange theory which suggests that value embedded in one's social status is exchanged. In addition, the impact of bridging social capital (i.e., the number of followers) and bonding social capital (i.e., the number of postings) on reciprocal behaviour (i.e., following back) remains unquantified; one may show stronger effects on reciprocity than the other, and if the two indices are considered together, a combination of synergies may exist (i.e., an interaction effect).

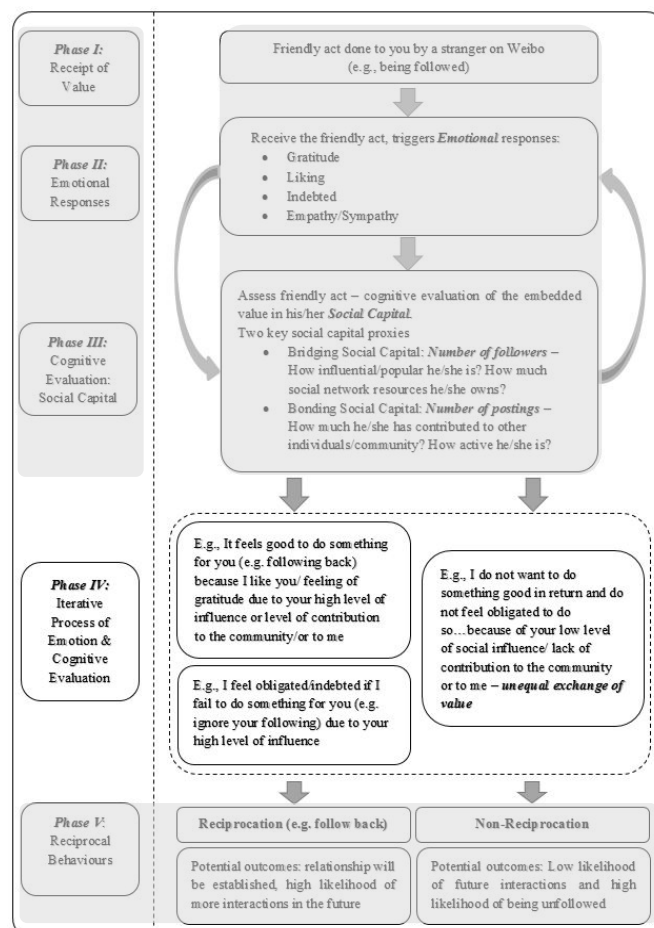
No matter how users choosing whether to follow back may argue about the accuracy of these indices, the indices do serve their roles in enabling users to identify who another user is and his or her value to them. So sometimes, being followed by an individual with 10 followers may not trigger the same emotion as being followed by an individual with a million followers, and the social network influence indices mentioned above may show their impact on users' tendency to reciprocal behaviour. Overall, users seek to enhance their social well-being by enhancing their social influence. Affiliation with someone who is more influential than oneself is probably an easy path. Therefore, the main cognitive evaluation for many users to assess the value embedded in the simple following action, is social network influence.

#### 4.3.4. Phase IV: The Iterative Process of Emotion and Cognitive Evaluation

As discussed above, both emotional responses and cognitive evaluations impact on making decisions about reciprocal following, but the sequence of the effect is not fixed, and not all steps are necessary. The findings of the exploratory research suggest that emotions can lead directly to reciprocal behaviour (i.e., following back) because of the scarcity of time to look further, or to enable new users to show gratitude towards any helping behaviour.

However, not all initial emotions directly trigger reciprocity, and cognitive evaluation may alter users'

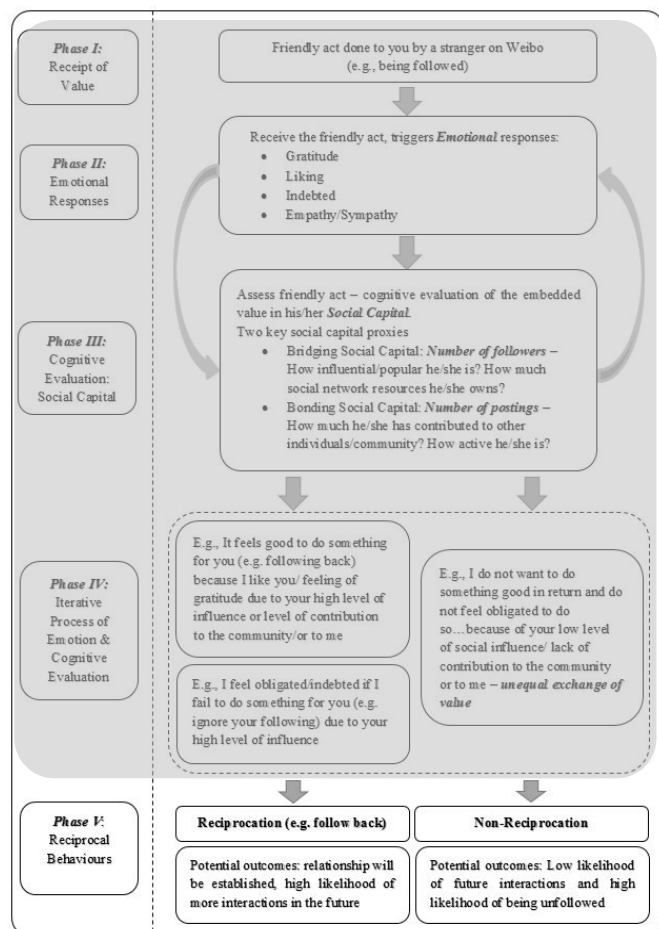
emotions. For example, if an influential user is followed by a new user (with few followers), the increase in number of followers may make him/her happy, however he/she may not see the value in the follower (with few followers), and following back might be more beneficial only to the follower, which does not indicate an equal exchange. Thus, the feeling of gratitude may be replaced by rational cost-benefit analysis and the likelihood of reciprocity may also drop.



From the information-processing perspective, Kassirjian (1981) assumes that individuals act as problem solvers who cognitively reaching for a well-justified decision. Therefore SNS users are expected to use the available cognitive resources in forming opinions and beliefs (i.e., Phase III: Cognitive Evaluation) toward the attributes of an event (i.e., being followed) or an individual (i.e., his/her followers), which in turn may lead to the generation of feelings (i.e., Phase II: Emotional Response) of liking/gratitude/empathy/sympathy/indebtedness towards others or their behaviour. Such feelings may in turn affect the user’s criteria in their cognitive judgement, especially if the user links the followers to his/her personal desires. This iterative process supports Rand’s (1964) argument that after cognitive evaluations are processed emotions can be corrected, and that therefore emotion may not be a direct cause of reciprocity but an effect of cognitive evaluation. Examples of this iterative process are illustrated (the circular arrows) in Figure 4.5.

#### 4.3.5. Phase V: Reciprocal Behaviour

The final phase of the model is the reciprocal behaviour which is the psychological output of both emotional responses and cognitive evaluations. The reciprocal behaviour can be reciprocation or non-reciprocation. In the context of this research reciprocation is the following back action, which may be triggered by positive emotional feelings or by the embedded value represented by the influence indices, or by both. Non-reciprocation is therefore ignoring being followed, and making no response to the value giver. Because the implicit nature of the following act may be perceived differently depending on the embedded value that social network



reciprocity in the social network may not be as intuitive as in face-to-face situations where value exchange is more explicit and return is often prompted.

In addition, environmental psychologists Mehrabian and Russel (1974) have suggested two opposite forms of reciprocal outcomes: approach vs. avoidance. With regard to environmental cues (i.e., social status, including social influence and bonding with the community), “approach” involves exploring and affiliating, and “avoidance” is the contradictory (Chebat and Michon, 2003). In Weibo, approach could be conceptualised as a desire to affiliate and establish relationships, whereas avoidance is ignoring others’ following behaviour. Overall, social exchanges in SNSs are expected to be continuous and sustainable. Therefore, reciprocity may encourage the establishment not only of social relationships but also of future exchanges. Respondents in the exploratory research suggested that reciprocal following is only the beginning of a relationship; and the goals of forming a reciprocal relationship are long-term mutual respect and care for each other’s social well-being.

In short, the Five-Phase Model provides a process-driven view that explains the phases SNS users go through that lead to reciprocal behaviours. The following subsections provide detailed hypotheses with regard to constructs of interest in the conceptual models for testing.



#### **4.4. Hypothesis Development**

The empirical part of this research was conducted in two stages. The first stage focused on the effect of cognitive evaluations of social capital on the likelihood of reciprocity through experimental design. The second stage included the emotional perspective in an attitudinal measurement model; this is to fill in the gap that exists in the experiment. To crystallise the two stages of empirical testing, and based on relevant literature on social capital and emotions, and the findings from the exploratory research for each stage of quantification, two sets of hypotheses were generated. Conceptual models including hypothetical relationships for empirical testing are proposed in Section 4.5.

##### **4.4.1. Hypotheses for Social Capital**

This research takes both bridging and bonding social capital as value proxies for social distance, and together these summarise SNS users' social network influence. On one hand, in the social networking context, the helping behaviour or the exchange of social value is relatively vague and hard to determine due to its implicit and remote nature, so this research treats two types of social capital as carriers of value being exchanged. The value being exchanged is therefore highly embedded in the social identity of social network users rather than in helping actions. On the other hand, the research is interested in how social distance is derived from users' comparisons of each other's social resources (i.e., social capital) and their impact on reciprocal behaviour.

Social networking influence indices (SNIIs) consist of two components: one is bridging social capital, the value proxy for it being the number of followers, and the other is bonding social capital, the value proxy for it being the number of postings. There are also other factors in SNSs that can affect users' reciprocal behaviours, but due to both the academic and the practical relevance of social capital to the concept of reciprocity in SNSs, those two social influence indices will be the centre of investigation in this research. From an academic perspective, social capital is a unique measure for users' social distance, because it has been explicitly quantified that for each user, these social capital indices provide the researcher with the least subjective judgement of who they are, especially in an anonymous setting.

There are three types of social distance, namely, normative, interactive and affective (Nedim, 2009). Bridging social capital is a type of normative social distance, of which social status is

the core and bonding social capital is a type of interactive social distance which represents the intensity of social bonding with the community and with individuals. Because social ties are classified as strangers, the affective dimension is not relevant to this research.

The following hypotheses (*H1a&b*, *H2a&b*, *H3*, and *H3a, b, &c*) relate to social capital and are only for the experimental design, which focuses, for each type of social capital on the test of cognitive evaluation and excludes the emotional perspective. *H1* and *H2* were tested in the structural model along with hypotheses relating to emotional factors.

#### **4.4.1.1. Hypotheses relating to Bridging Social Capital**

Bridging social capital (Putnam, 1995) is a form of social status that embodies the value of a user's total network. In this context, bridging social capital is defined as the ability of an individual to influence others in the social network. It is operationalised here by manipulating the number of followers of a simulated SNS user profile. The exploratory findings suggest that a user's number of followers represents how much social influence he/she has got, how much he/she is admired by others, the amount of respect earned and recognition from others, and how strong his/her affiliation with the social network is. The literature also suggests that such social capital also represents the "power of community governance" (Bowles and Gintis, 2002, p. 419) and the ability of actors to secure and gain access to resources (Knoke, 1999; Hofer and Aubert, 2013), thereby making affiliation with elite members potentially mutually beneficial (Belliveau, et al., 1996). All this evidence suggests that when an individual is followed by another individual who has a greater number of followers, he/she is more likely to repay the respect by following back, and vice versa. Hence:

***H1: Bridging social capital (the number of followers) has a positive relationship with the likelihood of reciprocity.***

One's social influence is always relative to that of others, therefore its level is never an absolute value. When comparisons are made between users the number of followers is often used as a reference point for social influence. In other words, individuals may react differently when someone who has more or less social capital follows them. This is due to social distance perceived and a calculated balance of power (e.g., Harnden-Warwick, 1997; Kolm and Ythier, 2006). A discrepancy between users in the number of followers indicates differences in the level of bridging social capital, and is an effective measure of social distance.

Prior research outside the SNSs context (e.g., Greenberg, 1986) has found that the greater the social distance between individuals, the more indebted the lower-status individuals will feel about social initiatives from higher-status persons. According to Social Exchange Theory (Blau, 1964; Greenberg, 1968), individuals involved in the social exchange match their behaviours experienced from others with reciprocation, that is giving in proportion to what is received, therefore if the receiver perceives the value embedded in a following action to be more than if they return the value, he/she is more likely to perform the following back action, and vice versa. Cialdini (1993) noted that “the internal discomfort of the psychological burden of debt and the possibility of external shame within a society can cause people to agree to an unequal exchange of debt” (p. 34). Therefore, people will often ensure that they are not obligated to these psychological debts by returning more than they receive (Cialdini, 1993).

Furthermore, Equity Theory (Adams, 1965) and Balance Theory (Walster et al., 1973) also suggest that a perception of inequity in an exchange motivates individuals to commit to a reciprocal behaviour in order to avoid being perceived as socially insensitive (Mathews and Green, 2009). Further, the more inequitable the relationship, the more indebted the individual will feel and the more he or she will be motivated to reduce the inequity (Greenberg, 1986). This increases the motivation of lower-status individuals to reduce the inequity, suggesting more likelihood to reciprocate. Following this logic, the researcher hypothesises a direct effect:

*H1a: The greater the discrepancy in bridging social capital (the number of followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user.*

#### **4.4.1.2. Hypotheses relating to Bonding Social Capital**

The second type of social capital is bonding social capital, also called instrumental social capital (Portes, 1998). Bonding social capital (Putnam, 1995) indicates the presence of mutually supportive relationships. In this context, bonding social capital is defined as the extent to which a user invests time and effort in the network community. It is operationalised here by manipulating the number of postings of a simulated SNS user’s profile.

The basis of the category of bonding social capital is that users may contribute their resources not because they are seeking direct repayment from the recipient, but because they are part of

the structure (Portes, 1998). Therefore, through their contributions, the user might not see a direct repayment, but, most commonly, will be held by the community in greater honour (Portes, 1998). In the social media context, a user's level of contribution to or engagement with the community may be an index for his/her bonding with others in the community, and this is often reflected by his/her number of postings.

The exploratory research suggests that the number of postings can provide hints for other users to tell if a user is an active member of the community and through that they can indirectly form an opinion of the user. This type of reciprocity is commonly referred to as indirect reciprocity (Fehr and Gächter, 2002) and this is consistent with Putnam's (2000) view of generalised reciprocity. The value embedded in the bonding social capital is therefore derived from how he/she treats other members in the community, and the greater the embedded value and the easier it is for others to perceive, the greater the likelihood of reciprocity due to an indirect value transfer. Hence:

***H2: Bonding social capital (the number of postings) has a positive relationship with the likelihood of reciprocity.***

The number of followers as a social influence index is also a reference point when comparing users, therefore it will have similar effects to bridging social capital, through which the comparison of the number of followers could lead to different levels of reciprocity. In addition, the number of followers also represents the interactive dimension of social distance.

The exploratory research suggests that the high level of interactions exhibited through the number of followers represents an individual's strong social bonding with the community (also see Hofer and Aubert, 2013), and other researchers (Wasko and Faraj, 2005) have also found that social media users with high network centrality (strong bonding with the community) are more likely to continuously help others. Users who are followed by other users who show strong bonding tend to believe they will be helped in the future if they perform "following back" actions. In other words, members with higher bonding social capital are likely to be held in higher esteem by the community (Portes, 1998), and those are the individuals who develop a reputation for being a reciprocator, and the whole group benefits from on-going mutual assistance (Putterman, 2006). This behaviour can be altruistic, but members also expect a level of indirect reciprocity (Fehr and Gächter, 2000a, 2000b), and

have a belief that if they support the community now, the community will reciprocate in the future.

Furthermore, past research on social distance and reciprocity suggests that a feeling of closeness (i.e., caring for others' social well-being in the community) may also lead to reciprocity and help to form a social bond. Based on all of the above, the researcher hypothesises that:

***H2a: The greater the discrepancy in bonding social capital (the number of postings) between two social network users, the greater the likelihood that the less-esteemed user will reciprocate an action from a more-esteemed user.***

Because there is no direct interaction between SNS users (prior to relationship establishments), the bonding social capital described above mainly focuses on the indirect effects inferred from the number of postings. This research is also interested in the direct effect between exchange parties, such as the commenting activities, which represent a more straightforward value exchange that is similar to the ones in the real world. According to Resource Exchange Theory (Foa, 1971) and Social Exchange Theory (Blau, 1964; Greenberg, 1968), social exchange is motivated by a wish to make the relationship well-adjusted (e.g., balanced), therefore the increase in one exchange partner's giving (e.g. favour and help) would lead to increase the counterpart's returns (Blau, 1964; Lee et al., 2008; Turner, 1970).

Commenting behaviour (in the case of positively phrased and non-destructive comments) is a direct and obvious helping behaviour in SNSs, and it may increase the likelihood of reciprocity. In this research, the direct bonding was manipulated so that the simulated user comments on participants' postings with two levels of contextual richness (i.e., higher textual comments vs. lower textual comments), and the indirect bonding social capital (i.e., the number of postings) remained constant. Similar to H2 and H2a, the researcher hypothesises that:

***H2\*: Bonding social capital (level of comments) has a positive relationship with the likelihood of reciprocity.***

***H2a\*: Richer bonding social capital (long and detailed comments) leads to greater likelihood of reciprocity than poorer bonding social capital (short and brief comments).***

*Chapter 4: Conceptual Model and Hypothesis Development*

*Note: \* is used to differentiate this set of hypotheses for bonding social capital (level of comments) with the other form of bonding social capital (the number of postings).*

#### **4.4.1.3. Hypotheses relating to Interaction Effects (Bridging x Bonding (indirect))**

In the previous sections the main effect of each type of social capital on reciprocity has been hypothesised based on exploratory findings and past research outcomes in physical contexts. However, there has been little research on the interactions of the two. Therefore hypotheses about the interaction effects of the two types of social capital will be based mainly on findings from the exploratory research.

Participants from the exploratory research indicated that their decisions on whether to form reciprocal followings depended on both bridging and bonding social capital, but varied across different scenarios. Specifically, a user's total number of followers (bridging social capital) is typically displayed in a prominent position on social profile pages. Participants in the exploratory research suggested that this information was an important influence on their likelihood of reciprocating by following back. Furthermore, the effects of bridging capital (the number of followers) were described as dominating the effects of bonding capital (i.e., the number of postings). It also appeared that bridging social capital is an important influence on joining someone's network. Bonding social capital (what you do) is more important *after* the joining the network. These rational comparisons of social capital are similar to the relationship marketing concept of comparative outcome (e.g., Corfman and Lehmann, 1993; Kaltcheva and Parasuraman, 2009; Oliver and Swan, 1989) which states that certain factors take priority in information processing. Based on these differences, the researcher hypothesised no interaction between bridging and bonding social capital:

***H3a: Discrepancies in bonding social capital (the number of postings) between two social network users will not interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity.***

The researcher believed that interaction (multiplicative) effects were unlikely between bridging and bonding (indirect) capital. However, it was expected that there would be at least additive effects. Users with more followers and postings should be perceived as having greater combined social capital, and this will increase the likelihood of reciprocity, hence:

***H4a: The greater the discrepancy in combined social capital (bridging/followers + bonding/postings) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual.***

#### **4.4.1.4. Hypotheses relating to Interaction Effects (Bridging x Bonding (direct))**

With regarding to direct bonding social capital (i.e., commenting activities on Weibo), respondents from the exploratory research showed a different perspective: that direct interactions with valuable information exchange can be more valuable to exchange parties than simply how many followers they have. However this depends on the quality of the comments.

On one hand, this may suggest that if users with lower bridging social capital (i.e., the number of followers) provide valuable contributions to another user's postings, this may lead to higher likelihood of reciprocity. On the other hand, if the bonding activity of users with higher bridging social capital is not worthwhile to another user, (e.g., poor comments with no constructive value), it may not make higher reciprocal bonding activity more likely.

Based on these differences, the researcher hypothesised that there is a potential interaction effect between bridging and bonding (direct) social capital in this context:

***H3b: Differences in bonding social capital (comments) will interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity.***

It is believed that there is a potential interaction effect between bridging and bonding (direct) capital. In addition, there are two extreme scenarios where users may show a stronger/weaker tendency to reciprocate. According to Equity Theory (Adams, 1965) and Balance Theory (Walster et al., 1973), users are more inclined to reciprocate when they are followed by followers who both exhibit higher numbers of followers and contribute long and detailed comments: conversely, they are least likely to reciprocate to those followers who neither have social influence nor socially interact with them. Hence:

***H4b: The greater the discrepancy in combined social capital (bridging/followers + bonding/comments) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual.***



#### 4.4.2. Hypotheses relating to Emotion

It has been argued in most economics studies that reciprocity should be understood not as a strictly rational, self-interested solution for each individual social encounter, but as a feeling that is partly helped along by socialisation and continuing social pressures (Putterman, 2006). In the exploratory research, four major types of emotional response were found to influence reciprocity: feelings of liking, gratitude, empathy/sympathy and indebtedness. Collectively these emotions reflect an individual's feelings when being followed by strangers on Weibo. Most of them are positive in nature (e.g., gratitude, liking and empathy/sympathy). The feeling of indebtedness is normally considered as negative, but in the context of this research it is not guilt-driven, but courtesy driven when stronger social capital is presented.

In past research on emotions and reciprocity in everyday social interactions, each of these emotions has received significant attention (e.g., Bagozzi and Dholakia, 2006; Becker, 1986; Chan and Li, 2010; Cialdini, 1993; McCullough et al., 2001; Pervan et al., 2004; Yau et al., 2000). However, due to the nature of internet-enabled social networks, interpersonal communications are mediated through impersonal actions (e.g., clicking on links), text, symbols etc., therefore the benefits of conducting face-to-face communication are unavailable. Hence the strength of emotions triggered and expressed in the virtual environment may be different from those in the physical context, but the effect should remain similar. Reciprocity due to liking or reciprocal liking has been suggested in previous studies (e.g., Cialdini, 1993; Forgas, 1992; Zajonc and McIntosh, 1992). The authors suggested that people are more likely to be influenced by people they like: in the social media context, this means that users will tend to follow those back who might be similar or familiar to them, whose followers give them feelings of compliments/honour: or users may simply trust their followers. Therefore a simple feeling of liking could lead to reciprocity. Similarly to liking, gratitude is thought to be a positive pro-social emotion which is a feeling of "thankful appreciation for favours received" (Guralnik, 1971, p. 327), empathic emotion (McCullough et al., 2001) and admiration and joy (Ortony, Clore, and Collins, 1988). Hence:

***H5: Emotion has a positive relationship with the likelihood of reciprocity.***

The exploratory research suggested that following back actions are sometimes performed because users wish to show appreciation of others' recognition. This is often found among new and less experienced users (users with relatively few followers – low bridging social

capital – and few postings – low bonding social capital). For experienced users who have been followed by less influential followers, their following back is more altruistic and sympathetic in nature. For example, if a follower is a significant figure in the social network, being followed is like receiving social approval, therefore admiration arises from approval of the follower's following action and joy is felt because the action is thought to be personally favourable. In addition, the Five-Phase process model suggests that emotional effects may alter the cognitive evaluation of social capital, and vice versa, therefore this iterative process reinforces the decision making on reciprocity. It is therefore hypothesised that:

***H6: Emotion is positively affected by the cognitive evaluation of bridging social capital.***

***H7: Emotion is positively affected by the cognitive evaluation of bonding (indirect and direct) social capital.***

The iterative processes of reinforcement between emotion and the cognitive evaluation of social capital are relatively difficult to observe and capture in a one-off experimental setting, therefore investigating the phase where reciprocity is caused is more important. This research shows a greater tendency towards the *Cognition – Emotion* Approach (Lazarus, 1991), which claims that cognition is a necessary condition for emotions to take place, and is therefore a precursor to emotions. There were three fundamental reasons to adopt this approach. Firstly, research participants would be exposed to a stimulus at the beginning of the experiment, then asked about their feeling towards the stimulus. Based on Lazarus' (1991) suggestion, individuals cannot have an emotional response to a stimulus without a certain level of cognitive evaluation of that stimulus, therefore their self-reported emotional measures are mostly likely to represent retrospective thinking. Secondly, Rand (1964) argued that emotions could be corrected when cognitive evaluations were processed, therefore emotion may not be a direct cause of reciprocity but an effect of cognitive evaluation, therefore the emotions that lead to reciprocal behaviours may be the final emotions after the corrections. Thirdly, Triver (1971) also suggested that emotions (i.e., gratitude) act as a mediator between give-and-take, encouraging people's emotions in such a way as to bring about positive feelings of obligation to reciprocate. To focus on the mediating role of emotion, the following hypotheses were developed:

***H6a: Emotion mediates the relationship between bridging social capital and likelihood of reciprocity.***

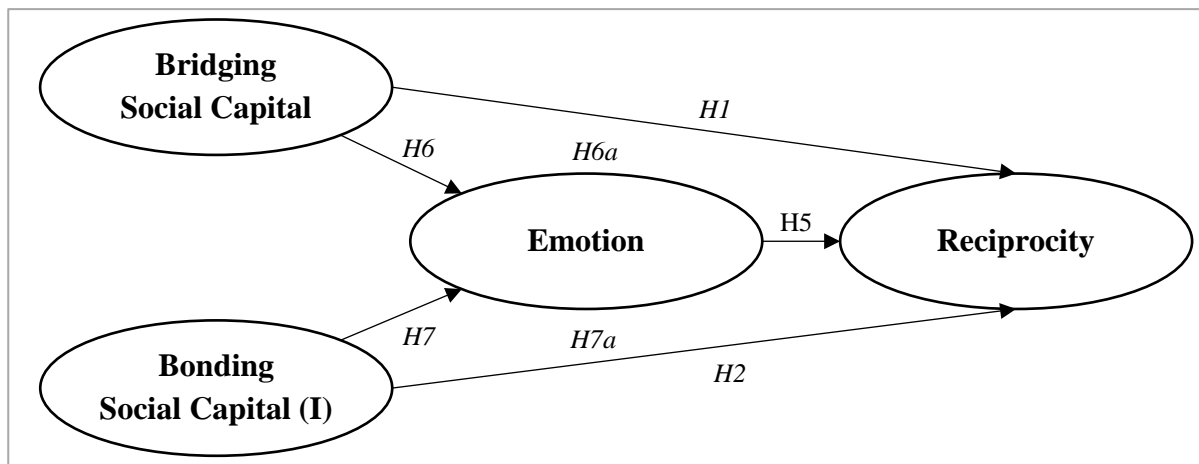
***H7a: Emotion mediates the relationship between bonding social capital and likelihood of reciprocity.***

#### 4.5. Proposed Conceptual Models including Hypothetical Relationships

##### 4.5.1. Proposed Social Capital – Emotion – Reciprocity Model (One)

Figure 4.7 presents the proposed *Social Capital – Emotion – Reciprocity Model (One)* hypothesised for the SNS users’ view of the relationship between each construct and reciprocity, where bridging social capital is operationalised as a set of reflective altitudinal scales to capture participants’ value perception of the number of followers, and bonding social capital is operationalised to capture participants’ value perception of the number of postings (an indirect form of social bonding). *H1*, *H2*, and *H5* are used to test the direct effect between each construct and reciprocity. *H6*, *H6a*, *H7* and *H7a* are used to test the mediation effect between forms of social capital and reciprocity through emotion (mediator) (see Table 4.1).

Figure 4.7: Proposed Social Capital – Emotion – Reciprocity Model (One) in SNSs



Note: (I) represents the indirect form of social bonding – the number of postings

Table 4.1: Summary of Hypotheses for the Proposed Conceptual Model One

Hypothesis	
<b><i>H1</i></b>	Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered
<b><i>H2</i></b>	Bonding (I) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered
<b><i>H5</i></b>	Emotion has a positive relationship with the likelihood of reciprocity
<b><i>H6</i></b>	Emotion is positively affected by the cognitive evaluation of bridging social capital
<b><i>H6a</i></b>	Emotion mediates the relationship between bridging social capital and likelihood of reciprocity

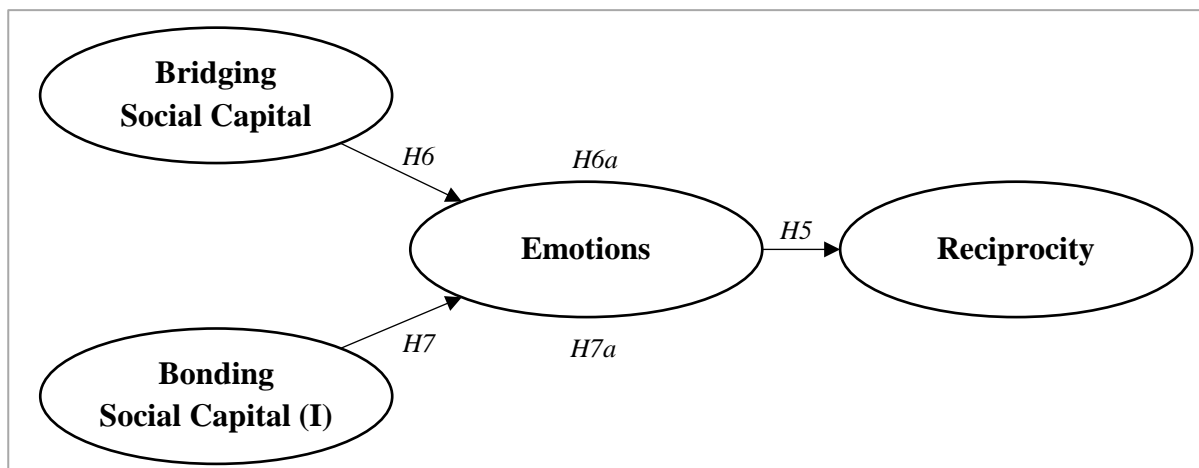
- 
- H7** Emotion is positively affected by the cognitive evaluation of bonding (I) social capital
- H7a** Emotion mediates the relationship between bonding (I) social capital and likelihood of reciprocity
- 

Note: (I) represents the indirect form of social bonding – the number of postings

The proposed model hypothesises the potential effect of emotion in mediating between forms of social capital and likelihood of reciprocity. Hence if the mediation effects were fully achieved the direct effect of social capital on reciprocity would become non-significant, therefore this research also proposes a competing model which is based on the *Cognition-Emotion* school of thought (Lazarus, 1991).

The competing model removes the direct effect between social capital and reciprocity, and it is believed that reciprocity is positively and strongly enacted through the mediation effects (i.e., emotion mediates the impact of forms of social capital on reciprocity). The path diagram for the proposed competing model is in Figure 4.8 below.

Figure 4.8: Proposed Competing Model (One) of Reciprocity in SNSs

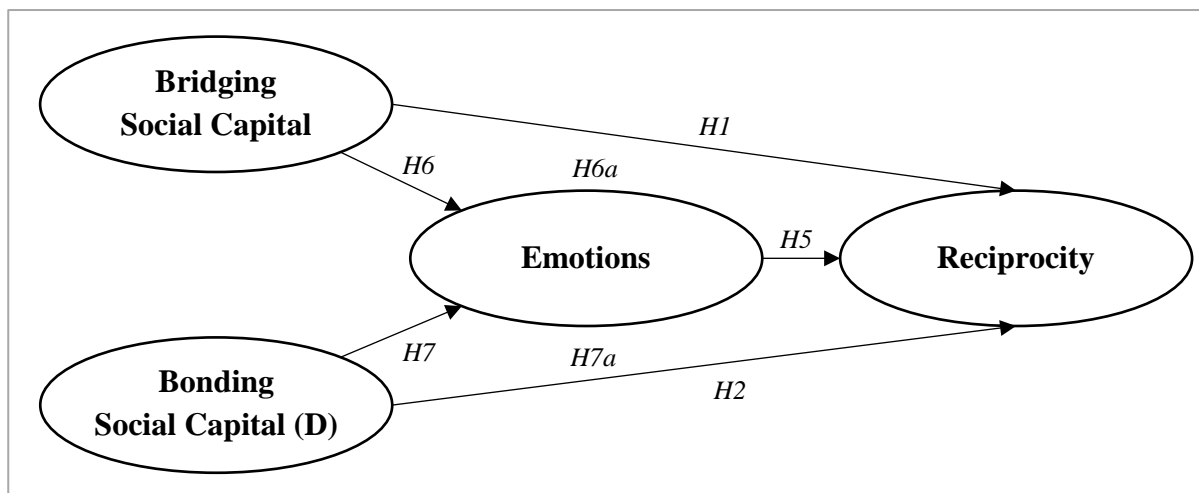


Note: (I) represents the indirect form of social bonding – the number of postings

#### 4.5.2. Proposed Social Capital – Emotion – Reciprocity Model (Two)

Similarly to Model One, the proposed conceptual Model Two (see Figure 4.9) also hypothesises SNS users’ views of the relationship between each construct and reciprocity, but in this case, the bonding social capital represents the level of richness in comments (a direct form of social bonding activity). *H1*, *H2*, and *H5* are used to test the direct effect between each construct and reciprocity. *H6*, *H6a*, *H7* and *H7a* are used to test the mediation effects between social capital and reciprocity through emotion (see Table 4.2).

Figure 4.9: Proposed Social Capital – Emotion – Reciprocity Model (Two) in SNSs



Note: (D) represents the direct form of social bonding – social interaction in the form of comments

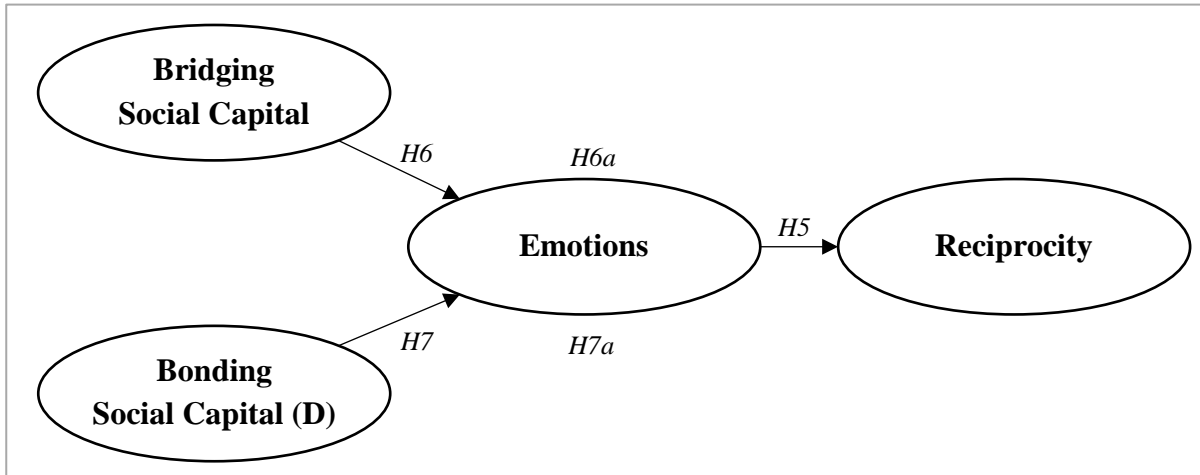
Table 4.2: Summary of Hypotheses for the Proposed Conceptual Model Two

Hypothesis	
<b><i>H1</i></b>	Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered
<b><i>H2</i></b>	Bonding (D) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered
<b><i>H5</i></b>	Emotion has a positive relationship with the likelihood of reciprocity
<b><i>H6</i></b>	Emotion is positively affected by the cognitive evaluation of bridging social capital
<b><i>H6a</i></b>	Emotion mediates the relationship between bridging social capital and likelihood of reciprocity
<b><i>H7</i></b>	Emotion is positively affected by the cognitive evaluation of bonding (D) social capital
<b><i>H7a</i></b>	Emotion mediates the relationship between bonding (D) social capital and likelihood of reciprocity

Note: (D) represents the direct form of social bonding – social interaction in the form of comments

Similarly to Model One, the proposed model two also hypothesises the potential mediation effects of emotion between social capital and likelihood of reciprocity. (i.e., direct effect of social capital on reciprocity would become non-significant if the mediation effects are fully achieved), therefore, a competing model is also proposed. The path diagram for the proposed competing model is in Figure 4.10 below.

Figure 4.10: Proposed Competing Model (Two) of Reciprocity in SNSs



Note: (D) represents the direct form of social bonding – social interaction in the form of comments

#### 4.6. Chapter Summary

This chapter has synthesised relevant concepts from the literature (Chapter 2) and findings from the exploratory research (Chapter 3), thus enabling hypothesis generation and conceptual model development. Based on two schools of thought, i.e., the *Emotion – Cognition* approach and the *Cognition – Emotion* approach (e.g., Zajonc, 1980; Zajonc and Markus, 1984, 1985; Lazarus, 1991) and other researchers' viewpoints (i.e., iterative process) (e.g., Clark and Fairburn, 1999; Rand, 1964), a conceptual model is proposed that represents the process of reciprocity in Chinese SNSs (Figure 4.4). It is believed that the emotions and cognitive evaluations work as a combination in an iterative form, reinforcing each other in making decisions about reciprocal action.

In relation to cognitive evaluation, this research draws on the concept of social distance, which has been widely studied and recognised as a factor influencing reciprocal behaviour. Specifically, exploratory findings suggested that perceived social distance in SNSs is the result of comparative outcomes of the social networking influence indices that are presented in users' social profiles. In order to conceptualise and operationalise social distance in virtual environments, this research treats the number of followers as the proxy for one's bridging social capital and the number of postings as the proxy for one's bonding social capital.

In order to analyse the value exchange process through the lens of reciprocity, and on the basis of exploratory findings and previous literature, a Five-Phase Reciprocity Process Model is developed, which includes: I) receipt of value (§4.3.1), II) emotional responses (§4.3.2), III) cognitive evaluation (§4.3.3), IV) the iterative process of emotion and cognitive evaluation (§4.3.4), and V) reciprocal behaviour (§4.3.5).

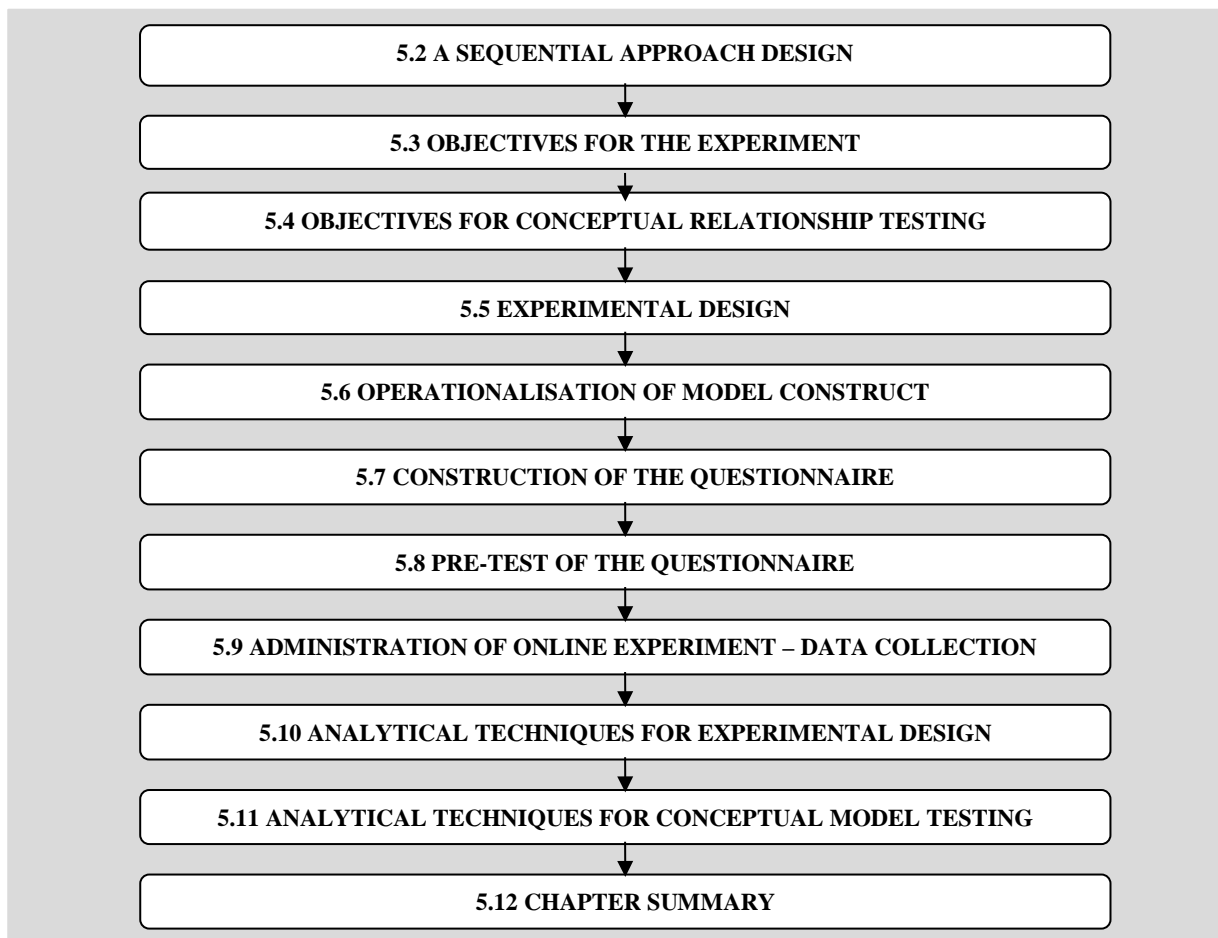
Following development of the process model, associated research hypotheses addressing focal conceptual relationships involving bridging and bonding social capital, emotion and reciprocity were specified. Bonding social capital was operationalised in two forms: indirect and direct, each representing a type of social bonding for participants to evaluate and react to. Two conceptual models were therefore proposed for empirical examination (§4.5). The following chapter will outline the design of the quantitative research, the manipulation of the experimental conditions and the operationalisation of scale items.

## CHAPTER 5: QUANTITATIVE RESEARCH DESIGN

### 5.1. Chapter Overview

This chapter provides a detailed quantitative research plan to test the hypotheses generated in the previous chapter empirically. The detailed structure of the chapter is presented in Figure 5.1. Specifically, this chapter first outlines the sequential approach design utilised in this research (§5.2), which involves both experimental (§5.3 & §5.5) and conceptual relationship testing (§5.4). Scale measures for the operationalisation of the conceptual model are described (§5.6), followed by details of the construction, pre-test and administration of the online questionnaire (§5.7-§5.9). Analytical techniques for both types of testing are also specified (§5.10 and §5.11). Lastly, a summary of the chapter is provided (§5.12).

Figure 5.1: Structure of Chapter Five





## 5.2. A Sequential Approach Design

As specified at the hypothesis development stage, the empirical part of this research was conducted in two sequential stages and with different types of relationship testing. The first stage focused on the effect of cognitive evaluations on the likelihood of reciprocity, using an experimental design to test the effects of two types of social network influence indices: the number of followers (operationalisation of bridging social capital) and the number of postings/comments (operationalisation of bonding social capital). Based on the previous literature and exploratory research findings, these two indices are conceptualised as representing two forms of social capital: the number of followers represents the concept of bridging social capital due to its structural value in signalling the value of the network (Bourdieu 1986), while the number of postings represents the concept of bonding social capital due to its functional value in signalling mutually supportive relationships (Portes and Sensenbrenner, 1993; Putnam, 1995) and collective actions (Coleman, 1990, 1988; Fukuyama, 1997).

The second stage of the empirical investigation included emotional variables represented by attitude measures. This was done to fill in a gap which existed in the experiment because emotional responses are relatively difficult to capture directly in an experimental setting unless explicitly inquired into. Therefore attitudinal questions related to emotions were asked of participants, and, attitudinal measures for their cognitive thinking of social capital were also assessed in order to 1) ensure the validity of the manipulation of social capital in the experimental design, and 2) enable the testing of conceptual relationships through structural equation modelling (SEM).

It was expected that the sequential methods would provide congruent results. By incorporating SEM including emotional factors, it was hoped that the research would not only provide evidence for the *Cognition – Emotion* school of thought (Lazarus, 1991), but also show the strength of the role of emotions in the occurrence of reciprocity in non-face-to-face environments.

### **5.3. Objectives for the Experiment**

The primary purpose of this experiment was to show that bridging social capital (i.e., the number of followers) and bonding social capital (i.e., the number of postings/comments) have a positive impact on the likelihood of reciprocity among SNS users. Specifically, it was expected that participants who were followed by strangers in SNSs would show a strong tendency to reciprocate by following back on those who had more followers than themselves, and an even stronger tendency to reciprocate to those who had stronger bonding with community than they did. Interaction effects between the two social influence indices were also examined in order to explore interactive impacts.

### **5.4. Objectives for Conceptual Relationship Testing**

Previous studies suggest that people have a tendency to form long-term reputations as reciprocators/non-defectors, and are therefore willing to run the risk to recognise that their anonymous counterparts are like-minded persons (Coricelli, 2004; Coricelli, McCabe and Smith, 2000). This implies that even first-time interpersonal encounters among social media users with no previous relationship will opt for, or respond to, “followings” in which the intention is to “signal a desire for positive reciprocity, and the achievement of greater individual as well as social surplus” (Coricelli, 2004, p. 360) than if each user behaves opportunistically (e.g., gaining an increase in the number of followers but showing no acknowledgment to the followers) (Kerres and Preussler, 2009). However, this view can only partially explain the pattern of reciprocal behaviour in the experiment. Based on the findings from the exploratory research, it was suggested that social network users experience emotions that affected their responses to others’ behaviour and intentions. Therefore, emotional factors were introduced into the conceptual model (see §4.5: Figure 4.5) to firstly assess its direct impact on reciprocity and secondly, its mediation role between social capital and reciprocity.

Overall, the testing of the theoretical relationships for social capital, emotion and reciprocity was expected to reveal consistent findings with the experiment, and in addition, to provide alternative pathways by considering the effect of emotional components in the model.

## **5.5. Experimental Design**

The concepts of bridging social capital and bonding social capital have been identified in the exploratory research (see Chapter 3) and built into the conceptual model (see Chapter 4), and these concepts are operationalised with the number of followers and number of postings/comments, respectively.

Both of these indices were highly commented on in the exploratory research; participants relied on them as a means of quickly understanding who they were dealing with and how they should react towards their follower's actions. In this research, both indices imposed an influential effect on social network users; therefore these are termed as the social network influence indices (SNIIs). Specifically, the influence from the number of followers can be understood as "how much status influence have you got to affect my tendency to follow back on you?" And the influence from the number of postings can be understood as "how much have you contributed to the community/other individuals to gain my respect and follow back on you?"

Findings from the exploratory research suggested that value of both of the SNIIs (i.e., the number of followers/postings) are perceptions formed by social network users, therefore the impact of these indices on reciprocity is indirect. The first experiment was therefore designed to capture this indirect form of reciprocity. In order to assess the direct form of reciprocity, the second experiment was designed to incorporate direct bonding activities (i.e., direct exchange of information in the form of comments) between users.

### **5.5.1. Design of Experiment One for Indirect Reciprocity**

#### ***Participants and Design***

SNS users were recruited from Weibo for the experiment. Participants had to be 18 years or over, registered in Weibo for at least one year, and to participate in blogging activities at least once a day. Demographic quotas were applied to ensure each manipulation group shared similar traits and distribution, which could potentially control for variance. Participants were randomly assigned to one of four conditions in a 2 (i.e., bridging social capital: higher of number of followers versus lower of number of followers than participants) by 2 (i.e., bonding social capital: higher of number of postings and lower of number of postings than participants)

between-subjects full factorial design (see Table 5.1).

In virtual environments, the value proposed to experiment participants was through the value proxies of SNII, which means that the value they perceived from being followed by others was largely based on these indices. This is radically different from traditional direct favour exchange in physical contexts, hence the value transfer may not have been as obvious as in the physical context and its subtlety and implicit nature may have resulted in a relatively low level of reciprocity. Hypotheses for Experiment One are summarised in Table 5.2, and the rationale for hypothesis development can be found in Section 4.4.1.1 and 4.4.1.2.

Table 5.1: Experiment One: 2 × 2 Full-Factorial Experimental Design

		<b>Concept:</b> Bridging Social Capital	
		<b>Operationalisation:</b> The Number of Followers	
		<i>Lower</i>	<i>Higher</i>
<b>Concept:</b> Bonding Social Capital	<i>Lower</i>	Scenario 1 (n=200) <i>Lower number of followers</i> & <i>Lower number of postings</i>	Scenario 2 (n=200) <i>Higher number of followers</i> & <i>Lower number of postings</i>
	<i>Higher</i>	Scenario 4 (n=200) <i>Lower number of followers</i> & <i>Higher number of postings</i>	Scenario 3 (n=200) <i>Higher number of followers</i> & <i>Higher number of postings</i>

Table 5.2: Summary of Hypotheses for Experiment One

<b>Hypothesis</b>	
<b>H1a</b>	The greater the discrepancy in bridging social capital (the number of followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user.
<b>H2a</b>	The greater the discrepancy in bonding social capital (the number of postings) between two social network users, the greater the likelihood that the less-esteemed user will reciprocate an action from a more-esteemed user.
<b>H3</b>	Discrepancies in bonding social capital (the number of postings) between two social network users will not interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity.

The greater the discrepancy in combined social capital (bridging/followers + bonding/postings) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual.

**Manipulation Procedure**

The experiment was conducted in three parts. The first part was designed to understand participants’ Weibo usage. After answering several general questions about their Weibo usage behaviour, which also served as screening questions, participants were randomly allocated to one of the four conditions, and this formed the manipulation part of the experiment. Figure 5.2 illustrates one the four experimental conditions.

Figure 5.2: Illustration of an Experimental Condition in Experiment One

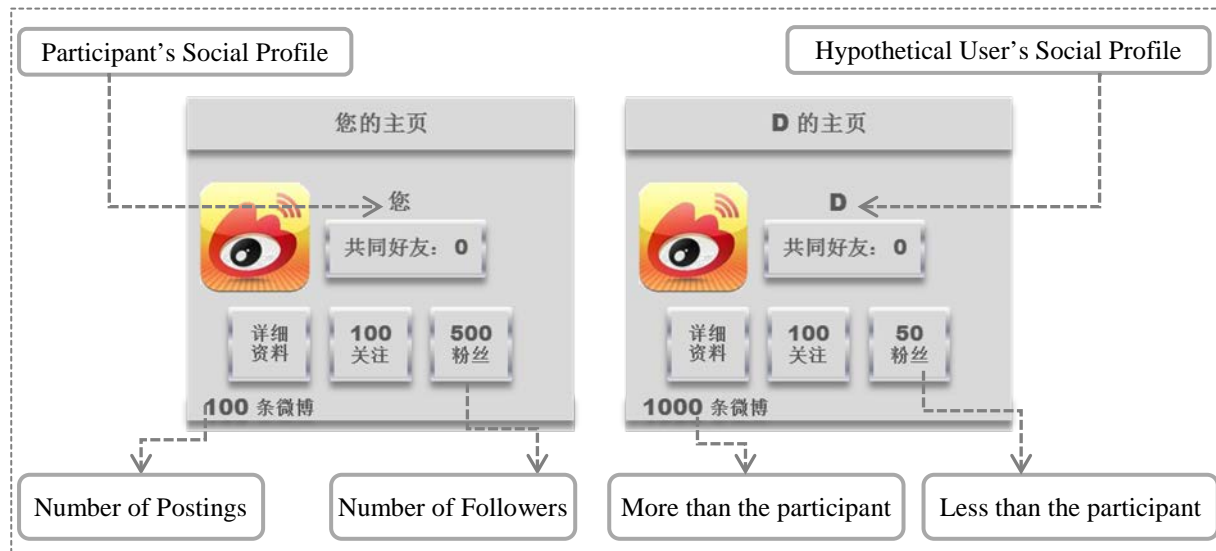


Table 5.3: Summary of Experimental Conditions for Experiment One

Experimental Conditions	Under each condition, participants are instructed to carefully assess a hypothetical Weibo User social profile (a graphic image of a simulated Weibo user account). This “user” is described as a total stranger to them (an individual who has no off-line relationships, has no mutual friends in the social network, and is not a public figure/celebrity/media organisation), <i>WHO has...</i>
<b>Scenario 1:</b> <i>Lower</i> ‘number of followers’ & <i>Lower</i> ‘number of postings’	- significantly fewer followers and fewer postings than the participant has
<b>Scenario 2:</b> <i>Higher</i> ‘number of followers’ & <i>Lower</i> ‘number of postings’	- significantly more followers and fewer postings than the participant has
<b>Scenario 3:</b> <i>Higher</i> ‘number of followers’ & <i>Higher</i> ‘number of postings’	- significantly more followers and postings than the

participant has

**Scenario 4:**

**Lower** 'number of followers' &

**Higher** 'number of postings'

- significantly fewer followers but more postings than the participant has

---

Under all experimental conditions, participants were instructed to focus only on these users' social profile, the number of followers and the number of postings are the key manipulations in this experiment, but these indices were not explicitly stated for participants to focus on. Therefore, manipulation checks were performed to ensure the validity of the manipulations.

### ***Manipulation Checks***

For each assessed hypothetical Weibo user profile, participants were asked two questions to indicate their perceptions of them based on their SNIIs. Participants were clearly instructed to ignore the information such as the content of Weibo posting, but focus on the existing profile information.

**Question 1. Manipulation check for Bridging Social Capital:** *Based on your assessment of the social profiles above, please indicate on a 1-10 point scale to what extent you agree or disagree with the following statement – “I perceive that my social influence on Weibo is greater than [the hypothetical Weibo user].”*

**Question 2. Manipulation check for Bonding Social Capital:** *Based on your assessment of the social profiles above, please indicate on a 1-10 point scale to what extent you agree or disagree with the following statement – “I perceive that my contribution to Weibo is greater than [the hypothetical Weibo user].”*

### ***Testing Procedure***

The third part of the experiment focused on participants' likelihood, after being exposed to their experimental stimulus, of reciprocating by means of one major type of reciprocal behaviour. In order to capture the reciprocal behaviour tendency, participants were asked to indicate on a 1-10 point Likert scale how likely it was that they would follow back on hypothetical Weibo users who followed them.

### **5.5.2. Design of Experiment Two for Direct Reciprocity**

As discussed in the previous section, Experiment One simulates an environment in which favour exchange is highly embedded in the social network influence indices, where the value of “being followed” resides in a user’s social capital, which is radically different from traditional direct favour exchange in physical contexts, hence the reciprocity is indirectly achieved. In order to assess the direct form of reciprocity, the second experiment involved direct exchange of information between users.

Specifically, the bonding social capital – the number of postings – was replaced with a form of direct bonding activity: commenting, which is suggested by the exploratory research to be a higher level of personal involvement in the social exchange, because it requires more time and effort to draft a reply than simply to click the “Like” button. And since in the SNSs environment the direct interaction more explicitly carries the meaning of, such as “I care about you,” it is believed to better resemble the favour exchange in the physical environment. The overall tendency of reciprocity was expected to be relatively higher than in Experiment One.

#### ***Participants and Design***

The same group of participants from Experiment One were invited to Experiment Two, and were randomly assigned to one of four conditions in a 2 (i.e., bridging social capital: higher number of followers vs. lower number of followers than participants) by 2 (i.e., bonding social capital: short and brief comments vs. long and detailed comments toward participants’ questions in Weibo) between-subjects full factorial design (see Table 5.4).

The hypotheses for Experiment Two share a similar logic with Experiment One, which is summarised in Table 5.5, and the rationale for the hypotheses’ development can be found in Sections 4.4.1.1 and 4.4.1.2.

Table 5.4: Experiment Two: 2 × 2 Full-Factorial Experimental Design

		<b>Concept: Bridging Social Capital</b> <b>Operationalisation: The Number of Followers</b>	
		<i>Lower</i>	<i>Higher</i>
<b>Concept:</b> Bonding Social Capital	<i>Lower</i>	Scenario 1 (n=200) <i>Lower number of followers</i> & <i>Lower textual comments</i>	Scenario 2 (n=200) <i>Higher number of followers</i> & <i>Lower textual comments</i>
	<i>Higher</i>	Scenario 4 (n=200) <i>Lower number of followers</i> & <i>Higher textual comments</i>	Scenario 3 (n=200) <i>Higher number of followers</i> & <i>Higher textual comments</i>

Table 5.5: Summary of Hypotheses for Experiment Two

<b>Hypothesis</b>	
<b>H1a</b>	The greater the discrepancy in bridging social capital (the number of followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user.
<b>H2a*</b>	Richer bonding social capital (long and detailed comments) leads to greater likelihood of reciprocity than poorer bonding social capital (short and brief comments).
<b>H3b</b>	Differences in bonding social capital (comments) will interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity.
<b>H4b</b>	The greater the discrepancy in combined social capital (bridging/followers + bonding/comments) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual.

Note: \* represents the direct form of bonding which is used to distinguish it from the indirect form of bonding

**Manipulation Procedure**

Experiment Two had the same structure as in Experiment One, again participants were randomly allocated to one of the four conditions (see Table 5.6), and this forms the manipulation part of the experiment. Figure 5.3 illustrates one the four experimental conditions.



Figure 5.3: Illustration of an Experimental Condition in Experiment Two

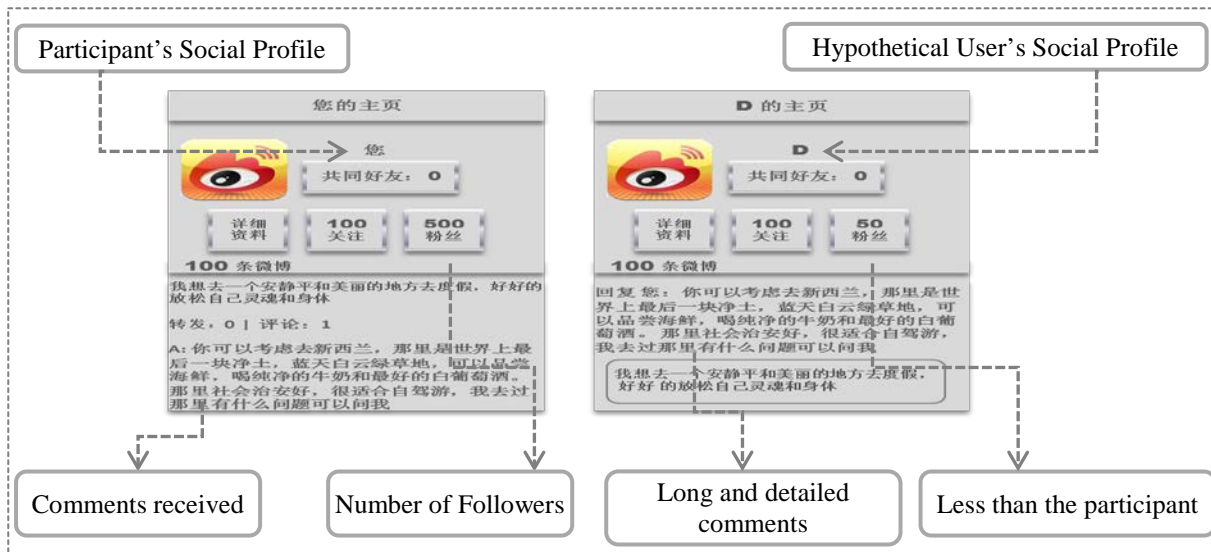


Table 5.6: Summary of Experimental Conditions for Experiment Two

Experimental Conditions	Under each condition, participants are instructed to carefully assess a hypothetical Weibo User social profile (a graphic image of a simulated Weibo user account). This “user” is described as a total stranger to them (an individual who has no off-line relationships, has no mutual friends in the social network, and is not a public figure/celebrity/media organisation), <i>WHO has...</i>
<b>Scenario 1:</b> <i>Lower</i> 'number of followers' & <i>Lower</i> 'textual comments'	- significantly fewer followers than the participant has and replied with short and brief comments towards the participant's posting
<b>Scenario 2:</b> <i>Higher</i> 'number of followers' & <i>Lower</i> 'textual comments'	- significantly more followers than the participant has and replied with short and brief comments towards the participant's posting
<b>Scenario 3:</b> <i>Higher</i> 'number of followers' & <i>Higher</i> 'textual comments'	- significantly more followers than the participant has and replied with long and detailed comments towards the participants' posting
<b>Scenario 4:</b> <i>Lower</i> 'number of followers' & <i>Higher</i> 'textual comments'	- significantly fewer followers than the participant has and replied with long and detailed comments towards the participants' posting

Under all experimental conditions, participants were instructed to focus only on these users' social profiles. The number of followers and comments were the key manipulations in this second experiment, but this was not explicitly stated to participants, therefore to ensure the validity of the manipulations, manipulation checks were performed.

### ***Manipulation Checks***

For each of their assessed hypothetical Weibo user profiles, participants were asked two questions to indicate their perceptions of them based on their SNIs. Participants were clearly instructed to focus on the existing profile information and comments available.

**Question 1. Manipulation check for Bridging Social Capital:** *Based on your assessment of the social profiles above, please indicate on a 1-10 point scale to what extent you agree or disagree with the following statement – “I perceive that my social influence on Weibo is greater than [the hypothetical Weibo user].”*

**Question 2. Manipulation check for Bonding Social Capital:** *Based on your assessment of the social profiles above, please indicate on a 1-10 point scale to what extent you agree or disagree with the following statement – “I perceive that [the hypothetical Weibo user] is highly engaged with my posting.”*

### ***Testing Procedure***

The testing procedure was the same as in Experiment One which was focused on participants' level of likelihood to reciprocate after being exposed to their experimental stimulus, therefore participants were asked to indicate on a 1-10 point Likert scale how likely it was that they would follow back on hypothetical Weibo users who followed them.

## **5.6. Operationalisation of Model Construct**

A review of the literature on measure of social capital suggests that there is a need for improved measurement for social capital and emotion constructs in virtual environments. The experimental manipulations of this research only focused on one perspective of each type of social capital, therefore this research may have overemphasised the importance of SNIs and overlooked other facets of a complex construct. In addition, to test the conceptual model proposed, it was deemed important to use scale measures from existing academic or practical empirical research to ensure that content validity was achieved for each construct. However the constructs of interest in this research have not been extensively studied in virtual environments, hence there is a lack of new measures for examining the effects of these social phenomenon. As Quan-Haase and Wellman (2004) noted, “researchers need to develop new forms of measurement that complement existing ones” (p. 124). This section reports on the development of two sets of scales for measuring social capital (i.e., measuring participants’ perceptions toward the manipulation of social capital in the experiments) in a social network setting based on Williams’ (2006) Internet Social Capital Scale (ISCS), a set of scales for measuring the construct of emotion on the basis of exploratory findings and literature, and a single-item scale for measuring reciprocal behaviour.

### **5.6.1. Scale Measures for Social Capital**

Williams’ (2006) suggested that the ISCS scale allows for the functional differences between the internet and face-to-face interactions. The author noted that “not only do social interactions occur in a different way within this new medium (i.e., SNSs in this research), they do so in parallel and in conjunction with ‘real’ life offline” (Williams, 2006, p. 593). The development of the ISCS was also driven by theory: to establish a framework Williams (2006) drew from the concept of social capital (Coleman, 1988) and related work of sociologists and political scientists. Specifically, the ISCS scales measure two types of social capital, bridging vs. bonding, in both online and offline contexts, which expands researchers’ understanding of social capital on the internet. Thus, providing answers to how social capital forms online and offline, and the trade-off between these two settings (Williams, 2006). The ISCS scales show an immediate relevance to this research and were therefore adopted and modified to suit the needs of the current investigation. The ISCS was developed to make distinctions between online and offline experiences, however this research was only interested in users’ online experience; therefore the offline dimension was not adopted.

### 5.6.1.1. Scale Measures for Bridging Social Capital

Putnam (2000) suggested that bridging social capital occurs when social actors from different backgrounds make connections between social networks, which is inclusive. These actors often have only tentative relationships, but what these relationships lack in depth they make up for in breadth (William, 2006). Hence, bridging social capital may broaden social connections, or open up opportunities for new resources, or world views (Putnam, 2000). On the downside, such bridging social capital provides little in the way of emotional support. Williams (2006) applied Putnam's (2000) criteria for theorising bridging social capital in his development of ISCS scale questions. The criteria and rationales for question item development are summarised in Table 5.7.

Table 5.7: Rationales of Williams' (2006) Bridging Social Capital Measures

Criteria	Rationales
<i>Outward looking</i>	"Scale questions address interacting with people outside the local area, trying new things, and being curious about differences in others and different parts of the world."
<i>Contact with a broad range of people</i>	"This dimension measures linkages to ages, religions, genders, classes, professions, and races different from one's own."
<i>A view of oneself as part of a broader Group</i>	"General questions that involve the bigger outside world are tested, including the idea of connections to a larger community and of feeling as if everyone in the world is connected."
<i>Diffuse reciprocity with a broader community</i>	"Questions attempt to capture the occurrence of reciprocity without immediate gain, such as helping strangers, spending time on general community activities, and doing things without expecting a payoff."

Source: Adopted from Williams (2006, p. 599-600)

Based on these criteria, Williams (2006) developed a 10-item scale for measuring bridging social capital (see Table 5.8), and 9 of the 10 of items were adopted and modified for this research. The last item "*I come in contact with new people all the time*" is too general and relatively difficult to modify to suit the purpose of this research, and it is too similar to item 9 in the scale, therefore it was dropped from Williams' (2006) original scale. The major modifications were: 1) removal of the offline measurement because this research will not compare the difference for social capital between physical and virtual context; 2) the word "*interacting*" was replaced with "*establishing connection*," because this research is specifically interested in understanding how relationships are initiated and established in a

virtual environment without excessive previous interactions among strangers. The phrase “*establishing connection*” is better in representing the phenomenon of reciprocal following, which focuses on the first step of relationship building.

Table 5.8: Scale Measures for Bridging Social Capital

ISCS by Williams (2006)	Modified Scale Items for This research
<i>Measured on 1-10 point scale – where 1= “strongly disagree” and 10 = “strongly agree”</i>	
1	Interacting with people online/offline makes me interested in things that happen outside of my town
2	Interacting with people online/offline makes me want to try new things
3	Interacting with people online/offline makes me interested in what people unlike me are thinking
4	Talking with people online/offline makes me curious about other places in the world
5	Interacting with people online/offline makes me feel like part of a larger community
6	Interacting with people online/offline makes me feel connected to the bigger picture
7	Interacting with people online/offline reminds me that everyone in the world is connected.
8	I am willing to spend time to support general online/offline community activities
9	Interacting with people online/offline gives me new people to talk to
10	Online/Offline, I come in contact with new people all the time.
	Establishing connection with [Substitute Scenarios]* on Weibo makes me interested in things that happen outside of my personal life
	Establishing connection with [Substitute Scenarios] on Weibo makes me want to try new things
	Establishing connection with [Substitute Scenarios] on Weibo makes me interested in what people unlike me are thinking
	Talking to [Substitute Scenarios] on Weibo makes me curious about other places in the world
	Establishing connection with [Substitute Scenarios] on Weibo makes me feel like part of a larger community
	Establishing connection with [Substitute Scenarios] on Weibo makes me feel connected to the bigger picture
	Establishing connection with [Substitute Scenarios] on Weibo makes me reminds me that everyone in the world is connected
	I am willing to spend time to support [Substitute Scenarios] on Weibo community activities
	Establishing connection with [Substitute Scenarios] on Weibo gives me new people to talk to
	Establishing connection with [Substitute Scenarios] on Weibo gives me new people to talk to ( <i>for experiment two only</i> )

Note: \* [Substitute Scenarios], these scales will be used to measure participants’ attitudinal responses toward the experiment conditions they experience, therefore the scenarios they are exposed to (e.g., user ‘A’ with higher number of followers and few number of postings) will be *substituted* into the scale to remind them about the experiment stimulus.

### 5.6.1.2. Scale Measures for Bonding Social Capital

According to Putnam (2000), bonding social capital typically occurs between social actors with strong social ties, such as family members and close friends, and it can be exclusive. Reciprocity is found to be strongly connected in such type of social capital, and it provides strong instrumental/functional and emotional supports, and enables mobilisation of resources. The author also suggested that actors with bonding social capital have little diversity in their backgrounds but have stronger personal connections within the group. Therefore its drawback is expected to be narrow-mindedness and antagonism from out-groups (Putnam, 2000), for example, the narrow formation of a group can lead to feelings of dislike/mistrust for those outside the group (Sherif, 1988). As a result, Putnam (2000) proposed the underlying criteria (see Table 5.9) of bonding social capital generated through strong-tie networks, and Williams (2006) developed questions for internet bonding social capital measure based on these criteria, rationales for question item development are summarised in table below.

Table 5.9: Rationales of Williams' (2006) Bonding Social Capital Measures

Criteria	Rationales
<i>Emotional support</i>	"This is measured by questions about whether or not individuals trust others to help them solve problems, have someone to turn to for advice, and have someone to go to with intimate personal problems or to alleviate loneliness."
<i>Access to scarce or limited resources</i>	"The value that can be obtained through someone else could be a scarce asset, either something tangible such as money, or a social asset that will reflect on the friend such as the perceived willingness of a person's friends to put their reputations on the line for that person."
<i>Ability to mobilise solidarity</i>	"If bonding social capital is the product of small, insular groups, mobilising solidarity should be problematic because mobilising a group may require access to a broad, not narrow, range of people. Another measure of this concept that is not group size specific would be whether or not a person's friends could be motivated to do something important or to help that person fight an injustice. There must be some sense of cost, even if it is only of time."
<i>Out-Group antagonism</i>	"The virtual community, much like the offline one. It provides a wide range of labels and divisions between populations based on demographics, or even interests. Some internet researchers (e.g., Preece, 1999; Stolle, 1998; Sunstein, 2001) have suggested this as the dark side of an online life in which exclusive communities of narrow interest might form."

Source: Adopted from Williams (2006, p. 601-602)

Table 5.10: Scale Measures for Bonding Social Capital

ISCS by Williams (2006)	Modified Scale Items for This research
<i>Measured on 1-10 point scale – where 1= “strongly disagree” and 10 = “strongly agree”</i>	
<i>Experiment 1: Indirect bonding: [Substitute Scenarios]’s level of community activates (number of postings) on Weibo...</i>	
<i>Experiment 2: Direct bonding: [Substitute Scenarios]’s comments on my posting in Weibo...</i>	
1	There are several people online/offline I trust to help solve my problems
	... helps build my trust in him/her
2	There is someone online/offline I can turn to for advice about making very important decisions
	... makes him an opinion leader
3	There is no one online/offline that I feel comfortable talking to about intimate personal problems
	... encourages my participation
4	When I feel lonely, there are several people online/offline I can talk to
	... helps create a sustainable social network
5	If I needed an emergency loan of \$500, I know someone online/offline I can turn to
	<u>Not adopted in this research</u>
6	The people I interact with online/offline would put their reputation on the line for me
	... helps with outreach (modified to better fit into a holistic Chinese culture, see discussion below)
7	The people I interact with online/offline would be good job references for me
	<u>Not adopted in this research</u>
8	The people I interact with online/offline would share their last dollar with me
	... resulting in shared resources
9	I do not know people online/offline well enough to get them to do anything important (reversed scale).
	... shows his/her great concern and caring about me ( <i>for E2 only</i> )
10	The people I interact with online/offline would help me help me fight an injustice
	... helps with seeking emotional supports ( <i>for E1</i> ) ...provides me with emotional supports ( <i>for E2</i> )

Source: Adopted from Williams (2006)

Based on these criteria, Williams (2006) developed a 10-item scale for measuring bonding social capital (Table 5.10). The bonding measures of Williams (2006) are predominantly driven by past experience with relatively familiarised individuals, which are reflected in the effect of the direct bonding activities. However, in the context of this research, social bonding is mostly perceived by assessing an individual’s level of contribution/activities towards the community (through the number of postings) or an individual’s level of direct interaction (through level of richness in comments) with another stranger. Hence, the level of bonding social capital investigated in Weibo will be not as strong as described in Williams’ scale.

As a result of this incompatibility in scale item descriptors, the subscale of ISCS for social bonding capital could not be directly adopted, therefore a new set of scales was developed, which directly drew from the exploratory research and aligned with Putnam's (2000) criteria, with a focus on emotional support (modified scale items 1-3 & 10), access to scarce or limited resources (modified scale items 8), and ability to mobilise solidarity (modified scale items 4 and 6). Therefore the modified social bonding capital scale consists of 8 items (Table 5.10), and these were used for both indirect and direct bonding social capital measures.

The content validity of a measure is determined by the extent to which it captures the domain of a construct (Churchill and Brown, 2004), and in order to ensure this set of bonding social capital measurements possessed content validity, expert judgement (Heeler and Ray, 1972) was introduced. The modified scale items were evaluated by several senior academics from the Marketing Department in the University of Auckland and New Zealand Asia Institute (NZAI), to ensure they were representative and exhaustive of all domains of the construct of interest in this specific study context.

An academic researcher from NZAI suggested that the wordings Items 6 and 10 from the ISCS bonding scale (Williams, 2006) showed strong individualistic culture and that the direct translation of them into Chinese could potentially lead to uncomfortable feelings, therefore a relatively more subtle and general expression was recommended. Based on the recommendation item 6 from the ISCS bonding scale – “the people I interact with online/offline would put their reputation on the line for me” has been changed to “help with outreach.” Similarly, item 10 – “*the people I interact with online/offline would help me fight an injustice*” has been changed to “... *helps with seeking emotional supports*” in Experiment One and “*provides me with emotional supports*” in Experiment Two. The discussion with the experts indicates that the new items included in the new scale are representative and exhaustive.



### 5.6.2. Scale Measures for Emotion

There were four most referred to types of emotions found in the exploratory research (see §3.5.3): feeling of liking, gratitude, empathy/sympathy and indebtedness. All confirm previous findings about emotions involved in the practice of reciprocity in the face to face environment. Based on the exploratory findings and literature, the scale for measuring emotions for reciprocity online is developed and summarised in Table 5.11 below. In practical terms these emotions are not mutually exclusive, hence, reflective measurements are appropriate. Respondents often reported that when further cognitive evaluation (e.g., checking on the number of followers) was made about their followers, multiple feelings and emotions evolved. This process indicates that emotions can be modified when cognitive evaluations are processed. Therefore emotion may not be a direct cause of reciprocity but an effect of cognitive evaluation, and this set of scales is developed to capture the final stage of emotional involvement after the cognitive evaluation and before taking the reciprocal actions.

Table 5.11: Scale Measures for Emotion

Dimensions of Emotion	Scale Items	Supporting Literature
<i>Measured on 1-10 point scale – where 1= “strongly disagree” and 10 = “strongly agree”</i>		
<i>Question wording: “When I was “followed” by [Substitute Scenarios]...”</i>		
<b>Liking</b>	... his/her “following” makes me like him/her	Bagozzi (1995) Price and Arnould (1999)
	... his/her “following” makes me form a positive attitude towards him/her	Pervan et al. (2004) Cialdini (1993) Chan and Li (2010)
	... his/her “following” makes me want to express my gratitude	Ortony, Clore and Collins (1988) McCullough et al. (2001)
<b>Gratitude</b>	... his/her “following” makes me want to thank him/her	
	... his/her “following” makes me want to express my sympathy	Becker (1986) Pervan et al. (2009)
<b>Empathy &amp; Sympathy</b>	... his/her “following” makes me want to express my empathy	Yau et al. (2000)
	... his/her “following” makes me feel indebted to him/her	Baumeister and Sommer (1997) Leith and Baumeister (1998)
<b>Feeling of indebtedness</b>	... his/her “following” makes me feel obligated to him/her	Roseman (1984) Dahl et al. (2005)

### 5.6.3. Scale Measure for Reciprocity

As a key outcome of the conceptual model, its final stage requires a measure of the likelihood of reciprocity based on each experimental scenario, therefore a question about the likelihood of reciprocal following was placed in the experimental section of the survey. Instead of asking participants to indicate their likelihood of reciprocity at the end of the survey, they were asked to provide an immediate response after being exposed to the simulated scenarios, because this was relatively close to their real life experience on Weibo, which requires fast responses and provides limited time to process all the information available.

Most economics studies (e.g., Bolton and Ockenfels, 2000; Dufwenberg and Kirchsteiger, 2004; Fehr and Schmidt, 1999; Levine, 1998; Rabin, 1993) measure behavioural aspects of reciprocity by assessing the amount being returned in dollar values. However, as there is no absolute financial currency in SNSs, the researcher could only adopt “following” and “follow-back” as holding equivalent weight in terms of social value exchange, therefore the measure for reciprocity is captured by the tendency to return. In order to capture the phenomenon of reciprocity most realistically in the stranger-to-stranger relationship initiation in the experimental condition, a single-item scale was developed, and was presented to the participants after their exposure to the experimental stimulus: *“when A ‘followed’ you, how likely would you be to follow A back?”*

## **5.7. Construction of the Questionnaire**

The questionnaire was composed of two major components, namely the experiment (scenarios testing) and subsequently the attitudinal self-report survey. A Participant Information Sheet and Consent Form was provided for both the data collection agency and the participants (see Appendix IV). The detailed structure of the questionnaire is described in Table 5.12, where Section Two and Three are for the experiments and Section Four, Five and Six include the measures for emotion, bridging and bonding social capital. Sections Seven to Nine were included to capture the potential factors (covariates) that were possibly predictive of the outcome under study. Illustrative online screen shoots of the online survey and a copy of the full questionnaire in English are attached in Appendix V. Each of the modelling constructs and operational measures have been specifically discussed in the previous section (see §5.6). In the following sections, other important aspects of the construction of the questionnaire will be discussed.

### **5.7.1. Participant Information Sheet**

The participant information sheet (PIS) which explains the purpose of the research is shown at the beginning of the online questionnaire, along with a copy of the consent form, which participants needed to fully read through and to agree on the terms and conditions before continuing to the main questionnaire. The PIS begins with thanking the participants for their time, reminding them about the incentive offered and data in which they have to reply. The PIS for this research is developed based on guidelines for developing a cover letter recommended by Hair et al. (2006) and on the requirements of the University of Auckland Human Participants Ethics Committee. To further guarantee the legitimacy of the research, the research approval by the ethics committee is stated at the end of the PIS, and this also helped to build credibility into the research, which Chinese participants value.

Table 5.12: Structure of the Questionnaire

<b>Section</b>	<b>Titles</b>	<b>Descriptions</b>
§ One	<b>Basic Sina Weibo Usage</b>	This section consists of a series of screening questions about participants' Weibo usage in order to determine if they are qualified to be in the study. By understanding their usage behaviours, it becomes feasible to allocate them into different experimental settings while maintaining homogeneity across groups.
§ Two	<b>Scenarios Testing One</b>	This section is designed for Experiment One to test the effect of bridging and bonding social capital on the likelihood of reciprocity, where bridging SC is operationalised as the number of followers and bonding SC is operationalised as the number of postings.  The actual position of this section is after Section Seven, followed by the attitudinal measures from Section Four to Section Seven.
§ Three	<b>Scenarios Testing Two</b>	This section is designed for Experiment Two to test the effect of bridging and bonding social capital on the likelihood of reciprocity, where bridging SC is operationalised as the number of followers and bonding SC is operationalised as comments (short & brief vs. long & detailed).
§ Four	<b>Emotion Measures</b>	This section is designed to capture the emotional drivers for reciprocity which are not measureable in the experiment. Four types of emotions found in the exploratory research are included for testing.
§ Five	<b>Bridging Social Capital</b>	This section is designed to measure participants' attitude towards the operational construct of bridging social capital – the number of followers: the scale was adopted from Williams' (2006) ISCS and modified to suit the purpose of this research.
§ Six	<b>Bonding Social Capital</b>	This section is designed to measure participants' attitude toward the operational construct of bonding social capital – the number of postings and comments. The scale was adopted from Williams' (2006) ISCS and modified to suit the purpose of this research.
§ Seven	<b>Perceived Reciprocal Value</b>	This section is designed to measure the concept of reciprocal value found in the exploratory research, but it is not part of the proposed model due to lack of theoretical support in the literature. It is suggested by the exploratory finding that PRV could be the outcome of the cognitive evaluation of both bridging and bonding social capital.
§ Eight	<b>Social Norm</b>	This section is designed to measure participants' attitude towards reciprocity as a social norm, and it could potentially be a covariate in the proposed model.
§ Nine	<b>Reciprocity Recognition</b>	This section is designed to quantify the existence of reciprocity in social networking sites (findings are not reported in this thesis, but will be used for future publications).
§ Ten	<b>Demographics</b>	Most of the basic demographic questions are collected in Section One, but the last section is only interested in the operating device of their Weibo account, their level of education and years of working experience. Because these may be covariates in the proposed model, however, these are not the objectives of this research, findings will be used for future publications.

### **5.7.2. Multi-item Measures and Scale Anchors**

Researchers have suggested that a standard procedure in the development of multi-item measurement scale is to control for and /or identify acquiescence response bias by incorporating reversed-polarity items (Herche and Engelland, 1996; Ray, 1979; Spector, 1992). However, a few researchers have also questioned the influence of reversed-polarity items on the dimensionality of scales. An exception to the trend in favour of reversed polarity, Herche and Engelland (1996) questioned the validity of reversed-polarity scales and argued that such scales often cause response asymmetry, which tends to degrade measure unidimensionality. Also, Netemeyer, Bearden and Sharma (2003) suggested that negative reversed items are likely to produce a lower reliability measure and confuse the respondents. Therefore, the item polarisation decision can be described as a trade-off between unidimensional measurement infected by possible response bias, and nonbiased measure infected by suspect dimensionality (Netemeyer et al., 2003).

### **5.7.3. Editing and Determining Wording of Each Question**

The questionnaire was first constructed in English, then translated into Chinese (Mandarin in simplified form). Therefore, the wording of the questions was a critical task, as inappropriate translations may tap different concepts or realities other than those in question. There are many English words that do not have a direct synonym in Chinese, such as “social capital.” Due to its complexity and implicit meaning, the Chinese translation focused on contextual meanings in social media environments, such as the level of networking ability and social influence among users.

In order to design a comprehensive questionnaire, a mixture of relevant literature reviews resulted in a list of guidelines which were complied with when questions were worded (see Table 5.13), for both the English and Chinese versions of the questionnaires. A linguistic expert from NZAI assisted the researcher with the translations. Respondents to the pre-tests of the translated questionnaire further informed and helped the researcher to refine the wordings on the final Chinese version of the questionnaire. This was necessary to reduce problems when conducting the survey online, as it is self-administrative in nature and no clarification mechanisms are available.

Table 5.13: Guidelines for Questionnaire Wording

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Summary of Guidelines
<ul style="list-style-type: none"><li>▪ Use familiar and simple words;</li><li>▪ Avoid ambiguous words – words with multiple meanings;</li><li>▪ Avoid leading or suggesting questions;</li><li>▪ Avoid double barrelled questions;</li><li>▪ Avoid words that sound like something else;</li><li>▪ Avoid generalisation and estimates – make questions and options specific and clear;</li><li>▪ Avoid qualifying clause at the end of a question;</li><li>▪ Avoid questions that require excessive amounts of respondent effort.</li></ul>

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Source: Adopted from Churchill and Iacobucci (2002) and Diamantopoulos and Schlegelmilch (1996).

## 5.8. Pre-test of the Questionnaire

A pre-test can be defined as “the controlled administration of a questionnaire on a trial basis in a small pilot study to determine how well the questionnaire works” (Czaja, 1998, p. 15). It is believed that the most effective way of ascertaining the questionnaire’s merit is through involving the opinions of others by means of a thorough process of pre-testing (e.g., Churchill and Iacobucci, 2002; Czaja, 1998). Czaja (1998) identified two distinct levels of pre-test – pre-testing activities and field pre-test. While there are multiple techniques available for both levels, for this research an expert panel review of the questionnaire (both English version and Chinese version) was chosen first, then one field pre-test is conducted specifically focusing on the construct manipulations for the two experiments.

### 5.8.1. Expert Panel Pre-test

The expert panel is one of the most consistent methods of identifying problems with questionnaires (Czaja, 1998). Three academics from the Department of Marketing at the University of Auckland, who have specialist knowledge of social media, and/or are experienced in survey design and construction, judged and critiqued the questionnaire from an academic perspective. One academic from NZAI was invited to help with the refining of the English to Chinese translation, and also performed the back-translation from the initial Chinese version of the questionnaire to English to assess if the meanings were lost in the translation. One marketing practitioner from Sina Corporation offered her view on the content

and relevance of the study and critiqued the questionnaire from a managerial perspective (i.e., advised on manipulation threshold for the number of followers/postings). Their constructive recommendations, based on their knowledge of the academic literature and their practical experience, was used in the preparation of the questionnaire for the field pre-test.

### 5.8.2. Field Pre-test

The main purpose of the pre-test was to assess the workability of the construct manipulation for the experiment. Because the validity of the scales for each construct of interest (e.g., bridging and bonding social capital and emotion) has been established in a range of previous literature, and there were resource and time constraints on the recruitment of participants online, these measurement scales were not included in the pre-test.

The field pre-test adopted a snowballing technique in recruiting participants. The survey link was published on the researcher’s personal Weibo account and shared among the researcher’s followers and their extended social network. 486 Weibo users opted into the pre-test and 120 of them passed the screening criteria and fully completed the pre-test experiment. The pre-test was a 2x2 balanced design, with 30 participants per experimental condition. Participants were randomly assigned to one of four conditions in the 2 (bridging social capital: higher number of follower than participants vs. lower number of followers than participants) by 2 (bonding social capital: higher number of postings than participants vs. lower number of postings than participants) between – subjects design (see Table 5.14). This is a reasonably large sample size, which allows for statistical analysis to be undertaken. The pre-test took each subject approximately 7.5 minutes to complete, which was within expectations.

Table 5.14: Pre-test Design: 2 × 2 Full-Factorial Experimental Design

		<b>Concept: Bridging Social Capital</b>	
		<b>Operationalisation: The Number of Followers</b>	
		<b>Lower</b>	<b>Higher</b>
<b>Concept:</b> Bonding Social Capital	<b>Lower</b>	Scenario 1 (n=30) <i>Lower number of followers &amp; Lower number of postings</i>	Scenario 2 (n=30) <i>Higher number of followers &amp; Lower number of postings</i>
	<b>Higher</b>	Scenario 4 (n=30) <i>Lower number of followers &amp; Higher number of postings</i>	Scenario 3 (n=30) <i>Higher number of followers &amp; Higher number of postings</i>

The key objective of the pre-test was to establish the validity of each experimental condition, therefore key manipulations in the pre-test were the number of followers and the number of postings (see Appendix III). Specifically, in order to make participants to feel the difference between them and the hypothetical users, this pilot study followed Weber's Law (just-noticeable difference) in order to set up the difference threshold for manipulation of two indices. The researcher set the first set of just-noticeable difference ratios at 50% as commonly adopted (e.g., Seashore, 1908). For example, if the participant's number of followers is set at 100, then that of his/her hypothetical follower was set at 50 (for lower number of followers' experimental condition) or 150 (for higher number of followers' experimental condition). In addition, another set of just-noticeable ratios was adopted based on recommendation from an industry practitioner who works in Weibo, which is 10 times more/less.

The manipulation check shows that at 50% difference, participants were able to tell the differences between their bridging/bonding social capital and their counterpart's (i.e., the hypothetical Weibo follower). For example, the manipulation check question for bridging social capital states that "*I perceive his/her level of social influence is greater than me.*" Using a 10-point scale, where 1=strongly disagree and 10=strongly agree, the mean for the higher bridging social capital manipulation is 4.52, and for the lower bridging social capital 5.58). The difference is statistically significant ( $t = 2.697$ ,  $p\text{-value} = 0.008$ ). However, the statistically significant difference has no practical relevance because a mean of 5.58 (out of 10) does not suggest that the manipulation has been successful in convincing participants to believe that by having 50% more followers is significantly more influential than the hypothetical user. A similar pattern of results was received from the bonding social capital manipulation.

The 10 times ratio manipulation provided a more promising result: in this case the mean for the higher bridging social capital manipulation is 4.48, and 7.6 for the lower bridging social capital, the difference is not only statistically significant ( $t = 7.032$ ,  $p\text{-value} < 0.000$ ) but also practically meaningful. A similar pattern of results was received from the bonding social capital manipulation. Therefore, the ratio of 10 is a better multiplier for the manipulation of experimental conditions, and was adopted for the main experimental design.



## 5.9. Administration of Online Experiment – Data Collection

### 5.9.1. Research Setting

The research setting for this research is in Sina Weibo (literally "Sina Micro blog," short for Weibo). Weibo is constructed as a hybrid of Twitter and Facebook, it is one of the most popular sites in China, with a market penetration (over 30% of internet users) similar to that established by Twitter in the U.S (Rapoza, 2011). It was launched by Sina Corporation in August 2009, and as of October 2011 had more than 250 million registered users (Michelle and Uking, 2011). To the last quarter of 2014, it has researched approximately 500 million registered users (Smith, 2015). According to iResearch's (iResearch is a leading and one of the most reputable organisations focusing on in-depth research in China's internet industry) report in March, 2011, Weibo had over 55% of China's SNSs market based on active users and over 85% based on browsing time, substantially more than rivals such as Tencent Weibo (iResearch, 2011). Sina reported that the top 100 users had over 485 million followers combined, and more than 5,000 companies (including both domestic and international) and 2,700 media organisations in China use Weibo (Enterprise Weibo, 2013).

By examining this Chinese networking community, it is easy to include a large base sample, which increases the generalisability of the study outcomes for Chinese virtual communities. Weibo offers a function that allows both individual customers and businesses to follow each other. Weibo is different from services such as Facebook, which primarily connects people or businesses with small social distance (i.e., those who have had previous interactions or know each other). The majority of the connections in Weibo are established accidentally (without previous experience); therefore the social distances are relatively larger than those being bridged in Facebook. Because social distance is relatively larger in an anonymous community setting, a lack of reciprocity is expected. For example, for two strangers, *A* follows *B* on Weibo, the affective dimension of social distance would be minimal, hence there would be a low level of feelings of indebtedness to follow back unless there were other motivational cues, such as finding a common interest (i.e., perceived mutual benefits) or an increased social capital (i.e., a personal interest to gain access to other people's network). The traditional social distance literatures are mainly about physical world interactions, such as the affective, normative and interaction dimensions, but in a virtual environment many of these dimensions cannot be measured directly, therefore the concept of social capital is instead used to determine the psychological distance between users.

### **5.9.2. Sampling Frame**

The basic criteria for a representative sample of Weibo users across 35 provincial areas in China were having had an account for personal use for at least 6 months and being aged over 18. This ensured that participants had adequate user experience. Other criteria included obtaining a range of perspectives and a cross-section of online population, a mix of genders, regions and age groups. In terms of the sample size requirement, two aspects are taken into consideration. Firstly, based on Simmons et al.'s (2011) recommendations the 2x2 experimental design needed 20 in each cell, hence each experimental scenario needed a minimum of 80 participants, and therefore four scenarios need a total minimum of 320. Secondly, according to Hair et al. (2006), given the number of observed (24) and latent variables (3) in the proposed structural equation model, the anticipated effect size (0.5), the desired probability (0.8) and statistical power levels ( $p\text{-value} = 0.05$ ), and the structural complexity of the model, a minimum sample size of 700 was required. Therefore it was intended that a minimum of 700 participants would be used for this research.

### **5.9.3. Justification for an Online Method**

The purpose of this research is to investigate SNS users' online behaviour, therefore when the internet has already become part of their life carrying out the research online represents a natural progression. According to iResearch (2012), Weibo has more than 500 million registered users which accounts for over 40% of the internet users, and holds 90% of micro-blogging services in China (Smith, 2015). Therefore, in this research, an online based questionnaire was feasible and was adopted, and using the internet to collect data meant that it was relatively easy to acquire large numbers of participants from a wide spread of geographic locations in a short period of time. Further, and using a larger sample, the researcher could better understand public interests and generalise the results. To ensure the quality of the response, the field data collection agency needed to have a high-quality sample in the panel, and the field agency took responsibility for authenticating each potential user's Weibo account to minimise their likelihood of providing non-serious results, as the incentive would not be allocated if the quality check was not passed.

#### **5.9.4. Method of Administration**

An external field company was contracted to administer the online questionnaire. Research Now (RN, a subsidiary of the e-Rewards Company) was chosen to be the provider of these services based on its strong market presence, competitive rates, and most importantly, its adequate sample size and structure. According to RN, its panels are exclusively for online research only, are deeply profiled and have been built to the same consistent model across countries, ensuring consistency in results and an objective presentation of clients' survey to respondents. By 2013, RN had 262,243 registered active members (16 years and older) across China, and the composition of their sample base has a similar distribution to that of iResearch surveyed in 2012, hence the representativeness of the study sample. RN was responsible only for scripting the questionnaire into the web-based browser, recruiting participants based on the sampling criteria requested and providing raw data in SPSS format.

The final questionnaire used for the online research was based on the questionnaire used during the pre-test. Some questions' wordings (translation) and structures were altered based on discussions and comments from the expert panel pre-test and pre-test. The final questionnaire was given to the RN team in China and a process of refinement was undertaken to achieve a satisfactory online format. This included the checking of the wordings, font sizes, the layout of the questions, the randomisation of the sections, the logical flow of the questions, and an adaptable format for mobile devices. Once the questionnaire had been approved in its final format through the trial link by the researcher and an academic from the NZAI, RN was given the permission to recruit participants and launch the study on a small scale to check the basic quality. The first 30 samples collected were used to check if the data collected is in a sound format and as there were no issues identified the full scale launch followed.

### 5.10. Analytical Techniques for Experimental Design

Two-way Analysis of Variance (ANOVA) is appropriate for the statistical test of the experiments in this research, because it determines how a response is affected by two factors. For both experiments SPSS 21 was used to produce the two-way ANOVA table. In the experimental design part of this research, bridging social capital has been operationalised as the number of followers and bonding social capital has been operationalised as the number of postings/comments. Therefore the number of followers and the number of postings/comments are two factors that directly affect the dependent variable – likelihood of reciprocity. In order to determine the effects of different combinations of the level of number of followers and number of postings/comments, each factor had two levels within it (e.g., more vs. fewer followers and more vs. fewer postings). There were three questions two-way ANOVA simultaneously asked:

1. Does the first factor systematically affect the results? In this case: Are the mean responses towards the likelihood of reciprocity the same for both more and fewer followers? For example:

*H1: Bridging social capital (the number of followers) has a positive relationship with the likelihood of reciprocity.*

2. Does the second factor systematically affect the results? In this case: Are the mean responses towards the likelihood of reciprocity the same for both more and fewer postings? For example:

*H2: Bonding social capital (the number of postings) has a positive relationship with the likelihood of reciprocity.*

3. Do the two factors interact? In this case: Does the impact of the number of followers on reciprocity depend on the level of the number of postings, and vice versa? For example:

*H3a: Discrepancies in bonding social capital (the number of postings) between two social network users will not interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity.*

## **5.11. Analytical Techniques for Conceptual Model Testing**

### **5.11.1. Structural Equation Modelling in AMOS**

To analyse the relationships among the various constructs in the proposed models, structure equation modelling (SEM) was used as the key statistical technique. The first stage of the analysis provided a thorough examination of the measurement model via confirmatory factor analysis, and AMOS 21 was used to conduct this analysis on each reflective construct (i.e., bridging social capital, bonding social capital and emotion), thus providing a “stricter interpretation of unidimensionality” (Anderson and Gerbing, 1988, p. 186); whereas the second stage provides a more specific examination of the measurement model and the hypothesised relationships.

AMOS is an alternative SEM program to the well-known LISREL (Joreskog and Sorbom, 1989) software packages. Its reliability in terms of computation relative to other well-known programs has been established by its use in many published studies (e.g., Arbuckle, 1994; Brill, 1994). In terms of estimation algorithm, this research uses maximum likelihood estimation procedures to estimate the free parameters of the model, such an approach being recommended when test of theory is being performed (Anderson and Gerbing, 1988; Hair et al., 2006). In addition, maximum likelihood estimation procedures have been found to be less sensitive to the assumption of non-normality (Browne, 1984; Chou and Bentler, 1995). The input matrix for SEM was a variance-covariance matrix, because similarly to the previous reason in selecting estimation algorithm, a variance-covariance matrix should be used when the researcher seeks to provide a true test of theory which seeks to validate the causal relationships in the model (Hair et al., 2006). AMOS computes the covariance among the measures based on maximum likelihood estimates, and compares these computations with the sample covariance (Brill, 1994). Consequently, the hypothetical paths of the structural model were tested based on the theoretically hypothesised and justified relationships (see §4.5).

#### ***Advantages of Structural Equation Modelling***

There are three main advantages of using SEM for the purpose of this research. Firstly, a key point of differentiation between SEM and other multivariate techniques (e.g. regression) is its ability to estimate the impact of multiple dependent variables within a single model (Hair et al., 2006). When using SEM a dependent variable in one structural path may convert to an

independent variable in the next set of relationships. For example, the model predicts that bridging social capital (independent variable) will have a positive relationship with emotion (dependent variable). Subsequently, in the next path of relationships emotion (treated as an independent variable) is posited to have a positive relationship with reciprocity (dependent variable). This allows more complex modelling of relationships to provide a more realistic reflection of theory on this matter.

Secondly, SEM incorporates the ability to represent unobserved concepts (i.e., latent constructs), and their relationships, through the use of multiple indicators. The use of multiple indicators allows more precise specification of results, as it does not place total reliance on a single response. The guiding premise is therefore that multiple responses more accurately reflect the true response than does a single measure (Hair et al., 2006). Additionally, they enable the establishment of the convergent and discriminant validity of measures (Selltiz, Wrightsman and Cook, 1976).

Lastly, SEM enables the researcher to test the theoretical structure of a construct or nomological network of constructs for measurement error, which is a key advantage that distinguishes SEM from path analysis and multiple regressions which do not take measurement error into account (Hair et al., 2006; Steenkamp and van Trijp, 1991; Schumaker and Lomax, 2004). In light of these advantages, structural equation modelling is widely regarded as the key methodological approach to theory development and testing (Anderson and Gerbing, 1988; Hair et al., 2006; Steenkamp and Trijp, 1991), and it was deemed appropriate for this research.

### **5.11.2. Measurement Evaluation and Refinement**

This research adopted Anderson and Gerbing's (1988) analytical approach, a two-stage modelling strategy. The first stage involved the evaluation and refinement of the reflective measures being used. The second stage involved evaluating model goodness of fit for the proposed conceptual model, and testing the hypotheses. Thus, the first important step to take before the conceptual model was tested in SEM was to examine the validity, reliability and dimensionality of the scale measures.

### ***Convergent Validity***

Convergent validity refers to the degree to which two measures designed to measure the same construct are related (Netemeyer et al., 2003). Therefore, convergent validity is established when two different measures of the same construct are highly correlated (Netemeyer et al., 2003). Specifically, this research focuses on the within method convergent validity measure (Steenkamp and Trijp, 1991). According to Steenkamp and Trijp (1991), to infer within method validity the factor regression coefficients for each construct should exceed the 5% significance level; therefore, the individual indicator coefficient for each of the constructs used in this research was carefully assessed for within method convergent validity.

### ***Discriminant Validity***

Discriminant validity is indicated by “predictably low correlations between the measure of interest and other measures that are supposedly not measuring the same variable or concept” (Heeler and Ray, 1972, p. 362). And it is used to assess the degree to which two measures designed to measure similar but conceptually different constructs are related (Campbell and Fiske, 1959; Netemeyer et al., 2003). The researcher treats two type of social capital as separate reflective constructs and recognises that they are not mutually exclusive. Specifically, discriminant validity is of particular importance when examining the constructs of bridging social capital and bonding social capital, as these constructs are part of the multifaceted concept of social capital.

To test the discriminant validity for all reflective measures, two tests were implemented. Firstly, Fornell and Larcker’s (1981) test was used to inspect whether average variance extracted for each construct is greater than the squared correlation between that construct and any other constructs in the model. Secondly, another test suggested by Anderson and Gerbing (1988) was used to further test discriminant validity: this test constrains the estimated correlation parameter between pairs of constructs to one and then performs a Chi-square difference test on the values obtained for the constrained and unconstrained models. The fit statistics of these models are then compared, and if the fit for the unconstrained model is best, then the evidence suggests that the two constructs are distinct and separate, and discriminant validity is thus achieved (Bagozzi and Phillips, 1982).

### ***Construct Dimensionality***

Both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to refine and determine the dimensionality of the measurement scales. This is particularly important for the modified bridging and bonding social capital scales, which are informed by the findings from the exploratory research, therefore both of these two measures are subject to an EFA. The goal of this EFA was to assess the workability of the new scales. It was followed by a CFA, to further assess the unidimensionality of each reflective construct. In a CFA, all reflective constructs in the model are allowed to correlate. If the model fits well, the items load on the intended constructs, and inter-construct correlations are significantly different from 1, then evidence of unidimensionality is established (Bollen and Lennox, 1991).

### ***Reliability***

One common measure used to estimate the reliability of reflective indicators is Cronbach's alpha. However, the use of Cronbach's alpha as a measure of reliability with regards to SEM has been criticised because in models it often provides an unreasonable estimate (Joreskog, 1971; Bollen, 1989). Given the abovementioned shortcoming of Cronbach's alpha in SEM, two other alternative measures proposed by Hair et al. (2006) were used, which are Composite Reliability (CR) and Average Variance Extracted (AVE) value.

Firstly, by using CR the loading matrix is specified, and an error term for each reflective construct indicator is also calculated. During the estimation of the structural and measurement models process, the loading coefficients provide estimates of the reliabilities of the indicators and of the overall construct (Hair et al., 2006). In this approach, the researcher had no impact on the reliability value used in estimation of the model except in providing the sets of indicators (Hair et al., 2006), and there was no theoretical justification for using researcher-specified reliabilities in this research. Hence, the reliability estimate was obtained through an objective calculative process. Secondly, the AVE value was used as another form of evidence for construct reliability and is considered complementary to the composite reliability measure; the AVE represents the overall amount of variance in the indicators (reflective items) accounted for by the latent construct (Hair et al., 2006). Thus, higher AVE value occur when the indicators are truly representative of the latent construct, and vice versa (Hair et al., 2006).



### **5.11.3. Construct Validity**

Construct validity concerns whether a measure relates to other observed variables in a way that is consistent with theoretically derived predictions (Bollen, 1989; Bagozzi, 1994; Churchill and Iacobucci, 2002; Netemeyer et al., 2003). These theoretically derived predictions are based upon the hypotheses formed between constructs which may be positive or negative or which may suggest no relationships between the variables of interest (Bollen, 1989). Based on these theoretically derived predictions, the relationship between the two constructs of interest should parallel existing theoretical evidence. To the extent that this is achieved, one can infer construct validity (Bollen, 1989).

The issue of understanding and correctly measuring construct validity has remained contentious for social science researchers, with strong disagreement regarding the types and appropriate classification of validity “that fall under the rubric of construct” (Netemeyer et al., 2003, p. 11). There is no one empirical test that determines construct validity, however the process begins with postulating theoretical relations between constructs. Thus, evidence of construct validity can be assessed by examining the relationship between a measure of one construct and variables indicating other constructs, and comparing the association to the theoretically specified association between variables.

However, it has been found that there is a flaw in this method in SEM, which is that the correlation in question depends on the validity of the focal measure, the correlation of the latent construct with other construct, the reliability of the measure for the other construct, and the presence of correlated measurement errors collaboratively (Bollen, 1989).

Construct validity was therefore examined through comparison of the actual and hypothesised relationships, and by testing competing hypotheses. Additionally, other complementary measures discussed in previous sections helped to better justify the presence of construct validity. However, because of the limitations listed above, construct validity assessments will be illustrative and the tentative findings should not be considered decisive evidence of the presence of construct validity.

#### 5.11.4. Common Method Bias

The conceptual model testing stage of this research is used to examine theorised relationships. Data is obtained through an experimental design using a self-administered online survey. Surveys have important strengths that are quite appealing, such as the ability to efficiently obtain large samples and to generalise findings across multiple populations (Craighead et al., 2011). However, surveys are also prone to certain problems including common method bias (CMB) – “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff et al., 2003, p. 879) and it often refers to a bias in the dataset due to factors that are external to the measures (Lindell and Whitney, 2001), (e.g., research settings, self-reporting bias, common scale format, and social desirability etc. (Podsakoff et al., 2003)). For example, in this research, collecting data using a single (common) method (i.e., an online survey), may introduce systematic response bias that will either inflate or deflate responses (Podsakoff et al., 2003; Craighead et al., 2011).

A research that has significant common method bias is one in which a majority of the variance can be explained by a single factor (Podsakoff et al., 2003). There are several statistical remedies to detect for any possible CMB. A *post hoc* Harman one-factor analysis is often used to check whether variance in the data can be largely attributed to a single factor. Specifically, this method loads all items from each of the constructs into an exploratory factor analysis (EFA) to see whether one single factor does emerge or whether one general factor does account for a majority of the covariance between the measures; if not, the claim is that CMB is not a pervasive issue (Podsakoff et al., 2003; Craighead et al., 2011).

Podsakoff et al. (2003) suggested that the best way to avoid or minimise any potential CMB is to collect measures for different constructs from different sources. In this research, it is impossible to collect the independent variables (e.g. social capital and emotion) and dependent variable (e.g. reciprocal behaviour – following back) from different sources. However, the dependent variable is collected first in the experiments then the independent variables are collected from additional information after the experiment. In addition, respondents are assured of the anonymity and confidentiality of the research, which could potentially reduce CMB (Podsakoff et al., 2003).

### 5.11.5. Evaluating Model Goodness of Fit

Goodness of fit indicators measure the similarity between the observed input covariance matrix and the predicted covariance matrix (Hair et al., 2006) from the proposed model, which includes three types: 1) Absolute fit measures<sup>1</sup>; 2) Incremental fit measures<sup>2</sup>; and 3) Parsimonious fit measures<sup>3</sup> (Ho, 2013). It is important to examine a diverse array of its measures as researchers have suggested that no single measure emerges as the key measure of goodness of fit (Hair et al., 2006; Schumaker and Lomax, 2004). Thus, a range of fit measures will be examined for the customer-brand relationship model.

For illustrative purposes Table 5.15 provides an overview of the goodness of fit statistics below. As noted by Hair et al. (2006), there are important distinctions to be made when interpreting the type of fit measure from the analysis, specifically, when a competing model is introduced, parsimonious fit measures will be reported for model comparison.

Table 5.15: Measures of Goodness of Fit

Goodness of Fit Measure	Interpretations	Threshold Level
<b>Measures of Absolute Fit</b>		
<b>Chi-square statistic</b>	Indicates the degree of statistical difference between the estimated and observed variance-covariance matrices.	Chi-square: <i>p-values</i> > 0.05 indicate a good model fit.
<b>Goodness of fit index (GFI)<sup>4</sup></b>	Represents the overall degree of fit of the squared residuals for the estimated and observed data models.	Non-statistical measure ranging from 0 = poor and 1 = perfect fit; GFI closes to 0.95 = good fit.
<b>Root mean square residual (RMSEA)</b>	Seeks to measure the discrepancy per degree of freedom.	<i>RMSEA</i> < 0.05 indicates excellent fit; <i>RMSEA</i> < 0.10 is acceptable.

<sup>1</sup> Absolute fit: It measures assess the degree to which the overall model (both structural and measurement models collectively) predicts the observed variance-covariance matrix, with no adjustment for the degree of over fitting that might occur (Hair et al., 2006).

<sup>2</sup> Incremental fit: It measures compare the proposed model to a baseline/null model (Hair et al., 2006).

<sup>3</sup> Parsimonious fit: It measures “adjust” the measures of fit to provide a comparison between models with differing numbers of estimated coefficients in order to determine the amount of fit achieved by each estimated coefficient (Hair et al., 2006).

<sup>4</sup> The data is expected to have missing values, therefore GFI will not be available after the estimations for missing values are introduced.

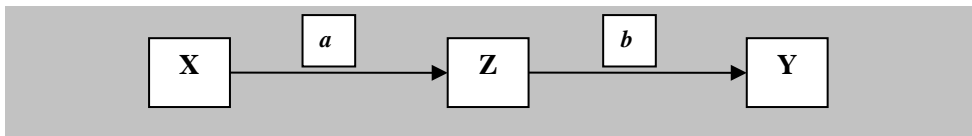
Goodness of Fit Measure	Interpretations	Threshold Level
<b>Incremental Fit Measures</b>		
<b>Adjusted goodness of fit index (AGFI)</b>	An extension of the GFI, which is, adjusted for degree of freedom between the estimated and observed covariance models.	$AGFI > 0.9$ = good fit.
<b>Tucker Lewis index (TLI)</b>	This measure is used to compare alternative models or a proposed model against a null model.	$TLI > 0.95$ = good fit; value between 0.90 and 0.95 provide a satisfactory model fit
<b>Normed fit index (NFI)</b>	Provide a relative comparison between the proposed model and the null model.	$NFI > 0.95$ = good model fit; value between 0.90 and 0.95 provide a satisfactory model fit.
<b>Comparative fit index (CFI)</b>	Measure the improvement in non-centrality between the estimated and observed models.	$CFI > 0.95$ ; value between 0.90 and 0.95 provide a satisfactory model fit.
<b>Incremental fit index (IFI)</b>	Measures the improvement in non-centrality between the estimated and observed models.	$IFI > 0.95$ ; value between 0.90 and 0.95 provide a satisfactory model fit.
<b>Model Parsimony Measures</b>		
<b>Normed Chi-square</b>	Provides an overall indicator of the appropriateness of the model, which is calculated as a ratio of the Chi-square divided by the degrees of freedom.	A normed Chi-square value $> 1$ suggests the model is over fitted; a normed Chi-square value $< 1$ suggests the model is not representative of the data.
<b>Akaike information criterion (AIC)</b>	Provides an indicator of model fit and model parsimony.	AIC value closer to 0 indicates better model fit and better parsimony.
<b>Parsimonious fit index (PFI)</b>	Takes into account the number of degree of freedom used to achieve a level of fit – thus is used to compare the fit of alternative structural models. Parsimony is defined as the higher degree of fit per degree of freedom used.	$PFI \geq 0.6$ indicates substantial differences between models.

Source: Anderson and Gerbing, 1988; Hair et al., 2006; Ho, 2013; Hu and Bentler, 1995; Schumaker and Lomax, 2004.

### 5.11.6. Testing Mediation Effects

Mediation is a hypothesised causal chain in which one variable (e.g.,  $X$ ) affects a second variable (e.g.,  $Z$ ) that, in turn affects a third variable (e.g.,  $Y$ ). Since  $Z$  intervenes the effects, it becomes the mediator. It mediates the relationship between a predictor,  $X$ , and an outcome,  $Y$ . (Newsom, 2010). The mediation path is graphically illustrated in Figure 5.4. Paths  $a$  and  $b$  are named direct effects; the mediation effects in which  $X$  causes  $Y$  through  $Z$  is named the indirect effect. Therefore, the indirect effect signifies the portion of the relationship between  $X$  and  $Y$  that is mediated by  $Z$  (Newsom, 2010).

Figure 5.4: Mediation Paths

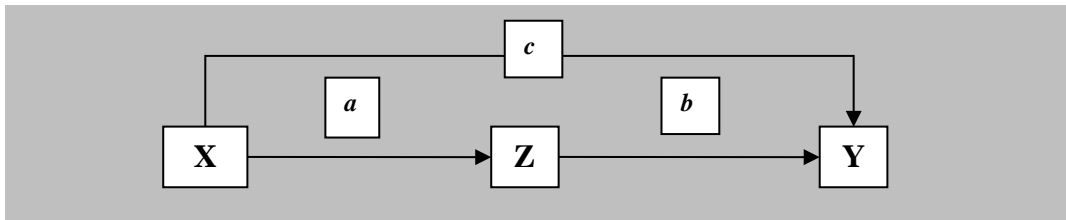


Source: Newsom (2010)

### Testing for Mediation

To test for mediation, the researcher follows Baron and Kenny's (1986) procedures, which is a four-step approach. It involves conducting several regression analyses and the significance of the coefficients is examined at each step. The path diagram (see Figure 5.5) with the descriptions below (see Table 5.15) details the whole process of testing for mediation. As specified by Hair et al. (2006), AMOS has the capability of running the mediation effects test without conducting multiple simple regressions, and it is adopted for this research.

Figure 5.5: Testing for Mediation



Source: Baron and Kenny (1986)

Table 5.16: Procedures for Testing for Mediation

Procedures	Analysis
<b>Step 1</b>	Conduct a simple regression analysis with X predicting Y to test for path <i>c</i> alone
<b>Step 2</b>	Conduct a simple regression analysis with X predicting Z to test for path <i>a</i>
<b>Step 3</b>	Conduct a simple regression analysis with Z predicting Y to test the significance of path <i>b</i> alone
<b>Step 4</b>	Conduct a multiple regression analysis with X and Z predicting Y

Source: Adopted from Baron and Kenny (1986)

According to Baron and Kenny (1986) the purpose of Steps 1-3 is to found that zero-order relationships among the constructs exist. Researchers usually conclude that mediation is not possible if one or more of these relationships are non-significant. If significant relationships are established from Step 1 through 3, researchers can proceed to Step 4. In the final step, if the effect of *Z* (*path b*) remains significant after controlling for *X*, weak mediation is found. If *X* becomes non-significant when *Z* is controlled, full mediation is supported. If *X* is still significant (i.e., both *X* and *Z* significantly predict *Y*), the finding supports partial mediation (Baron and Kenny, 1986).

## 5.12. Chapter Summary

This chapter provides a detailed research plan to empirically and quantitatively test the hypotheses generated in the previous chapter. The empirical part of this research is conducted in two sequential stages with different approaches. The first stage focuses through experimental design on the effect of cognitive evaluations of social capital on the likelihood of reciprocity. And the second stage of the empirical investigation includes the emotional perspective in a conceptual modelling test.

The objective of the experiment (§5.3) is to show that the bridging social capital (i.e., the number of followers) and bonding social capital (i.e., the number of postings/comments) have a positive impact on the likelihood of reciprocity among SNS users. The concepts of bridging social capital and bonding social capital have been identified in the exploratory research (see Chapter 3) and these concepts are operationalised by manipulating the number of followers and the number of postings/comments, respectively.

The first experiment is designed to capture this indirect form of reciprocity through inferred value embedded in bridging and bonding social capital (i.e., the number of followers/postings),

and in order to assess the direct form of reciprocity, and the second experiment is designed to incorporate bonding activities (i.e., direct exchange of information – comments) between users. Specific experimental designs for each experiment were outlined in Section 5.5.1 and 5.5.2.

The conceptual model was developed based on the findings from the exploratory research and previous literature. The exploratory findings suggest that social network users experience emotions, which when related to their responses to others' behaviour and intentions, matter. Therefore, emotional factors are introduced into the conceptual model (see §4.5: Figure 4.5) to assess firstly its direct impact on reciprocity and secondly, its mediation role between social capital and reciprocity. In order to test the proposed model, two sets of scales to measure social capital (i.e., measuring participants' perceptions toward the manipulation of social capital) in a social network setting were developed on the basis of Williams' (2006) Internet Social Capital Scale (§5.6.1), one scale for measuring the emotional construct was developed based on exploratory findings (§5.6.2) and a single-item scale for the measure of reciprocal behaviour was also developed (§5.6.3).

The questionnaire used in this research is composed of two major components: the experiment (scenarios testing) and subsequently the attitudinal self-report survey. Participant Information Sheets and Consent Forms were provided to both the data collection agency and participants (see Appendix IV). The detailed structure of the questionnaire is described in Table 5.12, Illustrative online screen shots of the online survey and a copy of the full questionnaire in English are attached in Appendix V. The questionnaire is pretested (§5.8) and administration of the questionnaire is detailed (§5.9).

In the experimental design part of this research, bridging social capital has been operationalised as the number of followers and bonding social capital has been operationalised as the number of postings/comments. Each factor has two levels, therefore Two-way Analysis of Variance (ANOVA) in SPSS21 is appropriate for the statistical test of the experiments in this research. To analyse the relationships among various constructs in proposed models, structure equation modelling (SEM) in AMOS 21 was used as the key statistical technique, and each component of the analysis was outlined. For example, measurement evaluation and refinement (§5.11.2), construct validity (§5.11.3), evaluating model goodness of fit (§5.11.4) and testing mediation effects (§5.11.5). The next chapter will present findings from the experimental research.

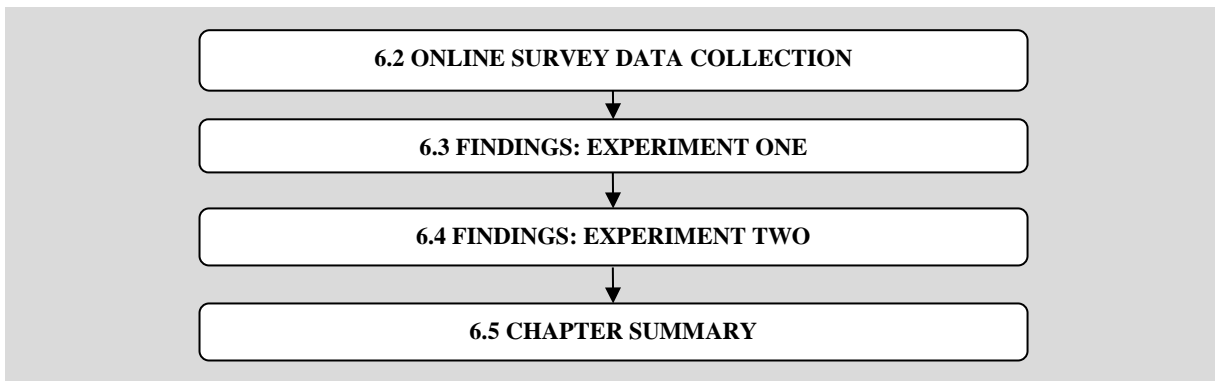
## CHAPTER 6: FINDINGS OF EXPERIMENTAL RESEARCH

### 6.1. Chapter Overview

This chapter provides findings for the two experiments conducted in this research, where Experiment One tests the impact of bridging social capital (i.e., the number of followers) and bonding social capital in its indirect form (i.e., the number of postings) on reciprocity. Experiment Two tests the impact of bridging social capital and bonding social capital in their direct forms (i.e., commenting) on reciprocity.

The structure of this chapter is presented in Figure 6.1. Specifically, this chapter first outlines the method for online data collection and the composition of the sample the representativeness of which is checked across regions (§6.2). Then the purpose, experimental design and related hypotheses of Experiment One, and its findings are presented with supporting evidence (§6.3). A similar process is followed for Experiment Two (§6.4). The chapter concludes with a summary of the key finding from the experiments (§6.5).

Figure 6.1: Structure of Chapter Six





## **6.2. Online Survey Data Collection**

44,320 invitations were sent out to people registered in ResearchNow's online panel in mainland China. Within five days, 2862 people had responded to the survey, which therefore yielded a response rate of 6.5%. 840 respondents met the research criteria (29% incidence rate), but 40 of them gave inconsistent answers provided through the survey and were deemed to be non-serious respondents, and therefore removed from analysis. The median time to complete the whole questionnaire (including providing data for two experiments and one attitudinal survey) was 16 minutes, and the mean was 20 minutes.

The sample included respondents from 26 out of the 35 provincial areas in China, therefore nine provincial areas were missed, mostly from the Western and Southwestern regions of China. This was not unexpected as these are the low economic growth areas with relatively low penetration of both internet and smartphones. This sample is representative of the Chinese social media community: it is large, randomly selected from the dominant social network, and covers the majority of the country.

### ***Sample Composition***

The sample composition is summarised in Table 6.1, which provides an overview of characteristics of the participants captured in this research. Participants were classified into five regions based on geographic locations, and a simple Chi-square test was performed to identify whether there were any discrepancies between the regions. The results showed that all regions had similar distributions in terms of participants' demographics on most criteria hence the sample's characteristics resembled those of Weibo users in mainland China.

Table 6.1: Summary of Sample Composition

		Northern China (n=304)		Eastern China (n=304)		Southern China (n=130)		Western China (n=62)		Total (n=800)	
<b>Generation</b>	Post 90's	10.2%	31	8.6%	26	11.5%	15	11.3%	7	9.9%	79
	Post 80's	54.3%	165	63.2%	192	61.5%	80	53.2%	33	58.8%	470
	Post 70's	24.0%	73	23.0%	70	24.6%	32	19.4%	12	23.4%	187
	Post 60's	8.2%	25	4.3%	13	2.3%	3	14.5%	9	6.3%	50
	Post 50's	3.3%	10	1.0%	3	0.0%	0	1.6%	1	1.8%	14
<b>Age</b>	(mean)	33		31		30		33		32	
<b>Gender</b>	Male	52.3%	159	44.7%	136	55.4%	72	64.5%	40	50.9%	407
	Female	47.7%	145	55.3%	168	44.6%	58	35.5%	22	49.1%	393
<b>Type of Account</b>	Ordinary personal account	82.2%	250	75.3%	229	77.7%	101	83.9%	52	79.0%	632
	Verified personal account	12.5%	38	21.7%	66	13.8%	18	9.7%	6	16.0%	128
	Personal account (V) with low level of business use	5.3%	16	3.0%	9	8.5%	11	6.5%	4	5.0%	40
<b>Weibo Adoption</b>	6-12 months	20.1%	61	19.4%	59	20.8%	27	16.1%	10	19.6%	157
	1-3 years	62.5%	190	60.9%	185	68.5%	89	64.5%	40	63.0%	504
	More than 3 year	17.4%	53	19.7%	60	10.8%	14	19.4%	12	17.4%	139
<b>Expertise in Weibo</b>	Low level of expertise	40.1%	122	34.5%	105	30.8%	40	51.6%	32	37.4%	299
	High level of expertise	59.9%	182	65.5%	199	69.2%	90	48.4%	30	62.6%	501
<b>Mobile Device Operating System</b>	Apple iOS	25.7%	78	21.1%	64	23.8%	31	11.3%	7	22.5%	180
	Android	65.5%	199	73.0%	222	71.5%	93	80.6%	50	70.5%	564
	Other	8.9%	27	5.9%	18	4.6%	6	8.1%	5	7.0%	56
<b>Level of Education</b>	Below Bachelor degree	16.1%	49	18.1%	55	23.8%	31	19.4%	12	18.4%	147
	Bachelor degree & above	83.9%	255	81.9%	249	76.2%	99	80.6%	50	81.6%	653
<b>Working Experience</b>	No working experience	6.3%	19	7.9%	24	7.7%	10	11.3%	7	7.5%	60
	Less than 1 year	3.9%	12	1.3%	4	5.4%	7	6.5%	4	3.4%	27
	1-3 years	14.1%	43	13.5%	41	23.8%	31	12.9%	8	15.4%	123
	3-10 years	43.1%	131	52.0%	158	41.5%	54	30.6%	19	45.3%	362
	More than 10 years	32.6%	99	25.3%	77	21.5%	28	38.7%	24	28.5%	228

### 6.3. Findings: Experiment One

### 6.3.1. Purpose of Experiment One

The primary purpose of Experiment One was to show that bridging social capital (by manipulating the number of followers) and bonding social capital (by manipulating the number of postings) have positive impacts on reciprocity. The researcher expected participants followed by strangers to show a greater tendency to follow back on those who had more followers than themselves, and to show a greater tendency to follow back on strangers who contribute highly to, and participate in social networks rather than those who are less socially bonded (i.e., lower number of postings).

### 6.3.2. Review of the Experimental Design and Hypothesis

In a 2×2 balanced design, participants were randomly assigned to one of four conditions (see §5.5.1: Table 5.1). Bridging social capital was manipulated at two levels. Specifically, experiment participants were shown a simulated user profile containing either a higher or lower number of followers than themselves. Similarly, bonding social capital was also manipulated at two levels, a simulated user with a higher or lower number of postings than the participant being presented in the same way. Participants were told that the simulated user profile represented a stranger they did not know. Under each condition, participants were instructed to assess the simulated Weibo user's profile relative to their own profile, and then asked questions about their likelihood of reciprocating (i.e., following back) an initiative from the simulated user. A set of hypotheses for Experiment One were developed based on literature review and primary qualitative exploratory research in Section 4.4, and a summary of the hypotheses can be found in Table 5.2 (see §5.5.1).

### 6.3.3. Analysis and Results

#### *Assumption Check*

Assumption checks were performed before the interpretation of the results; most of the assumptions were met (see Table 6.2), with the exception of normality. However, two-way ANOVA only requires approximately normal data, because it is quite robust to violations of normality (Hair et al., 2006), hence that the assumption can be somewhat violated, but still provide valid results.

Table 6.2: Summary of Assumption Checking

<b>Assumptions</b>	
<b>Independence of observation</b>	There was no relationship between the participants in each experimental condition or between the conditions themselves. There were different participants in each experimental condition with no participant being in more than one experimental condition.
<b>Normality</b>	Shapiro-Wilk Test was less than 0.05, and showed left skewed distribution, hence the data is not normally distributed.
<b>Equality of Variance</b>	Levene's Test of Equality of Error Variances, $p\text{-value} = 0.116$ , hence the assumption has been met.
<b>Absence of outliers</b>	No outlier was detected from the dependent variable (measured on a 1-10 point Likert scale).

### ***Manipulation check***

Manipulation checks were performed using independent sample t-tests to ensure that participants had perceived the manipulated differences in the numbers of followers (bridging) and postings (bonding). Manipulations for both bridging ( $t = 18.1$ ,  $p\text{-value} < .001$ ) and bonding ( $t = 6.7$ ,  $p\text{-value} < .001$ ) social capital showed significant results; hence the manipulations were successful in conveying the planned scenarios. It should be borne in mind that both bridging and bonding social capital were manipulated with a multiplier of 10, for example in a lower bridging social capital condition, if the simulated user A had 50 followers, the participant would have 500 followers. Likewise, in a lower bonding social capital condition if A had 50 postings, the participant would have 500 postings. From the manipulation results, it is evident that with the same multiplier ( $\times 10$ ), bridging social capital ( $t = 18.1$ ) showed a stronger effect than bonding social capital ( $t = 6.7$ ), which indirectly indicates the relative importance of the role bridging social capital plays in the decision making process.

### ***Hypothesis testing***

Hypothesis tests were conducted using a two-way ANOVA model. The ANOVA results (see Table 6.3) showed that the overall model is highly significant ( $F = 6.6$ ,  $p\text{-value} < 0.001$ ), allowing hypotheses tests to be conducted.

Table 6.3: Two-way ANOVA – Tests of Between-Subjects Effects for Experiment One

Dependent Variable: When A “followed” you, how likely would you be to follow A back?	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	72.200	3	24.067	6.629	.000
	37373.780	1	37373.780	10293.883	.000
Bridging Social Capital	52.020	1	52.020	14.328	<u>.000</u>
Bonding Social Capital	15.680	1	15.680	4.319	<u>.038</u>
Bridging Social Capital x Bonding Social Capital	4.500	1	4.500	1.239	.266
Error	2890.020	796	3.631		
Total	40336.000	800			
Corrected Total	2962.220	799			

### ***Hypothesis H1a***

Hypothesis *H1a* stated that discrepancies in bridging social capital would have a significantly positive direct effect on the likelihood of reciprocal action. The findings indicate strong support for Hypothesis *H1a* ( $F = 14.3$ ,  $p\text{-value} < .001$ ). Mean comparisons revealed that participants in the higher bridging capital condition (more followers) were significantly more likely to reciprocate than were those in the lower condition ( $t = 3.8$ ,  $p\text{-value} < .001$ ). Therefore, it is concluded that the greater the differential in bridging capital between two individuals, the more likely it is that the lower capital individual will reciprocate. Therefore, *H1a* is strongly supported.

### ***Hypothesis H2a***

Hypothesis *H2a* stated that discrepancies in bonding social capital would have a significantly positive direct effect on the likelihood of reciprocal action. The findings indicate significant support for Hypothesis *H2a* ( $F = 4.3$ ,  $p\text{-value} < .038$ ), although it is clear that the effects of bonding capital are smaller than those for bridging social capital. Mean comparisons revealed that participants were significantly more likely to reciprocate in the higher bonding capital condition (more postings) than in the lower bonding capital condition ( $t = 2.1$ ,  $p\text{-value} = .04$ ). Therefore, *H2a* is strongly supported.

### ***Hypothesis H3a***

Hypothesis *H3a* stated that there would be no significant interaction effects between bridging and bonding social capital on the likelihood of reciprocal action. The findings indicated that Hypothesis *H3a* is also supported (see Figure 6.2), with the two-way ANOVA indicating the lack of any significant interaction effect ( $F = 1.24$ ,  $p\text{-value} = .266$ ). Therefore, *H3a* is strongly supported.

### ***Hypothesis H4a***

Hypothesis *H4a* stated the greater the discrepancy in combined social capital (bridging/followers + bonding/postings) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual. Mean comparisons indicated that higher combined social capital leads to a higher likelihood of reciprocity.

Figure 6.2 shows mean results by scenario. In all conditions, higher discrepancies in bridging social capital dominated, consistently leading to a higher likelihood of reciprocity regardless of the level of bonding social capital. This comparison held true for Scenario 1 (lower bridging, lower bonding) vs. Scenario 2 (higher bridging, lower bonding) ( $t = 3.3$ ,  $p\text{-value} < .001$ ), as well as for Scenario 3 (lower bridging, higher bonding) vs. Scenario 4 (higher bridging, higher bonding) ( $t = 2.0$ ,  $p\text{-value} = .048$ ).

As expected, the effects are strongest when comparing the most extreme scenarios: Scenario 4 (highest combined social capital) vs. Scenario 1 (lowest combined social capital). The mean comparison of Scenarios 1 with Scenario 4 ( $t = 4.2$ ,  $p\text{-value} < .001$ ) showed that the reciprocity is significantly more likely to be triggered by the highest combined social capital. Therefore, Hypothesis 4a is strongly supported, further strengthening the broad finding that perceived social capital does affect reciprocity behaviours.

Figure 6.2: Profile Means for No-interaction Two-way ANOVA

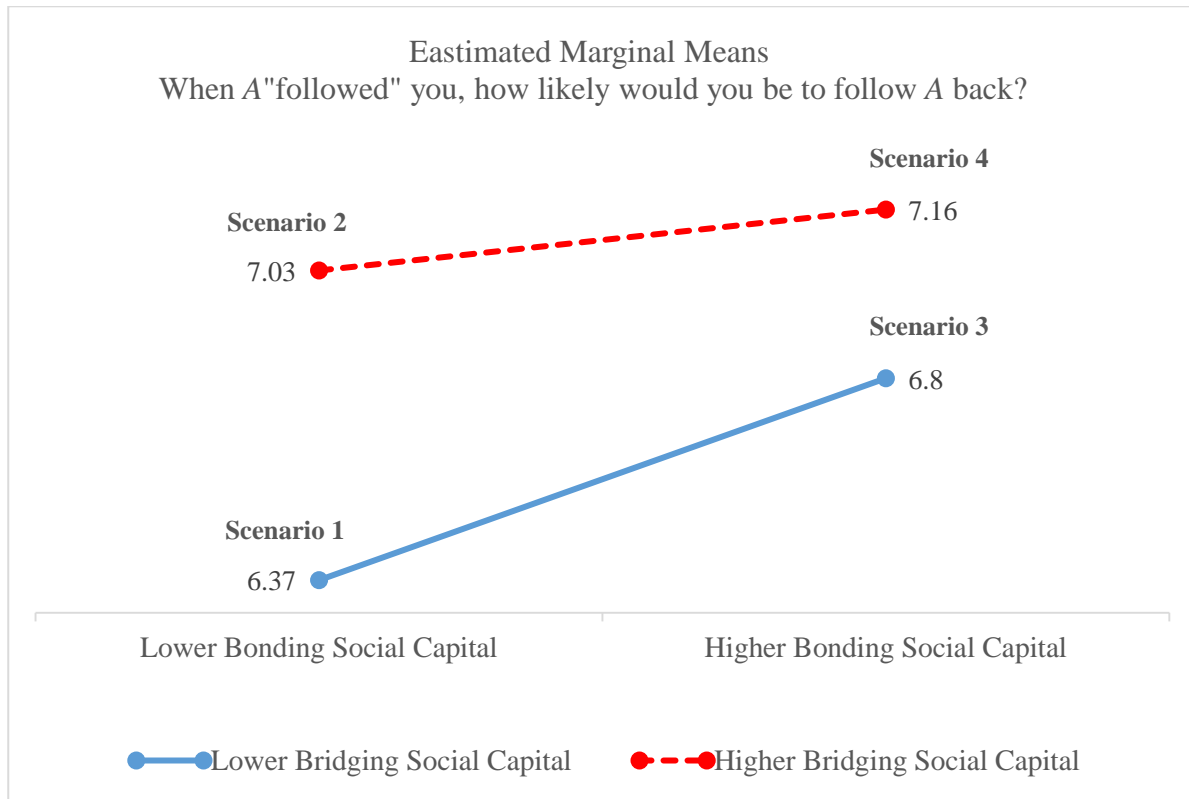


Table 6.4: A Summary of Hypotheses Results for Experiment One

Hypotheses	Results
<b>H1a</b> The greater the discrepancy in bridging social capital (the number of followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user	<b>Supported</b>
<b>H2a</b> The greater the discrepancy in bonding social capital (the number of postings) between two social network users, the greater the likelihood that the less-esteemed user will reciprocate an action from a more-esteemed user	<b>Supported</b>
<b>H3a</b> Discrepancies in bonding social capital (the number of postings) between two social network users will not interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity	<b>Supported</b>
<b>H4a</b> The greater the discrepancy in combined social capital (bridging/followers + bonding/postings) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual	<b>Supported</b>

Overall, all four hypotheses are strongly supported (see Table 6.4). The overall effect is shown in the finding that discrepancies in combined social capital affect the likelihood of reciprocity (more social capital generates more reciprocation). The impact of discrepancies in bridging social capital (i.e., the number of followers, or how many people you are connected with) on reciprocal behaviour is strongly supported. The impact of discrepancies in bonding social capital (i.e., the number of postings, or how much you have contributed to the community) also showed statistical significance, but it has less impact on the initial following back decision than bridging social capital. Finally, the result showed that bridging and bonding social capital have different effects, and do not interact, hence bridging social capital always has a stronger impact on reciprocity regardless of the level of bonding social capital.



## **6.4. Findings: Experiment Two**

### **6.4.1. Purpose of Experiment Two**

The primary purpose of Experiment Two was to show how bridging social capital and bonding social capital in its direct form (i.e., commenting activities) impact on the reciprocity. It is believed that direct interactivities among social media users are more likely to trigger reciprocal actions, hence, the effect of bonding social capital may be more influential than is suggested by the effects of its indirect form (i.e., the number of postings). Based on the exploratory research, the researcher also expected to find a potential interaction effect between bridging and bonding social capital as influences on the likelihood of reciprocity.

### **6.4.2. Review of the Experimental Design and Hypothesis**

In a 2×2 balanced design, participants were randomly assigned to one of four conditions (see §5.5.2: Table 5.4.). Bridging social capital was manipulated at two levels – a simulated user with higher or lower number of followers than the participant. Specifically, experimental participants were shown a simulated user profile containing either a higher or lower number of followers than themselves. In Experiment Two, participants and simulated users had the same number of postings, hence their contributions to the community were equal based on those quantities. In this case, bonding social capital was manipulated by being represented on the participants' original posting as commenting behaviours at two levels – long and detailed comments, or short and brief comments with limited detail.

Participants were told that the simulated user profile represented a stranger they did not know. A simulated social profile was shown to each participant with bridging social capital operationalised as the number of followers and bonding social capital operationalised in a more direct interaction form – comments on their postings clearly visible. Under each condition, participants were instructed to assess the simulated Weibo user's profile relative to their own profile, and review their comments before answering questions about their likelihood of reciprocating (i.e., following back)..

A set of hypotheses for Experiment Two were developed based on literature review and primary qualitative exploratory research in Section 4.4, and a summary of the hypotheses can be found in Table 5.5 (see §5.5.2).

### 6.4.3. Analysis and Results

#### *Assumption Check*

Assumption checks were performed before the interpretation of the results; most of the assumptions were met (see Table 6.5), with the exception of normality. As discussed before in Experiment One (see §6.3.3), two-way ANOVA is quite robust to violations of normality so that the validity of the results would not be a concern.

Table 6.5: Summary of Assumption Checks

<b>Assumptions</b>	
<b>Independence of observation</b>	There was no relationship between the participants in each experimental condition or between the conditions themselves. There were different participants in each experimental condition with no participant being in more than one experimental condition.
<b>Normality</b>	Shapiro-Wilk Test was less than 0.05, and showed left skewed distribution, hence the data is not normally distributed.
<b>Equality of Variance</b>	Levene's Test of Equality of Error Variances, <i>p-value</i> = 0.859, hence the assumption has been met.
<b>Absence of outliers</b>	No outlier detected from the dependent variable (measured on a 1-10 point Likert scale).

#### *Manipulation check*

Manipulation checks were performed using independent sample t-tests to ensure that participants had perceived the manipulated differences in the numbers of followers (i.e., bridging social capital) and the complexity of comments (i.e., bonding social capital).

Manipulations for both bridging ( $t = 10.5$ ,  $p\text{-value} < .001$ ) and bonding ( $t = 6.9$ ,  $p\text{-value} < .001$ ) social capital showed significant results; hence the manipulations were successful in conveying the planned scenarios.

**Hypothesis testing**

Hypothesis tests were conducted using a two-way ANOVA model. The ANOVA results (see Table 6.6) showed that the overall model is highly significant ( $F = 7.8$ ,  $p\text{-value} < 0.001$ ), allowing hypotheses tests to be conducted.

The result showed a significant interaction effect ( $F = 4.9$ ,  $p\text{-value} = 0.026$ ), which suggests that the effect of the bridging social capital (i.e., the number of followers) on reciprocity (i.e., likelihood of following back) depends on the level of bonding social capital (i.e., level of richness in comments) and vice versa (see Table 6.6 & Figure 6.3).  $H3b$  is therefore supported.

Rather than considering the main effects therefore, the focus for the interpretation of the results is the four simulated conditions.

Table 6.6: Two-way ANOVA – Tests of Between-Subjects Effects for Experiment Two

<b>Dependent Variable: When A “followed” you, how likely would you be to follow A back?</b>	<b>Type III Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Corrected Model	77.594a	3	25.865	7.754	.000
	43468.261	1	43468.261	13031.581	.000
Bridging Social Capital	38.281	1	38.281	11.477	.001
Bonding Social Capital	22.781	1	22.781	6.830	.009
Bridging Social Capital x Bonding Social Capital	16.531	1	16.531	4.956	<u>.026</u>
Error	2655.145	796	3.336		
Total	46201.000	800			
Corrected Total	2732.739	799			

Figure 6.3: Profile Means for Interaction Effects in Two-way ANOVA

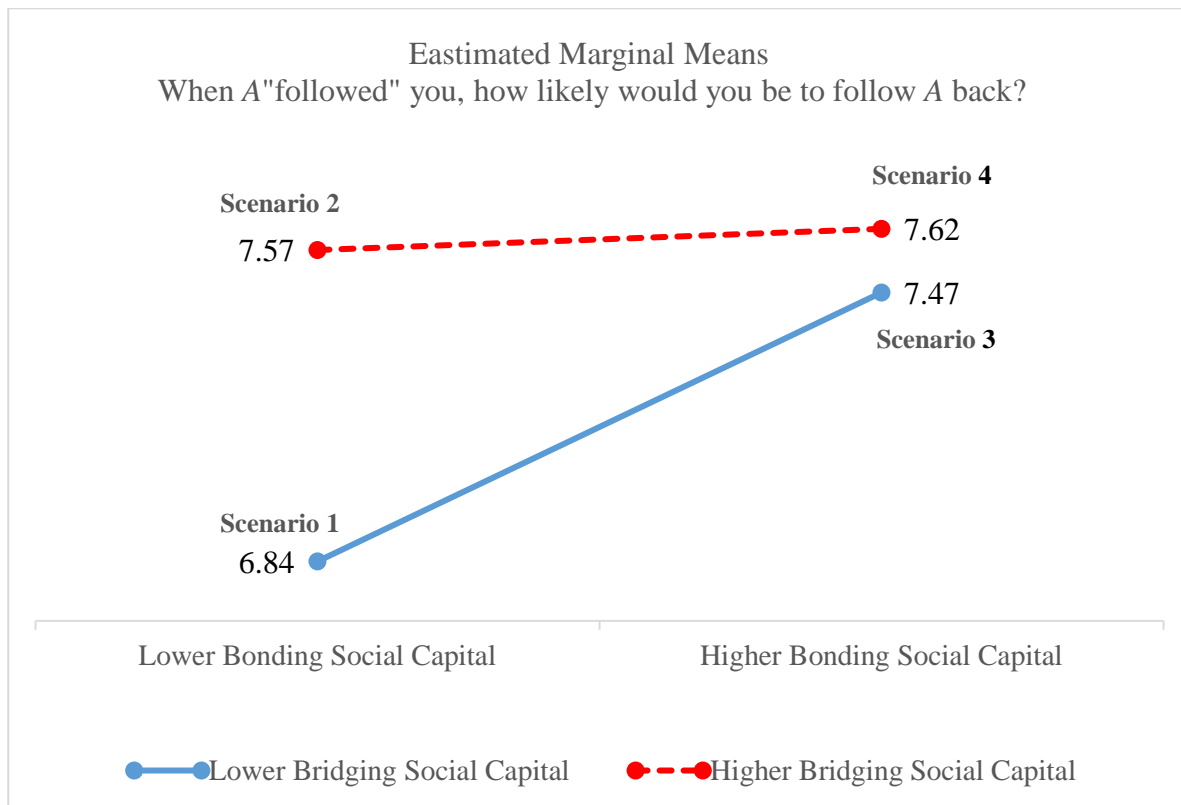


Figure 6.3 above shows the means for likelihood of reciprocation under four simulated scenarios. From examining the sample means, it appears that,

- Scenario 4: Higher bridging social capital (i.e., higher number of followers) and higher bonding social capital (i.e., long and detailed comments) have the highest likelihood of reciprocity rating of all groups (*mean* = 7.62);
- Scenario 1: Lower bridging social capital and lower bonding social capital (i.e., short and brief comments) have the lowest likelihood of reciprocity rating of all groups (*mean* = 6.84);
- There appears to be a significant difference between Scenario 2 and Scenario 1 (*mean comparison*: 7.57 vs. 6.84), which suggests that under lower bonding social capital condition, higher bridging social capital has a higher impact on reciprocity ratings than that of lower bridging social capital;
- There is little difference (non-significant) in reciprocity ratings between Scenario 4 and Scenario 3 (*mean comparison*: 7.62 vs. 7.47).

In all conditions, higher discrepancies in bridging social capital slightly dominated, and only leading to a significant higher likelihood of reciprocity under lower bonding social capital condition. This comparison held true for Scenario 2 (higher bridging, lower bonding) vs. Scenario 1 (lower bridging, lower bonding) ( $t = 3.9$ ,  $p\text{-value} < .001$ ). However no significant difference was found between Scenario 3 (lower bridging, higher bonding) vs. Scenario 4 (higher bridging and bonding) ( $t = .82$ ,  $p\text{-value} = .413$ ), hence the importance of higher bonding social capital in catalysing the positive effect of reciprocity is shown. This provides evidence to support *H3b*, suggesting the possibility of interaction effects.

In order to provide evidence for other hypotheses, further tests based on mean comparisons were performed.

### ***Hypothesis H1a***

Hypothesis *H1a* stated that discrepancies in bridging social capital would have a significant positive direct effect on the likelihood of reciprocal action. The findings indicate strong support for Hypothesis *H1a* ( $F = 11.5$ ,  $p\text{-value} = .001$ ). Mean comparisons revealed that participants were significantly more likely to reciprocate in the higher bridging capital condition (more followers) than in the lower condition ( $t = 3.4$ ,  $p\text{-value} < .001$ ). Therefore, it is concluded that greater the differential in bridging capital between two individuals, the more likely it is that the lower capital individual will reciprocate. Therefore, *H1a* is strongly supported, and this confirms the same finding in Experiment One

### ***Hypothesis H2a\****

Hypothesis *H2a\** states that the level of richness in bonding social capital (i.e., comments) would have a significant positive direct effect on the likelihood of reciprocal action. The findings indicate significant support for Hypothesis *H2a\** ( $F = 6.8$ ,  $p\text{-value} = 0.009$ ), although it is clear that the effects of bonding capital are smaller than those for bridging social capital. Mean comparisons revealed that participants were significantly more likely to reciprocate in the higher bonding capital condition (long and detailed comments) than in the lower capital condition (short and brief comments) ( $t = 2.6$ ,  $p\text{-value} = 0.01$ ). Therefore, *H2a\** is strongly supported.

**Hypothesis H4b**

Hypothesis *H4b* stated the greater the discrepancy in combined social capital (bridging/followers + bonding/comments) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual. Mean comparisons indicate that higher combined capital leads to higher likelihood of reciprocity. Figure 6.3 shows the mean results by scenario. As expected, the effects are strongest when comparing the most extreme scenarios: Scenario 4 (highest combined social capital) vs. Scenario 1 (lowest combined social capital). The mean comparisons of Scenario 1 and Scenario 4 ( $t = 4.2, p\text{-value} < .001$ ) showed that the reciprocity is significantly more likely to be triggered by the highest combined social capital. Therefore, Hypothesis *H4b* is strongly supported, further strengthening the finding in Experiment One.

Table 6.7: A Summary of Hypotheses Test Results for Experiment Two

	<b>Hypotheses</b>	<b>Results</b>
<b>H1a</b>	The greater the discrepancy in bridging social capital (the number of followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user	<b>Supported</b>
<b>H2a*</b>	Higher bonding social capital (long and detailed comments) leads to greater likelihood of reciprocity than lower bonding social capital (short and brief comments)	<b>Supported</b>
<b>H3b</b>	Differences in bonding social capital (comments) will interact with differences in bridging social capital (the number of followers) to affect the likelihood of reciprocity	<b>Supported</b>
<b>H4b</b>	The greater the discrepancy in combined social capital (bridging/followers + bonding/comments) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual	<b>Supported</b>

Note: \* represents the direct form of bonding which is used to distinguish it from the indirect form of bonding

Overall, all four hypotheses are supported (see Table 6.7). The overall effect is shown in the finding that discrepancies in combined social capital affect the likelihood of reciprocity (more social capital generates more reciprocation). Most importantly, results showed that bridging social capital (i.e., the number of followers) and bonding social capital (i.e., comments) have a significant interaction effect. It may be that higher bonding social capital could help to reduce the perception caused by lower bridging social capital and lead to higher levels of reciprocity.

## 6.5. Chapter Summary

This chapter provided findings for the two experiments conducted in this research. Participants were recruited from an online panel in China. 40 non-serious respondents were detected and removed, and the analysis was performed on the remaining 800 respondents. The sample was representative of the Chinese social media community: large, randomly selected from the dominant social network, and covering the majority of the country.

Experiment One (§6.3) tested the impact of bridging social capital (i.e., the number of followers) and bonding social capital in its indirect form (i.e., the number of postings) on reciprocity. Participants were randomly assigned to one of four conditions in a 2×2 balanced design. Under each condition, participants were asked questions about their likelihood of reciprocating an initiative from the simulated user. Manipulations for both bridging and bonding social capital were successful in conveying the planned scenarios. Overall, all four hypotheses are supported. The overall effect is shown in the finding that discrepancies in combined social capital affect the likelihood of reciprocity (more capital generates more reciprocation). The impact of discrepancies in bridging social capital on reciprocal behaviour is strongly supported. The impact of discrepancies in bonding social capital (*indirect*) also showed statistical significance, but it is clearly less important than bridging social capital for the initial following back decision. Finally, the results showed that bridging and bonding social capital (*indirect*) have different effects, and do not interact.

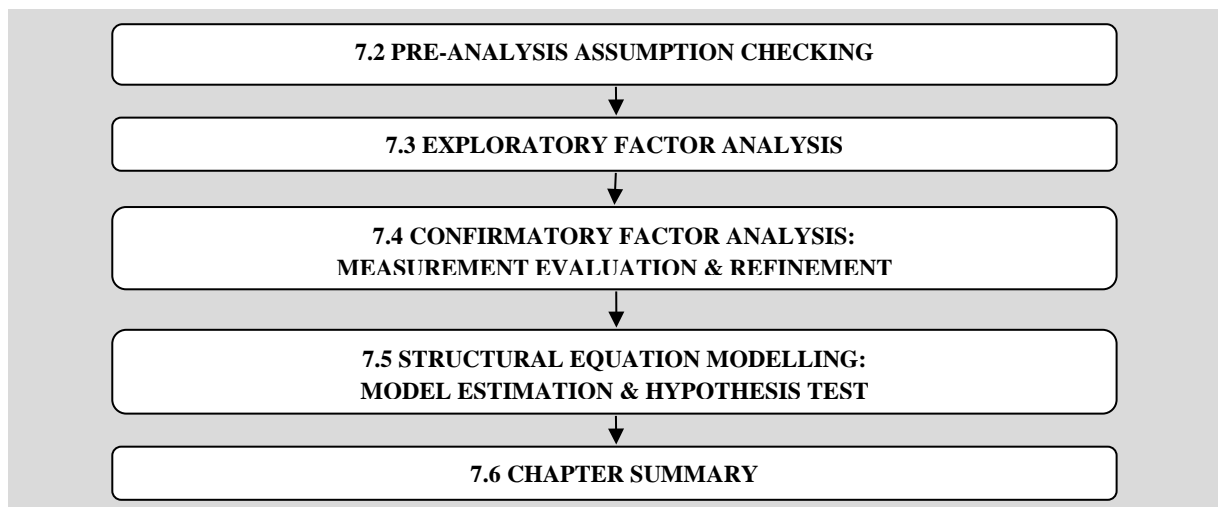
Experiment Two (§6.4) was employed to test the impact of bridging social capital and bonding social capital in its direct form on reciprocity. The difference was the manipulation of bonding social capital, where it was taken the direct bonding activity of commenting behaviour. Overall, all hypotheses are supported. Importantly, the results showed that bridging and bonding social capital (*direct*) have a significant interaction effect, and it is worth noting that higher bonding social capital could help to reduce the perception of being less influential caused by lower bridging social capital and lead to higher levels of reciprocity. However, individuals with higher bridging social capital do not have to be highly engaged with others (i.e., short and brief comments), but are still able to gain relatively high levels of reciprocity. These two experiments are only capable of measuring the behavioural outcomes of the cognitive evaluation process: in order to capture the emotion triggered in the process, the emotional components are introduced in the conceptual model test.

## CHAPTER 7: FINDINGS OF CONCEPTUAL MODEL FOR RECIPROCITY

### 7.1. Chapter Overview

This chapter provides the empirical results obtained through structural equation modelling for the two proposed conceptual models (see §4.5), based on data collected through the post-experiment attitude measures among the experiment participants. The data collection and sample composition are outlined in the previous Chapter (see §6.2 & §6.3). Specifically, the chapter provides consideration of the assumptions relevant to structural equation modelling, with emphasis on outlier detection and normality (§7.2). Since the measures for bonding social capital were operationalised in two different forms in the two experiments, the responses toward the same attitudinal measurement were expected to show different effects. Therefore the two sets of data were subject to two separate exploratory factor analyses (EFA) (§7.3). Then the results of the EFA were viewed as tentative support to further explore the data's unidimensionality, which were assessed by two confirmatory factor analyses (CFA). During the CFA stage, several validity and reliability checks were made to ensure the appropriateness of the proposed confirmatory models (§7.4), and upon completion of the individual CFA for each model, the constructs were merged into the proposed conceptual model for hypothesis testing (§7.5). The chapter concludes with a summary of key findings from the modelling. Figure 7.1 illustrates the structure of this chapter.

Figure 7.1: Structure of Chapter Seven





## 7.2. Pre-analysis Assumption Checking

### 7.2.1. Assessment and Treatment of Outliers

In this research the process of identifying outliers is more complex for structural equation modelling (SEM) than for two-way ANOVA, because there are more continuous variables (independent and dependent variables) involved. Since the online survey provided data that was readily transferable to an SPSS format there were no issues of outliers present in the data in terms of administrative data entry error, therefore the outlier detection was concerned with multivariate outliers for the set of model constructs. To provide a stringent assessment of multivariate outliers the *Mahalanobis D<sup>2</sup>* statistics (i.e., a multidimensional version of a Z-score) were calculated for each observation, at a conservative level of 0.001, in SPSS 21 by using linear regression. 26 cases had an unusual combination of values for the model constructs, resulting in further investigation as to whether they were outliers.

In order to determine whether these cases were outliers, and whether they should be omitted or retained in the data, their values were compared to the means and standard deviations of exogenous variables, and their individual qualitative comments made in the questionnaire were considered. The results of these further analyses revealed that even though those cases had unusual combinations of values, they represented certain clusters of the overall samples. Osborne and Overbay (2004) suggested that keeping outliers is justified, if these values are from a large population and thus increase the generalisability of the sample. In this case, since the sample size is 800, in order to prevent losing important information and to increase the generalisability of the results, all cases were retained and taken into the next stage of analysis.

### 7.2.2. Normality Analysis

Normality analysis was performed for scale items in the model. The examination of histograms showed a slight skew in the distribution of the data. Providing statistical support for this observation, the multivariate normality *Kolmogorov-Smirnov* and *Shapiro-Wilk* tests revealed significant results with a *p-value* of 0.000 for each of the interval scale variables used in the research. The skewness and kurtosis descriptive statistics were also examined in relation to the data, and none of the items had kurtosis values above 2.58 thresholds set forth by Hair et al. (2006). Overall, although the sample provided evidence against the assumption of normality, recent research has shown that structural models are more robust to more “considerable departures from normality” than was originally suggested (Satora, 2002, p. 297).

In addition, with more than adequate sample sizes ( $n=800$ ), the Central Limited Theorem (CLT) could be applied on the data. With sample sizes above 90 the CLT affirms that the data had an approximately normal distribution (Patel and Read, 1996). Additionally, the estimation algorithm (e.g., Maximum Likelihood) used in this research was relatively robust to the assumption of normality (Chou and Bentler, 1995). Furthermore, it is suggested that if the data violate the assumptions of normality, the ratio of respondents to parameters needs to be at least of the ratio 15:1. With the proposed model and sample size, this condition was satisfied. Since the data did not show severe non-normality, it did not require transformation in order to proceed with the analysis.

### **7.2.3. Common Method Bias**

A *post hoc* Harman one-factor analysis is often used to check whether variance in the data can be largely attributed to a single factor. Specifically, this method loads all items from each of the constructs into an exploratory factor analysis (EFA) to see whether one single factor does emerge or whether one general factor does account for a majority of the covariance between the measures. Exploratory factor analysis was performed on two sets of data for each proposed model (see § 7.3 & Appendix VI/VII). In the case of Model One, the first factor accounted for 65.9% of total variance explained. For Model Two, the first factor accounted for 68.1% of total variance explained. These results conform suggestions by Podsakoff et al. (2003) that the first factor should account for less than 70% of total variance explained.

### **7.3. Exploratory Factor Analysis**

All assumptions for structural equation modelling were fulfilled for the data, therefore the next stage of the analysis sought to examine the factor structure of the data. Specifically, this research assessed the modified ISCS scales for bridging social capital, bonding social capital and emotion by conducting exploratory factor analysis (EFA). To identify structure through data summarisation and data reduction for the two proposed conceptual models, two EFAs were performed in SPSS 21. Specifically, principal axis factoring (PAF) was adopted, using the promax rotation method. PAF is more commonly reported in behavioral and social sciences research than is principal component factoring (PCF), and in PCF the analysis of data structures focuses on shared variance but not on sources of error that are unique to individual measurements (Warner, 2013).

As with extraction method, there are a variety of choices, and the goal of rotation is to simplify and clarify the data structure. Orthogonal rotations produce factors that are uncorrelated; oblique methods allow the factors to correlate (Fabrigar et al., 1999). Promax rotation is an oblique rotation which allows factors to be correlated and it is useful for large data sets. Conventional wisdom (Bollen and Lennox, 1991) advises researchers to use orthogonal rotation due to the simplicity of the results it generates, but, as suggested by Fabrigar et al. (1999), this is a flawed argument. Because in social science research, behaviour is rarely partitioned into neatly packaged units that function independently of one another, researchers generally expect correlations among factors (Fabrigar et al., 1999). Hence, if the factors are correlated, using orthogonal rotation may result in missing valuable statistical evidence, then oblique rotation could theoretically render a more accurate and reproducible solution (Bollen and Lennox, 1991). Oblique rotation output is only slightly more complex than orthogonal rotation output. When oblique rotation is used, the pattern matrix is inspected for factor and item loadings, and the factor correlation matrix tells any correlations between the factors (Bollen and Lennox, 1991). If factor correlations are substantial ( $r \geq .30$ ), there is no need to run orthogonal rotations, because the Varimax procedure assumes that factors are uncorrelated (Fabrigar et al., 1999).

### 7.3.1. Measures of Sampling Adequacy

According to the measures of sampling adequacy results presented in Table 7.1, the Kaiser-Meyer-Olkin (KMO) statistics are 0.98 for Model One and 0.985 for Model Two, which are both between the range of 0 and 1 (with 1 indicating that each variable is perfectly predicted without error), and therefore provided strong evidence in support of conducting EFA.

Table 7.1: KMO and Bartlett's Test of Sphericity

<b>KMO and Bartlett's Test</b>		
<b><i>For Model One: Bridging SC + Bonding SC (indirect) → Emotion → (Reciprocity – single item)</i></b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.98
Bartlett's Test of Sphericity	Approx. Chi-square	21157.824
	df	276
	Sig.	.000
<b><i>For Model Two: Bridging SC + Bonding SC (direct) → Emotion → (Reciprocity – single item)</i></b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.985
Bartlett's Test of Sphericity	Approx. Chi-square	24004.168
	df	325

### 7.3.2. Examining the Communalities and Factor Loadings

The suitability of using EFA having been confirmed with the test, the analysis moved on to the investigation of the communalities and pattern matrix loadings of the factor structure. The threshold for communalities was set at 0.5 (Hair et al., 2006). The threshold for factor loadings was set at 0.4 (Field, 2000), therefore if construct items were below this level or are loaded on more than one factor it would have raised concerns in the confirmatory factor analysis. Scale items with potential issues (i.e., items with relatively lower communality and loading issues) detected as a result of EFA are recorded for both models in Table 7.2 and 7.3.

#### *For Model One: Social Capital (bridging & bonding (indirect)) → Emotion → (Reciprocity)*

The EFA factor structure consisted of three distinctive factors in the Pattern Matrix (see Appendix VI): bridging social capital, bonding social capital and emotion. Reciprocity was measured in a single item, therefore it was excluded in the EFA. All constructs intended for SEM loaded onto their respected factors for Model One, a few notable items with potential issues are summarised in Table 7.2.

Table 7.2: Summary of Items with Potential Issues as Identified in EFA for Model One

Construct	Items	Potential Issue
<b>Bridging Social Capital</b>	BrSC_4 – Talking to [substitute scenarios] on Weibo make me curious about other places in the world	Relatively lower factor loading score (0.579) and communality (0.689)
	BrSC_8 – I am willing to spend time to support [substitute scenarios] on Weibo community activities	Relatively lower factor loading score (0.563)
<b>Bonding Social Capital</b>	BoSC_1 – [substitute scenarios]’s level of contribution on Weibo helps build my trust in him/her	Relatively lower factor loading score (0.651)
	BoSC_7 – [substitute scenarios]’s level of contribution on Weibo makes him/her an opinion leader	Relatively lower factor loading score (0.62) and communality (0.65)
<b>Emotion</b>	EMO_2 – [substitute scenarios], his/her following makes me form positive attitude towards him/her	Relatively lower factor loading score (0.586)
	EMO_5 – [substitute scenarios], his/her following makes me wish to express my sympathy	Relatively lower factor loading score (0.649) and communality (0.622)

EMO_6 – [substitute scenarios], his/her following makes me wish to express my empathy	Relatively lower factor loading score (0.664)
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Some items showed signs of having issues in relation to both factor loading scores and communalities (e.g., BrSC\_4, BoSC\_7 and EMO\_5). Hence, the extracted factors accounted for a smaller proportion of the variables' variance, which means that these variables were not reflected well via the extracted factors and the factor analysis may lack reliability. However, these potential problematic items do not severely breach the threshold requirements, therefore it was not appropriate to remove these items at this stage of the analysis. In addition, EFA is not designed to test hypotheses, therefore if these had been removed before CFA is performed there would have been a danger of becoming data driven.

***For Model Two: Social Capital (bridging & bonding (direct)) → Emotion → (Reciprocity)***

The key difference between Model One and Model Two is the manipulation of bonding social capital. In Model One, bonding social capital was operationalised as the number of postings, which was more inclined to represent the social bonding toward the community as a whole, and the nature of such bonding was relatively remote and indirect for the experimental participants to perceive.

In contrast, in Model Two, bonding social capital was operationalised as the level of richness in commenting behaviours toward the experimental participants, and the nature of such bonding was more obvious and direct for participants to perceive. Therefore in Model Two the effect of bonding social capital on reciprocity might have been expected to be similar to the effect of bridging social capital on reciprocity, and the results from Experiment Two have provided evidence for this ( see §6.4.3 for Interaction Effects).

The EFA factor structure for Model Two consists of three factors in the Pattern Matrix (Appendix VII). All constructs intended for structural equation modelling loaded onto their respected factors for Model Two, with the exception of a few items with potential issues as shown in Table 7.3.

In conclusion, the EFA helped to reveal the structure of the factor model; all constructs were loaded on the intended structure for both models. Similar problematic items were identified in both Model One and Model Two (e.g., BrSC\_4, BrSC\_8, BoSC\_7, EMO\_2, EMO\_5 and

EMO\_6): these items were retained at this stage, and refinement of the scales and confirmation of the structure were undertaken in CFA.

Table 7.3: Summary of Items with Potential Issues as Identified in EFA for Model Two

Construct	Items	Potential Issue
<b>Bridging Social Capital</b>	BrSC_4 – Talking to [substitute scenarios] on Weibo make me curious about other places in the world	Relatively lower factor loading score (0.609)
	BrSC_8 – I am willing to spend time to support [substitute scenarios] on Weibo community activities	Relatively lower factor loading score (0.556)
<b>Bonding Social Capital</b>	BoSC_7 – [substitute scenarios]’s comment on my posting makes him/her an opinion leader	Relatively lower factor loading score (0.445) and communality (0.614)
<b>Emotion</b>	EMO_1 – [substitute scenarios], his/her following makes me like him/her	Relatively lower factor loading score (0.625)
	EMO_2 – [substitute scenarios], his/her following makes me form positive attitude towards him/her	Relatively lower factor loading score (0.451)
	EMO_5 – [substitute scenarios], his/her following makes me wish to express my sympathy	Relatively lower communality (0.644)
	EMO_6 – [substitute scenarios], his/her following makes me wish to express my empathy	Relatively lower factor loading score (0.639)

### 7.3.3. Examining Variance Extracted of the Final Factor Structure

The variance extracted in the EFA solution was examined for both models, and the results are presented in Table 7.4. For Model One, the variance extracted for the three-factor solution was 77.7%. For Model Two, the variance extracted for the three-factor solution was 78%.

Table 7.4: Total Variance Explained

<i>For Model One: Bridging SC + Bonding SC (indirect) → Emotion → Reciprocity</i>			
Factor	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	16.069	66.953	66.953
2	1.458	6.075	73.028
3	1.129	4.705	77.732
<i>For Model Two: Bridging SC + Bonding SC (direct) → Emotion → Reciprocity</i>			
Factor	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	17.958	69.068	69.068
2	1.459	5.613	74.681

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Extraction Method: Principal Axis Factoring.

#### 7.4. Confirmatory Factor Analysis: Measurement Evaluation and Refinement

The following sub-sections detail the scale evaluation and refinement phase, which included assessments for unidimensionality, discriminant validity, reliability and construct validity for all measures implemented for the two proposed conceptual models. Since all constructs of interest in this research were reflective measures, the evaluation and refinement procedures followed the guidelines provided by Anderson, Gerbing and Hunter (1987) and Anderson and Gerbing (1988), which were used to assess the internal and external consistency justifying unidimensionality. This procedure was undertaken using AMOS 21.

##### 7.4.1. Measurement Evaluation and Refinement for Model One

A series of CFAs using Maximum Likelihood Estimation was used for the three reflective constructs (multiple-item), where each construct was constrained to load on its pre-specified construct as indicated from the EFA (see §7.3.2).

In the initial run of the CFA, the overall fit measure suggested an acceptable fit to the data due to large sample size ( $\chi^2_{(249)} = 1294.948$ ,  $CMIN/DF = 5.2$ ,  $RMSEA = 0.073$ ,  $CFI = 0.95$ ,  $IFI = 0.951$ , and  $TLI = 0.945$ ). Specifically the CFI, IFI and TLI measures are above the accepted level of 0.9 recommended by Hair et al. (2006). Additionally, all the factor loadings were statistically significant ( $p < 0.05$ ); however there were two items with regression loadings below 0.80 (i.e., “BoSC\_7” = 0.78; “EMO\_5” = 0.78)<sup>5</sup>. This result was not surprising as it is consistent with the EFA indications (i.e., both of these items showed relatively lower loadings and lower communalities in the EFA), which again drew attention to the problematic items. Because these items may have been inappropriate indicators for the intended constructs of interests, they were removed from the CFA.

A re-run of the CFA without BoSC\_7 and EMO\_5 resulted in a better fit to the data ( $\chi^2_{(206)} = 998.98$ ,  $CMIN/DF = 4.849$ ,  $RMSEA = 0.069$ ,  $CFI = 0.959$ ,  $IFI = 0.959$ , and  $TLI = 0.954$ ) than did the initial CFA results. However the constructs showed a high and significant correlation (see Table 7.5), which could potentially reduce the discriminant validity of the

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<sup>5</sup> The indicators were “BoSC\_7 - [substitute scenarios]’s level of contribution on Weibo makes him/her an opinion leader”; “EMO\_5 - When I was “followed” by [substitute scenarios], his/her ‘following’ makes me wish to express my sympathy.”

constructs.



Table 7.5: Construct Correlations – Initial vs. Final CFA Solutions for Model One

			Estimate for <i>Initial CFA</i>	Estimate for <i>Final CFA</i>
Bridging Social Capital	<-->	Bonding Social Capital	.855	.839
Bonding Social Capital	<-->	Emotion	.782	.703
Bridging Social Capital	<-->	Emotion	.842	.731

Modification Indices (MI) offered remedies to fix the discrepancies between the proposed and the estimated model. Further assessment of the MI revealed that the error term ( $e10$ ) for BoSC\_1 and the latent construct of Emotion had the largest MI (36.2); and the MI also showed that by drawing covariance between  $e10$  and  $e24$  (EMO\_8 from Emotion) would result an improvement Chi-square value of 34.5. This suggested that BoSC\_1 was not an adequate and exclusive measure for Bonding Social Capital because it overlapped with the construct of emotion. BoSC\_1 stated that “[*substitute scenarios*]’s level of contribution on Weibo ... helps build my trust in him/her”: in this case, the MI suggested that trust might be a better indicator for emotional outcomes rather than for Bonding Social Capital.

In order to increase the model fit, BoSC\_1 was deemed inappropriate for the intended construct and it was removed (Hair et al., 2006). A similar approach of identifying a large MI was used in a series of CFAs for item removal. Overall, the researcher identified 15 items in the covariance table that showed large MIs between error terms and items within other constructs (see Table 7.6), which indicated the inappropriateness of the measures for the intended constructs.

These inadequate items were removed from the final run of the CFA (see Appendix VIII for final CFA outputs), which showed a much improved model fit ( $\chi^2_{(24)} = 44.786$ ,  $CMIN/DF = 1.866$ ,  $RMSEA = 0.033$ ,  $CFI = 0.997$ ,  $IFI = 0.997$ , and  $TLI = 0.995$ ). Furthermore, all factor loadings were statistically significant ( $p$ -value < 0.001), and the standardised factor loadings for all remaining 9 items (see Table 7.11) exceeded 0.8, which indicates that each item accounted for at least 50 percent of the variance in the latent construct (Bagozzi and Yi, 1991). This result suggests that the reflective measures display adequate within-method *Convergent Validity*.

Table 7.6: Removed Items from CFA for Model One

Construct	Removed Items	Issue
<b>Bridging Social Capital</b>	BrSC_1 – Establishing connection with [substitute scenarios] on Weibo makes me interested in things that happen outside of my personal life	Large MI (13) with Emotion
	BrSC_4 – Talking to [substitute scenarios] on Weibo make me curious about other places in the world	Large MI (24.9) with Emotion & Squared Multiple Correlations < .70
	BrSC_5 – Establishing connection with [substitute scenarios] on Weibo makes me feel like part of a larger community	Large MI (27.5) with Emotion
	BrSC_7 – Establishing connection with [substitute scenarios] on Weibo makes me reminds me that everyone in the world is connected	Squared Multiple Correlations < .70
	BrSC_8 – I am willing to spend time to support [substitute scenarios] on Weibo community activities	Large MI (29.9) with Emotion
	BrSC_9 – Establishing connection with [substitute scenarios] on Weibo gives me new people to talk to	Large MI (24.4) with Emotion EMO_1
<b>Bonding Social Capital</b>	BoSC_1 – [substitute scenarios]’s level of contribution on Weibo helps build my trust in him/her	Large MI (34.5) with Emotion
	BoSC_2 – [substitute scenarios]’s level of contribution on Weibo encourages my participation	Large MI (20.6) with Emotion
	BoSC_7 – [substitute scenarios]’s level of contribution on Weibo makes him/her an opinion leader	Relatively low regression loading <0.8
<b>Emotion</b>	EMO_1 – When I was followed by [substitute scenarios], his/her “following” makes me like him/her	Large MI (35.8) with bridging social capital
	EMO_2 – When I was followed by [substitute scenarios], his/her following makes me form positive attitude towards him/her	Large MI (35.8) with bridging social capital
	EMO_4 – When I was followed by [substitute scenarios], his/her “following” makes me wish to thank him/her	Relatively low regression loading <0.8
	EMO_5 – When I was followed by [substitute scenarios], his/her following makes me wish to express my sympathy	Relatively low regression loading <0.8

In terms of the *Reliability*, given the shortcoming of Cronbach’s alpha in SEM, two other alternative measures proposed by Hair et al. (2006) were used, which are the composite reliability and the average variance extracted value. The composite reliability of each construct was calculated and the result showed that all composite reliabilities exceeded the 0.70 level recommended by Nunnally (1978). Additionally, the average variance extracted from each construct exceeded the desirable value of 0.50 suggested by Bagozzi and Yi (1991).

Both composite reliability (CR) and average variance extracted (AVE) from each construct are presented in Table 7.7.

Table 7.7: Composite Reliability and Average Variance Extracted for Model One

Construct	Composite Reliability	Average Variance Extracted
Bridging Social Capital	0.910	0.771
Bonding Social Capital	0.910	0.771
Emotion	0.918	0.788

To test the discriminant validity for all reflective measures, two tests were implemented. Firstly, Fornell and Larcker’s (1981) (see §5.11.2: Discriminant Validity for specific method) test results showed that in all cases the tests demonstrated *Discriminant Validity*, with the lowest average extracted variance being 0.771 for bridging social capital, which is greater than the highest squared correlation of 0.704 between bridging social capital and bonding social capital (see Table 7.8).

Table 7.8: Construct Correlation and Squared Correlation for Model One

			Correlation	Squared Correlation
Bridging Social Capital	<-->	Bonding Social Capital	.839	0.704
Bonding Social Capital	<-->	Emotion	.703	0.494
Bridging Social Capital	<-->	Emotion	.731	0.534

Secondly, to further test the discriminant validity for all reflective measures, another test suggested by Anderson and Gerbing (1988) was used. This test constrains the estimated correlation parameter between pairs of constructs to one and then performs a Chi-square difference test on the values obtained for the constrained and unconstrained models. Specifically, this research divided the concept of social capital into two separate constructs, and it has been recognised that bridging social capital and bonding social capital are not mutually exclusive (Williams, 2006; Putnam, 2000). Hence it was necessary to take a specific look at these elements to see whether there was sufficient discrimination between them. Chi-square difference test was significant ( $p\text{-value} < 0.01$ ), indicating that the bridging and bonding constructs are not perfectly correlated. For all cases the Chi-square difference test was significant at the  $p\text{-value} < 0.01$  level, indicating that the constructs are not perfectly correlated and that *Discriminant Validity* is achieved (see Table 7.9). The smallest change in

Chi-square was for bonding social capital and emotion ( $\chi^2_{(25)} = 132.08, p\text{-value} < 0.01$ ).

Table 7.9: Discriminant Validity Test for Model One

Covariance Constrained			Chi-square	df	Chi-square Difference	Probability
None			44.79	24	-	= 0.006
Bridging Social Capital	<-->	Bonding Social Capital	182.07	25	137.28	< 0.01
Bridging Social Capital	<-->	Emotion	166.37	25	121.58	< 0.01
Bonding Social Capital	<-->	Emotion	132.08	25	87.29	< 0.01

The correlations between the model constructs, and their descriptive statistics including the means, standard deviations, Cronbach’s alpha, composite reliability and extracted variance for the reflective measures, are reported in Table 7.10. There were significant correlations between all the constructs ( $p\text{-value} < 0.01$ ), which provide evidence of *Nomological Validity* for the conceptual model.

	Bridging Social Capital	Bonding Social Capital	Emotion
<b>Bridging Social Capital</b>	$r = 1$	0.839	0.731
<b>Bonding Social Capital</b>		1	0.703
<b>Emotion</b>			1
<i>Mean</i>	6.99	6.98	6.29
<i>Standard Deviation</i>	1.69	1.64	1.90
<i>Cronbach’s alpha</i>	0.91	0.91	0.918
<i>Composite Reliability</i>	0.91	0.91	0.918
<i>Extracted Variance</i>	0.703	0.494	0.534

Table 7.10: Measurement Descriptive Statistics for Model One

The social capital scales used in the testing of the conceptual models in this research were adopted and modified from Williams’ (2006) Internet Social Capital Scale (ISCS). Adopting empirically tested scales which are based on theoretical definitions of the construct in question may help to contribute to the *Construct Validity* of the results. Also, the emotion measures were developed based on previous literature and exploratory research. Readers may have observed that more than half of the original items were removed from the constructs, however

this is not a major concern. This is because firstly, the context (i.e., culture and specific social media environment) of the original scale development and validation was different from this research. For example, recent studies (e.g., Apple et al., 2014; Brooks, Ellison and Vitak, 2014; Ellison et al., 2007) in adopting and validating the ISCS (Williams, 2006) have shown similar pattern in item reductions, these authors suggested that modifications to ISCS were necessary to meet specific internet environment. Secondly, the composite reliability indices of the measures were all over 90% and showed sufficient discriminant validity. Overall, the CFA has played its role in confirming the factor structure and has assisted in the refinement of the scales, which may also enhance their construct validity, since both convergent validity and discriminant validity have been proved. The final scale items (3 items for bridging social capital, 3 items for bonding social capital and 3 items for emotion) that were used for the hypotheses testing of conceptual model (Model One) are summarised in Table 7.11 and Figure 7.2.

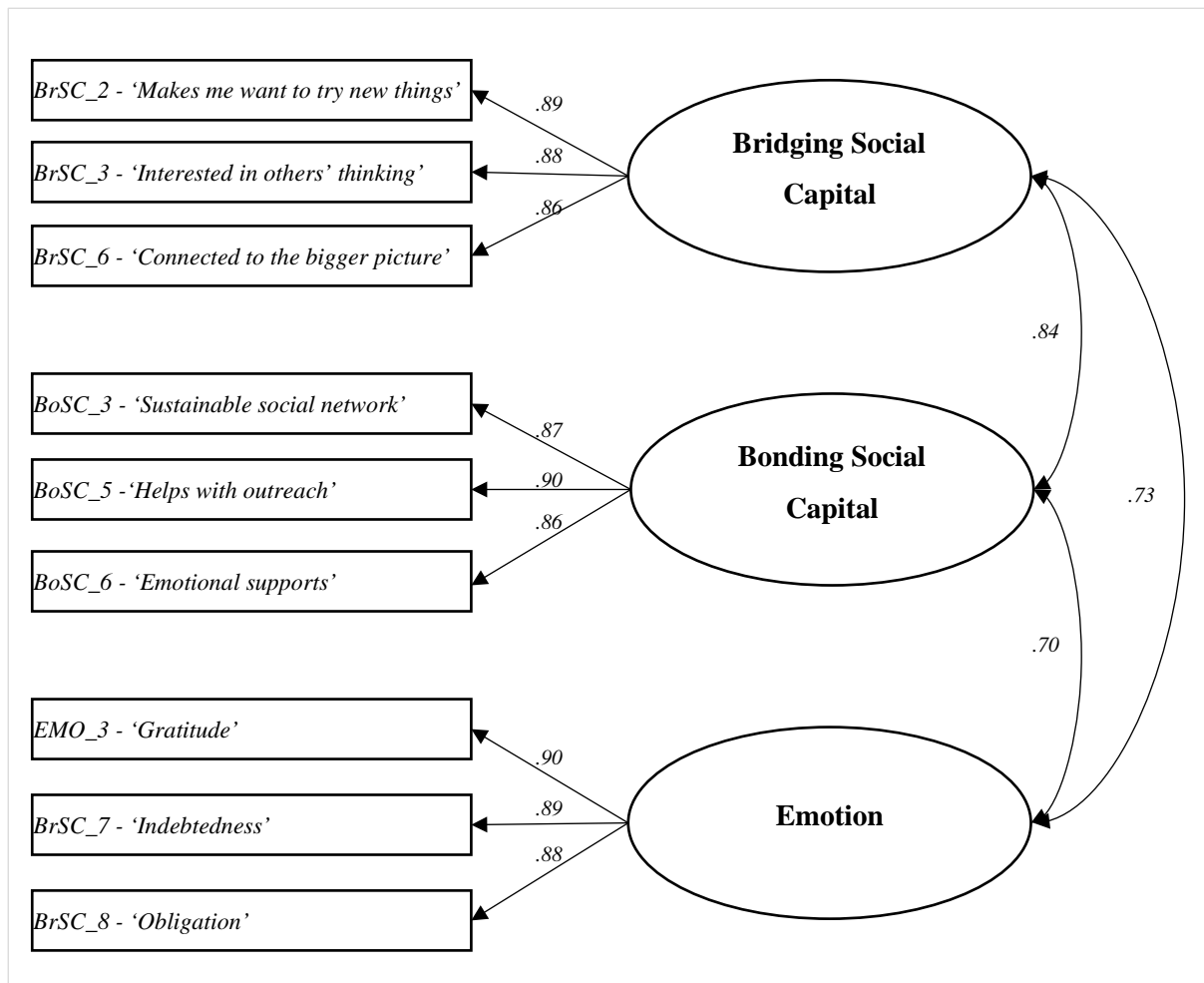
Table 7.11: Retained Items from CFA for Model One

Construct	Scale Items Retained for SEM	Standardised Estimates
<b>Bridging Social Capital</b>	BrSC_2 – Establishing connection with [substitute scenarios] on Weibo makes me want to <i>try new things</i>	.89
	BrSC_3 – Establishing connection with [substitute scenarios] on Weibo makes me <i>interested in what people unlike me are thinking</i>	.88
	BrSC_6 – Establishing connection with [Substitute Scenarios] on Weibo makes me feel <i>connected to the bigger picture</i>	.86
<b>Bonding Social Capital</b>	BoSC_3 – [substitute scenarios]’s level of contribution on Weibo helps <i>create a sustainable social network</i>	.87
	BoSC_5 – [substitute scenarios]’s level of contribution on Weibo helps with <i>outreach</i>	.90
	BoSC_6 – [substitute scenarios]’s level of contribution on Weibo <i>helps with seeking for emotional supports</i>	.86
<b>Emotion</b>	EMO_3 – When I was followed by [substitute scenarios], his/her “following” makes me wish to <i>express my gratitude</i>	.90
	EMO_7 – When I was followed by [substitute scenarios], his/her “following” makes me feel <i>indebted</i> to him/her	.89

EMO\_8 – When I was followed by [substitute scenarios],  
his/her “following” makes me feel *obligated* to him/her .88

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Figure 7.2: Confirmatory Factor Analysis: Factor Structure for Model One



In addition, this research also relies on empirical tests to determine construct validity. The process begins with postulating theoretical relations between constructs (see §4.4: Hypothesis Development). Thus, evidence of construct validity can be assessed by examining the relation between a measure of one construct and variables indicating other constructs and comparing the association to the theoretically specified association between variables (Bollen, 1989). The findings suggest that all hypothesised relationships in the proposed model were supported with empirical evidence (see §7.5.1). Thus, suggesting the presence of *Construct Validity*.



### 7.4.2. Measurement Evaluation and Refinement for Model Two

The same approach used for measurement evaluation and refinement in Model One has been applied in Model Two. A series of CFAs using Maximum Likelihood Estimation was used for the three reflective construct (multiple-item), where each construct was constrained to load on its pre-specified construct as indicated from the EFA (see §7.3.2).

In the initial run of the CFA, the overall fit measure suggested an acceptable fit to the data due to the large sample size ( $\chi^2_{(272)} = 1299.59$ ,  $CMIN/DF = 4.78$ ,  $RMSEA = 0.069$ ,  $CFI = 0.955$ ,  $IFI = 0.955$ , and  $TLI = 0.95$ ). Specifically the  $CFI$ ,  $IFI$  and  $TLI$  measures were above the accepted level of 0.9 recommended by Hair et al. (2006). Additionally, all the factor loadings were statistically significant ( $p\text{-value} < 0.05$ ). However there were two items with regression loadings below 0.80 (i.e., “E2BoSC\_7” = 0.798; “E2EMO\_5” = 0.789)<sup>6</sup> and their squared multiple correlations were less than 0.70. This result was not surprising as it is consistent with the EFA indications (i.e., both of these items showed relatively lower loadings and lower communalities in the EFA), and these items also showed relatively lower regression loading in the CFA for Model One. This again drew attention to the problematic items. Because these items may have been inappropriate indicators for the intended constructs of interests, they were removed from the next run of CFA.

A re-run of the CFA without E2BoSC\_7 and E2EMO\_5 has resulted a better fit to the data ( $\chi^2_{(227)} = 1029.69$ ,  $CMIN/DF = 4.54$ ,  $RMSEA = 0.067$ ,  $CFI = 0.962$ ,  $IFI = 0.962$ , and  $TLI = 0.958$ ) than did the initial CFA results. However the RMSEA was still above the critical value of 0.05 (Hair et al., 2006), and the constructs showed relatively high and significant correlation (Table 7.12), which could potentially reduce the discriminant validity of the constructs.

Table 7.12: Construct Correlations – Initial vs. Final CFA Solutions for Model Two

		Estimate for <i>Initial CFA</i>	Estimate for <i>Final CFA</i>
Bridging Social Capital	<--> Bonding Social Capital	.850	.863
Bonding Social Capital	<--> Emotion	.801	.787

<sup>6</sup> The indicators were “E2BoSC\_7 - [substitute scenarios]’s comments on my posting makes him/her an opinion leader on Weibo”; “E2EMO\_5 - When I was “followed” by [substitute scenarios], his/her ‘following’ makes me wish to express my sympathy.”

		Estimate for <i>Initial CFA</i>	Estimate for <i>Final CFA</i>
Bridging Social Capital	<--> Emotion	.853	.846

Modification Indices (MI) offered remedies to fix the discrepancies between the proposed and the estimated model. Further assessment of the MI revealed that error term ( $e_{25}$ ) for E2EMO\_7 and ( $e_{26}$ ) E2EMO\_8 had the largest MI (107.49), and hence that drawing covariance between  $e_{25}$  and  $e_{26}$  would result in an improved Chi-square value of 107.946. In addition, the Squared Multiple Correlation (SMC) showed that E2EMO\_8 had an Estimate of 0.688 which is below the threshold of 0.7. Both pieces of evidence suggested that E2EMO\_8 should be discarded. E2EMO\_8 stated that “When I was ‘followed’ by [substitute scenarios], his/her ‘following’ makes me feel obligated to him/her”: in this case, MI and SMC suggested that in the emotion construct “obligation” might be a weaker indicator than E2EMO\_7 (i.e., “feeling of indebtedness”). In order to increase the model fit, and to clarify both the theoretical and the practical meaning of the emotion construct, E2EMO\_8 was deemed inappropriate for that construct and it was removed (Hair et al., 2006). Another re-run of the CFA without E2EMO\_8 resulted a better fit to the data ( $\chi^2_{(206)} = 851.96$ ,  $CMIN/DF = 4.14$ ,  $RMSEA = 0.063$ ,  $CFI = 0.968$ ,  $IFI = 0.968$ , and  $TLI = 0.964$ ) than did the previous run of CFA results. However, further analysis showed that E2EMO\_7 was also an inappropriate indicator for emotion: a large MI (93.88) between E2EMO\_7 and E2EMO\_3, and a relatively lower SMC (0.695) suggested that E2EMO\_7 should be removed from the construct in order to improve the model fit.

A similar approach of identifying a large MI was used in a series of CF for item removal. Overall, the researcher identified 14 items in the covariance table that showed large MIs between error terms and items within other constructs (see Table 7.13), which indicated the inappropriateness of the measures for the intended constructs. The conventional approach would have been to covariate the error terms to improve the model fit, however in order to reveal the essential components of each construct and to ensure that the final model was non-data-driven, items that showed extremely high relationships were closely examined and discarded if deemed to be problematic as suggested by MI.

Table 7.13: Removed Items from CFA for Model Two

Construct	Removed Items	Issue
<b>Bridging Social Capital</b>	E2BrSC_1 – Establishing connection with [substitute scenarios] on Weibo makes me interested in things that happen outside of my personal life	Large MI (10) with E2EMO_3
	E2BrSC_4 – Talking to [substitute scenarios] on Weibo make me curious about other places in the world	Large MI (23.4) with E2BrSC_1
	E2BrSC_5 – Establishing connection with [substitute scenarios] on Weibo makes me feel like part of a larger community	Large MI (16.2) with E2BrSC_7
	E2BrSC_6 – Establishing connection with [substitute scenarios] on Weibo makes me makes me feel connected to the bigger picture	Large MI (27.5) with E2BrSC_5
	E2BrSC_8 – I am willing to spend time to support [substitute scenarios] on Weibo community activities	Large MI (10.98) with E2EMO_3
<b>Bonding Social Capital</b>	E2BoSC_1 – [substitute scenarios]’s comment on my posting helps build my trust in him/her	Large MI (26.6) with bridging social capital
	E2BoSC_2 – [substitute scenarios]’s comment on my posting encourages my future participation on Weibo	Large MI (13.56) with E2BrSC_7
	E2BoSC_7 – [substitute scenarios]’s comment on my posting indicates his/her potential to be an opinion leader on Weibo	Relatively low regression loading <0.8 & low SMC = 0.65
	E2BoSC_8 –[substitute scenarios]’s comment on my posting shows his/her great concern and caring about me	Large MI (14.8) with E2EMO_3
<b>Emotion</b>	E2EMO_2 – When I was followed by [substitute scenarios], his/her following makes me form positive attitude towards him/her	Large MI (17.1) bridging social capital
	E2EMO_4 – When I was followed by [substitute scenarios], his/her “following” makes me wish to thank him/her	Large MI (64.4) with E2EMO_3
	E2EMO_5 – When I was followed by [substitute scenarios], his/her following makes me wish to express my sympathy	Relatively low regression loading <0.8 & low SMC = 0.62
	E2EMO_7 – When I was followed by [substitute scenarios], his/her “following” makes me feel obligated to him/her	Large MI (93.88) with E2EMO_3 & low SMC =0.695
	E2EMO_8 – When I was followed by [substitute scenarios], his/her “following” makes me feel indebted to him/her	Large MI (107.49) with E2EMO_7 & low SMC =0.688

These inadequate items were removed from the final run of the CFA (see Appendix IX for final CFA outputs), which showed a much improved model fit ( $\chi^2_{(41)} = 72.8$ ,  $CMIN/DF = 1.78$ ,  $RMSEA = 0.031$ ,  $CFI = 0.996$ ,  $IFI = 0.996$ , and  $TLI = 0.995$ ). Furthermore, all factor loadings were statistically significant ( $p$ -value < 0.01), and the standardised factor loadings for all remaining 10 (see Table 7.18) items exceeded 0.8, which indicates that each item accounted for at least 50 percent of the variance in the latent construct (Bagozzi and Yi, 1991). This result suggests that the reflective measures display adequate within-method *Convergent Validity*.

In terms of *Reliability*, the composite reliability (CR) of each construct was calculated and the results showed that all composite reliabilities exceeded the 0.70 level recommended by Nunnally (1978). Additionally, the average variance extracted (AVE) from each construct exceeded the desirable value of 0.50 suggested by Bagozzi and Yi (1991). Both composite reliability and average variance extracted from each construct are presented in Table 7.14.

Table 7.14: Composite Reliability and Average Variance Extracted for Model Two

Construct	Composite Reliability	Average Variance Extracted
Bridging Social Capital	0.929	0.767
Bonding Social Capital	0.923	0.751
Emotion	0.907	0.765

There is reason to suspect that bridging social capital and bonding social capital might suffer from a lack of discriminant validity. This concern arises from the consistent and usually strong relationship between the two constructs. To test the discriminant validity for all reflective measures, two tests were implemented. Firstly, Fornell and Larcker's (1981) results demonstrated *Discriminant Validity*, with the lowest average extracted variance being 0.751 for bonding social capital, which is greater than the highest squared correlation of 0.744 between bridging social capital and bonding social capital (see Table 7.15). The difference is relatively small, thus suggesting an acceptable *Discriminant Validity*.

Table 7.15: Construct Correlation and Squared Correlation for Model Two

			Correlation	Squared Correlation
Bridging Social Capital	<-->	Bonding Social Capital	.863	0.744
Bonding Social Capital	<-->	Emotion	.787	0.619
Bridging Social Capital	<-->	Emotion	.846	0.715

Secondly, to further test the discriminant validity for all reflective measures, another test suggested by Anderson and Gerbing (1988) was used (same as in Model One). Sufficient evidence for discrimination was found ( $p\text{-value} < 0.01$ ) between bridging and bonding social capital. For all cases the Chi-square difference test was significant at the  $p\text{-value} < 0.01$  level indicating the constructs are not perfectly correlated so that *Discriminant Validity* is achieved (see Table 7.16). The smallest change in Chi-square (117.806) was for bridging social capital and emotion ( $\chi^2_{(42)} = 190.59, p\text{-value} < 0.01$ ).

Table 7.16: Discriminant Validity Test for Model Two

Covariance Constrained			Chi-square	df	Chi-square Difference	Probability
<b>None</b>			<b>72.784</b>	<b>41</b>	<b>-</b>	<b>= 0.002</b>
Bridging Social Capital	<-->	Bonding Social Capital	238.09	42	165.306	< 0.01
Bridging Social Capital	<-->	Emotion	190.59	42	117.806	< 0.01
Bonding Social Capital	<-->	Emotion	196.93	42	124.146	< 0.01

The correlations between the model constructs, and their descriptive statistics including the means, standard deviations, Cronbach's alpha, composite reliability and extracted variance for the reflective measures, are reported in Table 7.17 in the next page. There were significant correlations between all the constructs ( $p\text{-value} < 0.01$ ), which provide evidence of *Nomological Validity* for the conceptual model. In terms of construct validity, as previously stated, the social capital scales used in the generation of the conceptual models in this research were adopted and modified from Williams' (2006) ISCS, and the emotion measures were developed based on previous literature and exploratory research. Adopting empirically tested scales which are based on theoretical definitions of the construct in question may help to contribute to the *Construct Validity* of the results.

	<b>Bridging Social Capital</b>	<b>Bonding Social Capital</b>	<b>Emotion</b>
<b>Bridging Social Capital</b>	$r = 1$	0.863	0.846
<b>Bonding Social Capital</b>		1	0.787
<b>Emotion</b>			1
<i>Mean</i>	7.26	6.98	6.5
<i>Standard Deviation</i>	1.54	1.63	1.82
<i>Cronbach's alpha</i>	0.929	0.91	0.906
<i>Composite Reliability</i>	0.929	0.92	0.907
<i>Extracted Variance</i>	0.767	0.751	0.765

Table 7.17: Measurement Descriptive Statistics for Model Two

Readers may have observed that more than half of the original items were removed from the constructs in the CFA for Model Two, however this is not a major concern due to the changing context of the study (Apple et al., 2014; Brooks, Ellison and Vitak, 2014; Ellison et al., 2007). Similar to the explanations offered in Model One, the context of the original scale development and validation was different from this specific research, and the composite reliability of the measures were all over 90% and showed sufficient discriminant validity. Importantly, the treatment for bonding social capital was different from the one in Model One (i.e., comments for Model Two vs. the number of postings for Model One), hence the items retained in the constructs would be different due to the effect achieved.

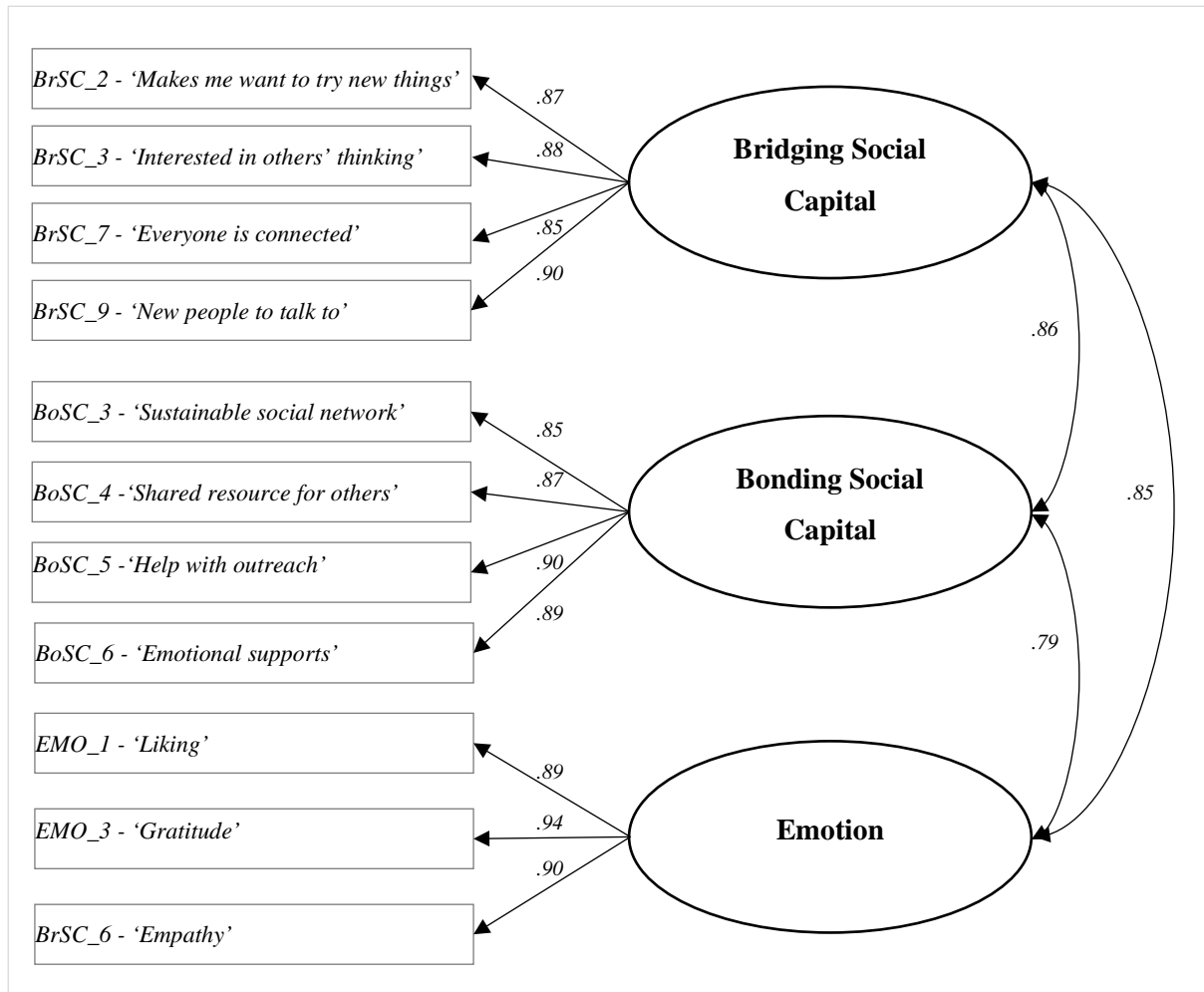
Overall, the CFA has played its role in confirming the factor structure and has assisted in the refinement of the scales, which may also enhance their construct validity, since both convergent validity and discriminant validity have been proved. The final scale items (11 items in total, 4 items for bridging social capital, 4 items for bonding social capital, and 3 items for emotion) will be used for the hypotheses testing of the conceptual model (Model Two) are summarised in Table 7.18 and Figure 7.3.

Table 7.18: Retained Items from CFA for Model Two

Construct	Scale Items Retained for SEM	Standardised Estimates
<b>Bridging Social Capital</b>	E2BrSC_2 – Establishing connection with [substitute scenarios] on Weibo makes me want to <i>try new things</i>	.87
	E2BrSC_3 – Establishing connection with [substitute scenarios] on Weibo makes me <i>interested in what people unlike me are thinking</i>	.88
	E2BrSC_7 – Interacting with [substitute scenarios] on Weibo makes me reminds me that <i>everyone in the world is connected</i>	.85
	E2BrSC_9 – Establishing connection with [substitute scenarios] on Weibo <i>gives me new people to talk to</i>	.90
<b>Bonding Social Capital</b>	E2BoSC_3 – [substitute scenarios]’s comment on my posting helps <i>create a sustainable social network</i>	.85
	E2BoSC_4 – [substitute scenarios]’s comment on my posting <i>resulting in shared resources for other Weibo users</i>	.87
	E2BoSC_5 – [substitute scenarios]’s comment on my posting helps me with <i>outreach</i> on Weibo	.86
	E2BoSC_6 – [substitute scenarios]’s comment on my posting provides me <i>with emotional supports</i> on Weibo	.89
<b>Emotion</b>	E2EMO_1 – When I was followed by [substitute scenarios], his/her “following” makes me <i>like</i> him/her	.89
	E2EMO_3 – When I was followed by [substitute scenarios], his/her “following” makes me wish to <i>express my gratitude</i>	.84
	E2EMO_6 – When I was followed by [substitute scenarios], his/her “following” makes me wish to express my <i>empathy</i>	.90

In addition, this research also relies on empirical tests to determine construct validity. The process began with postulating theoretical relations between constructs (§4.4 Hypothesis Development). Thus, evidence of construct validity was examined by examining the relationship between a measure of one construct and variables indicating other constructs, and comparing the association to the theoretically specified association between variables (Bollen, 1989). The findings suggested that all hypothesised relationships in the proposed model were supported with empirical evidence (see §7.5.2), thus, suggesting the presence of *Construct Validity*.

Figure 7.3: Confirmatory Factor Analysis: Factor Structure for Model Two





## 7.5. Structural Equation Modelling: Model Estimation and Hypothesis Tests

The following subsections report the results obtained from the analysis used to test the structural paths in the proposed models in Chapter Four (see §4.5). In order to examine the theoretical relationships between constructs while controlling for measurement errors, the relationships are evaluated simultaneously in structural equation models using AMOS 21.

### *Model Identification Issues*

The issues pertaining to model identification were examined for the two proposed *Social Capital – Emotion – Reciprocity* models. Both models assess the impact of social capital, through emotion, on the likelihood of reciprocity. In order to ensure the successful operation of the model without a model identification issue, each of the four common indicators was examined against the criteria set out by Hair et al. (2006), which include: 1) the presence of very large standard error for one or more coefficients; 2) the inability of AMOS to invert the information matrix; 3) unreasonable estimates such as negative error variances; and 4) correlations above 0.90. The next step towards ascertaining model identification in this research was to treat the two social capital elements (i.e., bridging vs. bonding) as separate constructs, it being recognised that they are not mutually exclusive (Putnam, 2000). Therefore an important assumption made when examining the issues of identification for the model is that bridging and bonding social capital are correlated. Creating correlations between these social capital measures takes into account the fact that the constructs would share a certain amount of covariance.

Complementing these checks, AMOS 21 has a built-in function and diagnostic information to assess the above criteria. The results showed that there was no serious issue of model identification. Firstly, there were no unusually large standard errors in the model; secondly, AMOS was able to invert the information matrix; thirdly, there were no negative variances in the model; lastly, the highest correlation among exogenous variables was between bridging social capital and bonding social capital ( $r = 0.86$  in Model Two), which is below the threshold of 0.9 (Hair et al., 2006). Based on these cumulative pieces of evidence, the proposed models fulfilled the key assumptions of model identification. For the reader's reference, the structural model with parameters estimated and associated outputs is presented in Appendices X and XI.

## 7.5.1. Hypothesis Tests for Conceptual Model One

### 7.5.1.1. Model Estimation: Goodness of Fit Statistics

A few researchers have observed that no one measure emerges as the key measure of goodness of fit (e.g., Anderson and Gerbing, 1988; Hair et al., 2006; Hu and Bentler, 1995; Schumaker and Lomax, 2004, also see Table 5.15). Thus, it requires a combination of Goodness of Fit Statistics to inform the model fit, such as Chi-square statistics ( $\chi^2$ ), the RMSEA value and a set of baseline comparison fit/incremental fit indices (e.g., CFI, IFI, NFI and TLI). Specifically, Bollen and Long (1993) suggest that particular attention should be placed on the IFI and CFI indices, which are less sensitive to the assumption of normality. These statistics were produced by AMOS 21 and are reported in the following subsections.

The overall fit measures of the structural equation model produced by AMOS 21 suggested that the hypothesised model provides a good fit to the data. The Chi-square statistic for the model is 55.897 with 30 degrees of freedom and a significant *p-value* of 0.003, which indicates some discrepancy between the predicted and actual covariance/correlation matrices. However this yields a  $\chi^2/DF$  ratio of 1.86, which is within the threshold level suggested by Marsh and Hocevar (1985). Furthermore, a central criticism of the Chi-square measure is that it is over sensitive to sample size differences (e.g., Bagozzi and Foxall, 1996; Hair et al., 2006; Joreskog and Sorbom, 1993), especially for data sets like this one, where the sample size exceeds 200 respondents. In other words, the large sample size will inevitably provide a significant Chi-square statistic (Jaccard and Wan, 1996), indicating a statistical difference between the estimated and observed variance-covariance matrices. Thus, if the sample size becomes large enough, significant differences will be found for any specified model (Hair et al., 2006).

In order to reduce the effect caused by large sample size, the RMSEA statistic is evaluated because it tests a “close” fit to the population (Jaccard and Wan, 1996). This statistic attempts to correct for the tendency of the Chi-square statistic to reject any specified model with a sufficiently large sample. The RMSEA for this model is 0.033, which can be considered to represent an excellent fit, because Hair et al., (2006) and Browne and Cudeck (1993) both suggest that values less than 0.05 can be deemed as excellent.

Additionally, due to the sensitivity of the Chi-square measure, four other measures of baseline comparison fit/ Incremental fit indices are reported (e.g., CFI, IFI, NFI and TLI). These baseline comparison /Incremental fit indices provide a relative comparison between the proposed model and the null model (Bentler, 1990; Hair et al., 2006) and they have been recommended to counteract the influence of the sample size (Sweeney et al., 1999). A rule of thumb is that all of these indices should be greater than 0.9 (Sweeney et al., 1999; Hair et al., 2006). Firstly, the CFI and the IFI for this model are both 0.996, which is greater than the threshold of 0.9; secondly, the NFI also yields a value over 0.992; and lastly, the TLI merges a measure of parsimony into a comparative index between proposed and null models (Hair et al., 2006). The TLI in this instance is 0.994, which represents an adequate model fit (see Table 7.19).

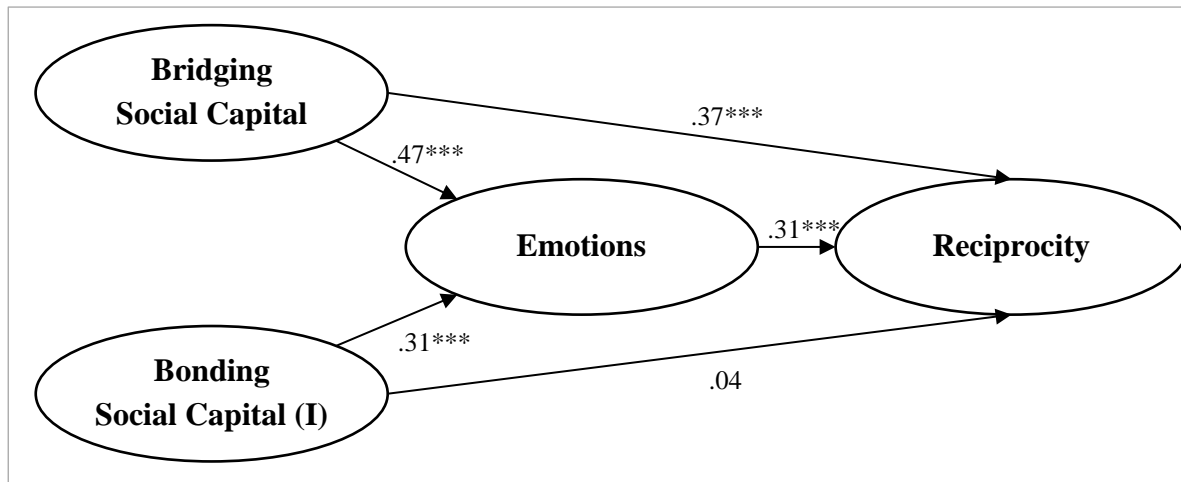
	<b>Chi-square (<math>\chi^2_{(30)}</math>)</b>	<b><math>\chi^2/DF</math></b>	<b>RMSEA</b>	<b>CFI</b>	<b>IFI</b>	<b>NFI</b>	<b>TLI</b>
<b>Model Fit</b>	55.879	1.86	0.033	0.996	0.996	0.992	0.994

Table 7.19: Summary of Goodness of Fit Statistics for Model One

### 7.5.1.2. Testing Results for Model One

The hypothesised relationships between exogenous and endogenous constructs formed the proposed model in Chapter Four (see §4.5). Six out of seven hypotheses are supported, and one is partially supported. The measurement coefficient for the hypothesised path model is shown in Figure 7.4, and a summary of results for all hypothesis tests is presented in Table 7.22. The findings will be further discussed in Chapter Eight.

Figure 7.4: Path Diagram of the Proposed Model One

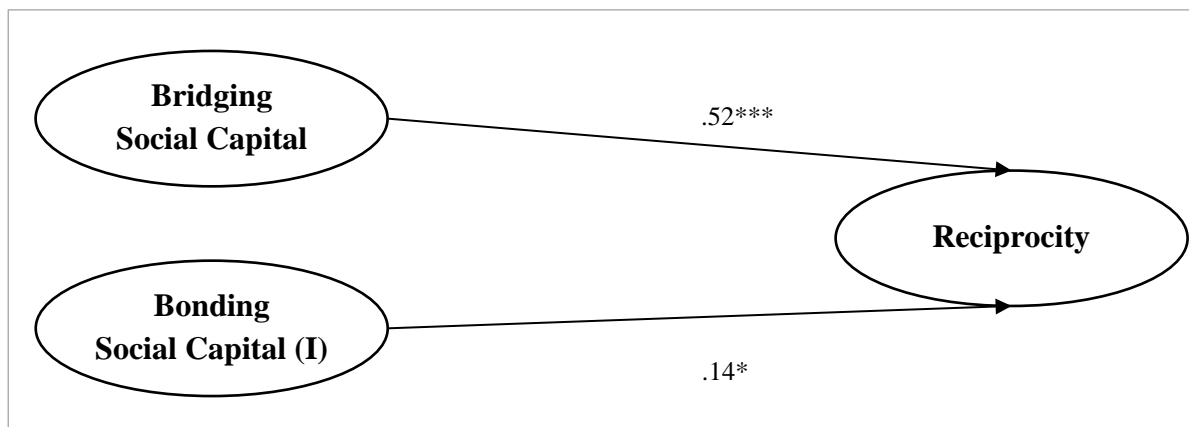


Note: (I) represents the indirect form of bonding – the number of postings; \*\*\* represents  $p < 0.001$ .

### ***Influence of Bridging and Bonding Social Capital***

*H1* and *H2* predict the influence of bridging and bonding social capital respectively on the likelihood of reciprocity when emotion is not taken into consideration (see Figure 7.5). *H1* is strongly supported in that bridging social capital (i.e., the number of followers) has a positive relationship with the likelihood of reciprocity ( $b = 0.52$ ,  $p\text{-value} < 0.001$ ). *H2* is also supported but with relatively weaker evidence ( $b = 0.14$ ,  $p\text{-value} = 0.031$ ), hence bonding social capital (i.e., the number of postings) has a relatively weaker impact on the likelihood of reciprocity than bridging social capital.

Figure 7.5: Direct Effects – The Impact of Social Capital on Reciprocity for Model One

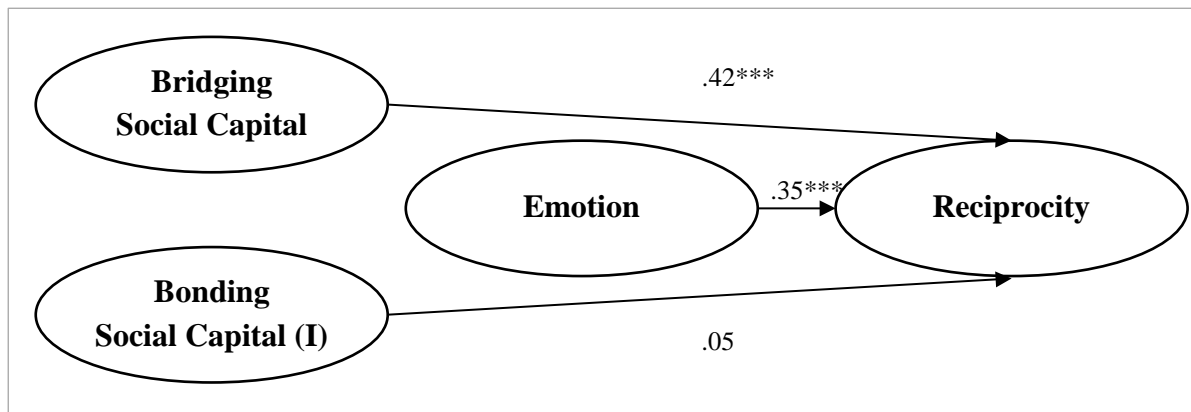


Note: (I) represents the indirect form of bonding – the number of postings; \*\*\* represents  $p < 0.001$ ; \* represents  $p < 0.05$ .

### ***Influence of Emotion***

*H5*, which predicts the influence of emotion on the likelihood of reciprocity, is supported ( $b = 0.346$ ,  $p\text{-value} < 0.001$ ), suggesting that emotion has a positive relationship with the likelihood of reciprocity. However, once the emotion construct is introduced, the direct effect of bridging social capital on the likelihood of reciprocity decreases from  $b = 0.52$  to  $0.42$  ( $p\text{-value} < 0.01$ ), and that of bonding social capital from  $b = 0.14$  to  $0.05$  ( $p\text{-value} = 0.426$ ) (see Figure 7.6). The significant changes suggest the potential mediation effects caused by emotion, which was tested in the next stage of analysis.

Figure 7.6: The Impact of Emotion on Reciprocity for Model One



Note: (I) represents the indirect form of bonding – the number of postings; \*\*\* represents  $p < 0.001$ .

### Testing of Mediation Effects

This research seeks to explore the possible mediation effects of emotion between bridging and bonding social capital on the likelihood of reciprocity. Thus, the intervening construct in this research, emotion, is the mediator. To test for mediation, the researcher followed Baron and Kenny’s (1986) procedures that involve a four-step approach in which several regression analyses are conducted and the significance of the coefficients is examined at each step. Table 7.20 summarises the results at each stage of the test. Review Steps 1-3 were used to determine the zero-order correlations between the three constructs. The result from Step 2 revealed that both bridging and bonding social capital constructs had significant relationships with emotion, thus providing evidence to support  $H6$  ( $b = 0.53$ ,  $p\text{-value} < 0.001$ ) and  $H7$  ( $b = 0.36$ ,  $p\text{-value} < 0.001$ ).

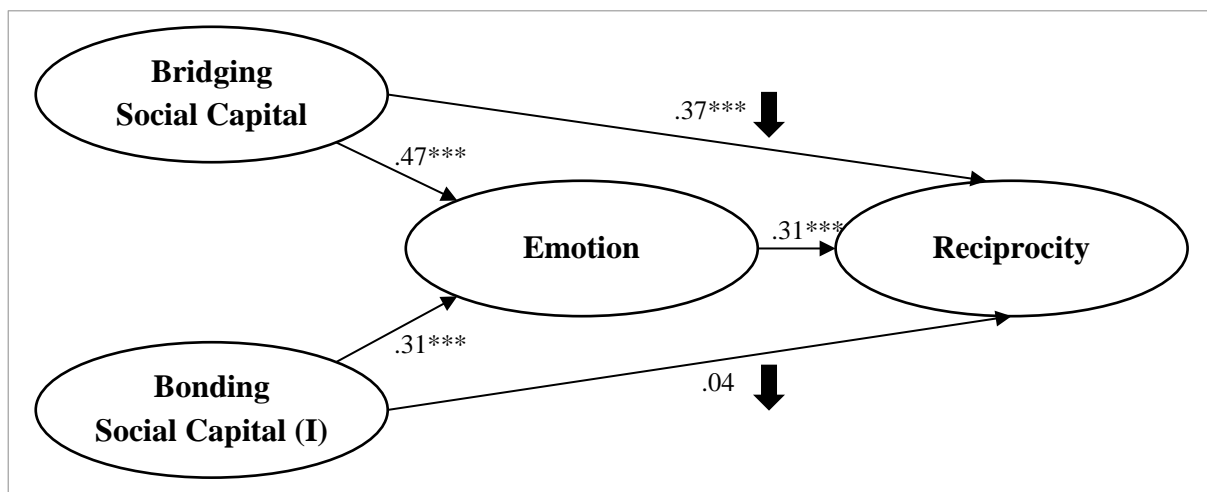
The final step of the mediation test was the introduction of the mediator (i.e., emotion) into the full path model (see Figure 7.7). On one hand, the beta coefficient between bridging social capital and reciprocity remained significant, but the effect was reduced ( $b = 0.52$  vs.  $b = 0.37$ ), which suggested that emotion was partially mediating the effect of bridging social capital on reciprocity, therefore  $H6a$  was partially supported. On the other hand, the beta coefficient between bonding social capital and reciprocity was no longer significant ( $p\text{-value} = 0.489$ ), which suggested that emotion fully mediated the effect of bonding social capital on reciprocity, therefore  $H7a$  was supported.

The final step of the mediation test also served as the hypotheses test for the overall proposed model, which simultaneously tested all the hypothetical paths providing evidence to support *H5* ( $b = 0.31, p\text{-value} < 0.001$ ), *H6* ( $b = 0.47, p\text{-value} < 0.001$ ) and *H7* ( $b = 0.31, p\text{-value} < 0.001$ ).

Table 7.20: Mediation Testing Procedures for Model One

Procedures	Analysis	
	Bridging SC → Reciprocity	Bonding SC → Reciprocity
<b>Step 1</b> Social Capital → Reciprocity	0.52 ( $p\text{-value} < 0.001$ )	0.14 ( $p\text{-value} = 0.031$ )
	Bridging SC → Emotion	Bonding SC → Emotion
<b>Step 2</b> Social Capital → Emotion	0.53 ( $p\text{-value} < 0.001$ )	0.36 ( $p\text{-value} < 0.001$ )
<b>Step 3</b> Emotion → Reciprocity	0.64 ( $p\text{-value} < 0.001$ )	
	Bridging SC → Reciprocity	Bonding SC → Reciprocity
<b>Step 4</b> Social Capital → Reciprocity	0.37 ( $p\text{-value} < 0.001$ )	<b>0.04 (<math>p\text{-value} = 0.489</math>)</b>
Social Capital → Emotion	0.47 ( $p\text{-value} < 0.001$ )	0.31 ( $p\text{-value} < 0.001$ )
Emotion → Reciprocity	0.31 ( $p\text{-value} < 0.001$ )	
<b>Results</b>	<b>Partial Mediation</b>	<b>Full Mediation</b>

Figure 7.7: Test of Mediation Effects for Model One

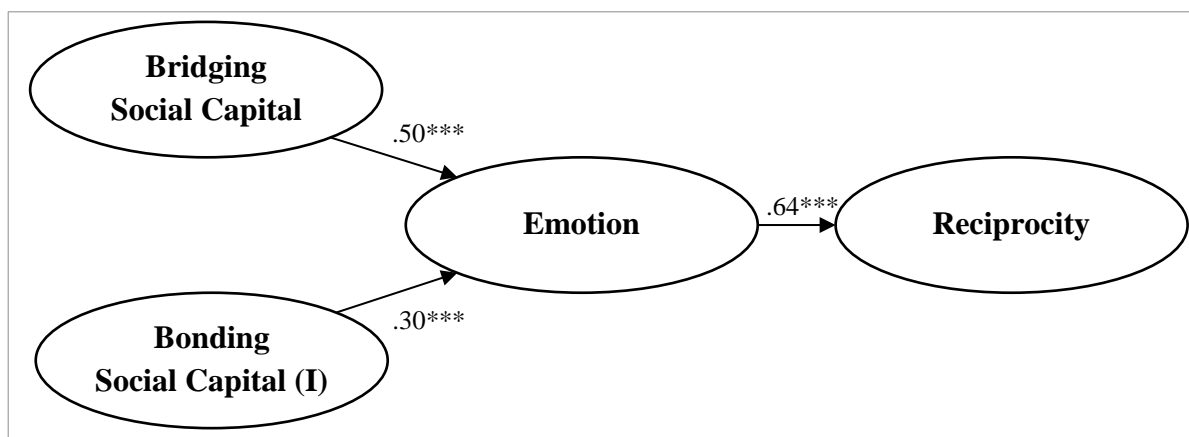


Note: (I) represents the indirect form of bonding – the number of postings; \*\*\* represents  $p < 0.001$ ; Arrows represents reduced direct effect of social capital on reciprocity due to mediation effects.

### Competing Model

The proposed model hypothesised the effect of emotion in mediating between social capital and the likelihood of reciprocity. The results showed that the direct effect of bonding social capital on reciprocity became non-significant ( $p\text{-value} = 0.489$ ) and the effect for bridging social capital was reduced. This allows the researcher to further test the competing theoretical model. Specifically, the competing model is based on the *Cognition – Emotion* school of thought (Lazarus, 1991), which removes the direct impact from social capital onto the likelihood of reciprocity. It is believed that reciprocity is positively and strongly achieved through the mediation effects (i.e., emotion mediates the impact of social capital on reciprocity). The path diagram for results of the proposed competing model is in Figure 7.8 below.

Figure 7.8: Proposed Competing Model of Reciprocity for Model One



Note: (I) represents the indirect form of bonding – number of postings; \*\*\* represents  $p < 0.001$ .

The results from the competing model indicated that both bridging social capital ( $b = 0.50$ ,  $p\text{-value} < 0.001$ ) and bonding social capital ( $b = 0.30$ ,  $p\text{-value} < 0.001$ ) had direct effects on emotion, and emotion had a stronger impact on the likelihood of reciprocity than in the original proposed model ( $b = 0.64$  vs.  $b = 0.31$ ). However, the Chi-square difference test indicated that the competing model provided a slightly poorer fit to the data than the proposed model. Further examination of the squared multiple correlations for both the proposed and the competing model revealed that the competing model explains marginally less variance in reciprocity (see Table 7.21).



Table 7.21: Comparison of Competing Model Fit Statistics for Model One

Fit measure	Proposed Model	Competing Model
$\chi^2_{(df)}$	$\chi^2_{(30)} = 55.879$	$\chi^2_{(32)} = 133.897$
SMC (Reciprocity)	0.45	0.404
PCFI	0.664	0.70
PNFI	0.661	0.697

Lastly, the parsimony of the two models was compared through observation of the parsimonious comparative indices (*PCFI* and *PNFI*, Table 7.21). The Parsimony-Adjusted Measures showed that both *PCFI* and *PNFI* of the competing model exceeds that of the proposed model; however, the difference is less than the 0.06 recommended by Williams and Holahan (1994) for accepting the competing model. However, specific examinations of the bridging social capital to reciprocity path revealed that in the proposed model the relationship between bridging social capital and reciprocity was not fully mediated by emotion, hence the direct effect of bridging social capital on reciprocity should not be ignored. This suggests that at least in this research the competing model yields less theoretical insight into the process of reciprocity and the dynamics of the *Cognition – Emotion* relationship, so that the proposed model may be more practical in terms of theory development.

Table 7.22: Summary of Hypotheses Test Results for Proposed Conceptual Model One

Hypothesis*		Evidence	Results
<b>H1</b>	Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered	$b = 0.52, C.R. = 8.01, p < 0.001.$ Direct effect of bridging social capital on reciprocity, emotion is not considered	<b>Supported</b>
<b>H2</b>	Bonding (I) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered	$b = 0.14, C.R. = 2.12, p = 0.03.$ Direct effect of bridging social capital on reciprocity, emotion is not considered	<b>Supported</b>
<b>H5</b>	Emotion has a positive relationship with the likelihood of reciprocity	$b = 0.31, C.R. = 6.71, p < 0.001.$	<b>Supported</b>
<b>H6</b>	Emotion is positively affected by the cognitive evaluation of bridging social capital	$b = 0.47, C.R. = 7.64, p < 0.001.$	<b>Supported</b>
<b>H6a</b>	Emotion mediates the relationship between bridging social capital and likelihood of reciprocity	$b$ reduced from 0.52 to 0.37, $p$ – value remained statistical significance, partial mediation only	<b>Partially Supported</b>
<b>H7</b>	Emotion is positively affected by the cognitive evaluation of bonding (I) social capital	$b = 0.31, C.R. = 4.99, p < 0.001.$	<b>Supported</b>
<b>H7a</b>	Emotion mediates the relationship between bonding (I) social capital and likelihood of reciprocity	$b$ reduced from 0.14 ( $p = 0.03$ ) to 0.04, $p$ – value showed statistical non-significance, full mediation achieved	<b>Supported</b>

Note: (I) represents the indirect form of bonding SC – the number of postings; Hypothesis\* – statistical evidence for *H5*, *H6* and *H7* was drawn from the results of the proposed model; statistical evidence for *H6a* and *H7a* was drawn from the test of mediation effects.

## 7.5.2. Hypothesis Tests for Conceptual Model Two

### 7.5.2.1. Model Estimation: Goodness of Fit Statistics

The overall fit measures of the structural equation model produced by AMOS 21 suggest that the hypothesised model provides a good fit to the data. The Chi-square statistics for the model is 93.47 with 49 degrees of freedom and a significant *p-value* of 0.000, which indicates some discrepancy between the predicted and actual covariance/correlation matrices. However this yields a  $\chi^2/DF$  ratio of 1.91, which is within the threshold level suggested by Marsh and Hocevar (1985). Furthermore, similarly to Model One, Model Two has also been tested with a large sample (n=800), hence it will inevitably provide a significant Chi-square statistic (Jaccard and Wan, 1996) indicating a statistical difference between the estimated and observed variance-covariance matrices. The RMSEA for this model is 0.034, which can be considered as an excellent fit (RMSEA > 0.05 – excellent fit, suggested by Hair et al., 2006)

Additionally, due to the sensitivity of the Chi-square measure, four other measures of baseline comparison fit/ Incremental fit indices are reported (i.e., CFI, IFI, NFI and TLI, see §7.5.1.1 for justifications). Firstly, the CFI and the IFI for this model are both 0.995, which is greater than the threshold of 0.9 (Sweeney et al., 1999; Hair et al., 2006); secondly, NFI also yield a value over 0.989 and lastly the TLI is 0.993, which represents an adequate model fit (see Table 7.23).

	Chi-square ( $\chi^2_{(49)}$ )	$\chi^2/DF$	RMSEA	CFI	IFI	NFI	TLI
<b>Model Fit</b>	93.47	1.91	0.034	0.995	0.995	0.989	0.993

Table 7.23: Summary of Goodness of Fit Statistics for Model Two

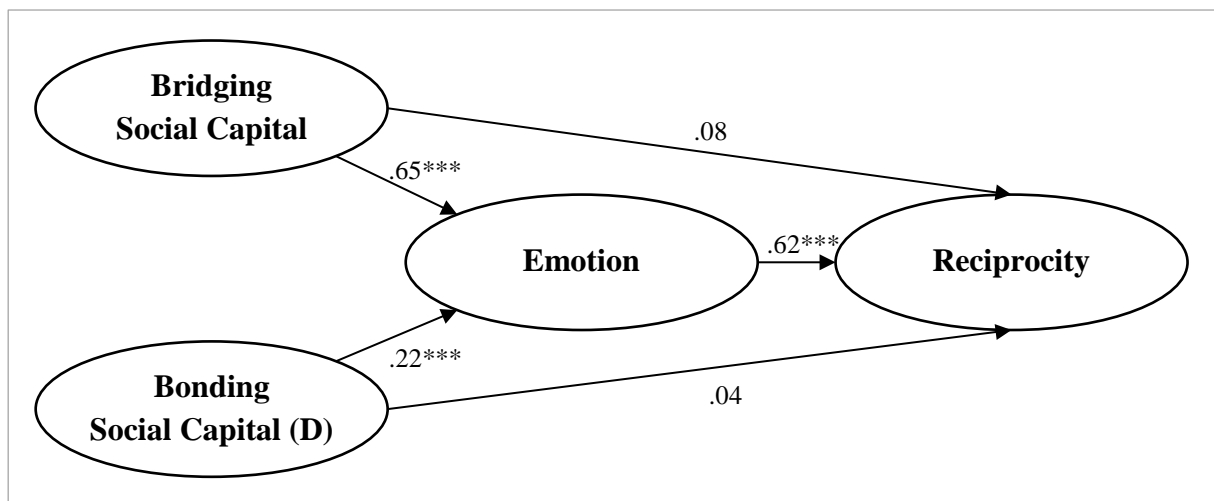
### 7.5.2.2. Testing Results for Model Two

The key difference between these two proposed models in this research was the operationalisation of bonding social capital. In Model One, discussed in the previous section, bonding social capital was operationalised as the index of number of postings, and a series of rating scale items were developed that specifically asked about participants’ perceptions of this type of indirect social bonding. In Model Two, bonding social capital was operationalised as the level of contribution to an individual Weibo user through the activity of commenting, and the same scale items used in Model One with minor modifications (e.g., item E2BoSC\_6

measuring direct emotional supports) were employed to measure participants' perceptions of the direct social bonding activity.

The hypothesised relationships between exogenous and endogenous constructs formed the proposed model in Chapter Four (see §4.5). All of the hypotheses are supported. The measurement coefficient for the hypothesised Conceptual Model is shown in Figure 7.9, and a summary of results for all hypotheses tests is presented in Table 7.26. The findings will be further discussed in Chapter Eight.

Figure 7.9: Path Diagram of the Proposed Model Two

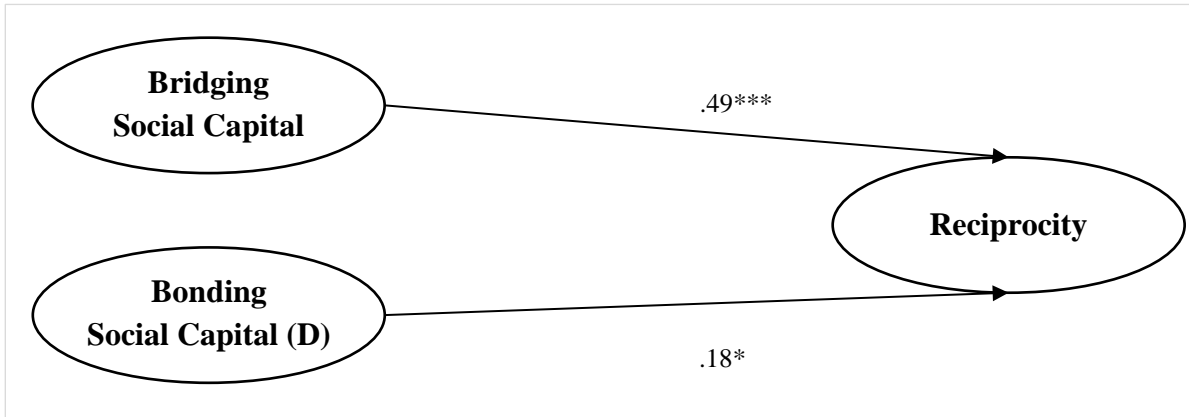


Note: (D) represents the 'direct' form of bonding – social interaction in the form of comments; \*\*\* represents  $p < 0.001$ .

### ***Influence of Bridging and Bonding Social Capital***

*H1* and *H2* predict the influence of bridging and bonding social capital respectively on the likelihood of reciprocity when emotion is not taken into consideration (see Figure 7.10). *H1* is supported in that bridging social capital (i.e., the number of followers) has a positive relationship with the likelihood of reciprocity ( $b = 0.49$ ,  $p\text{-value} < 0.001$ ). *H2* is also supported but with relatively weaker evidence ( $b = 0.18$ ,  $p\text{-value} = 0.009$ ), hence bonding social capital (i.e., comments) has a relatively weaker impact on the likelihood of reciprocity than bridging social capital, which is consistent with the finding in Model One.

Figure 7.10: Direct Effects – The Impact of Social Capital on Reciprocity for Model Two

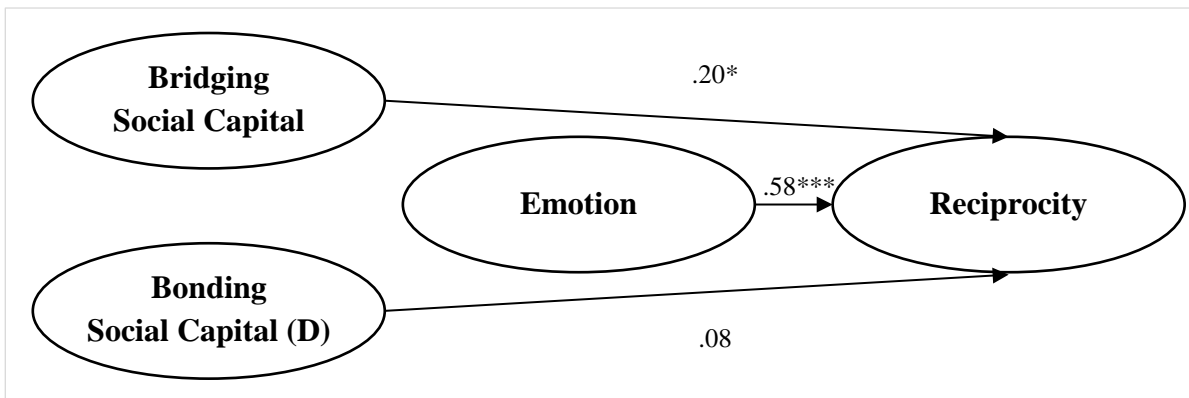


Note: (D) represents the direct form of bonding – social interaction in the form of comments; \*\*\* represents  $p < 0.001$ ; \* represents  $p < 0.05$ .

### ***Influence of Emotion***

*H5*, which predicts the influence of emotion on the likelihood of reciprocity, is supported ( $b = 0.58$ ,  $p$ -value  $< 0.01$ ), suggesting that emotion has a positive relationship with the likelihood of reciprocity. However, once the emotion construct was introduced, the direct effect of bridging social capital on the likelihood of reciprocity decreased from  $b = 0.49$  to  $0.20$  ( $p$ -value =  $0.004$ ), and that of bonding social capital from  $0.18$  to  $0.08$  ( $p$ -value =  $0.269$ ) (see Figure 7.11). The significant changes suggest the potential mediation effects caused by emotion, which was tested in the next stage of analysis.

Figure 7.11: The Impact of Emotion on Reciprocity for Model Two



Note: (D) represents the 'direct' form of bonding – social interaction in the form of comments; \*\*\* represents  $p < 0.001$ ; \* represents  $p < 0.05$ .

### Testing of Mediation Effects

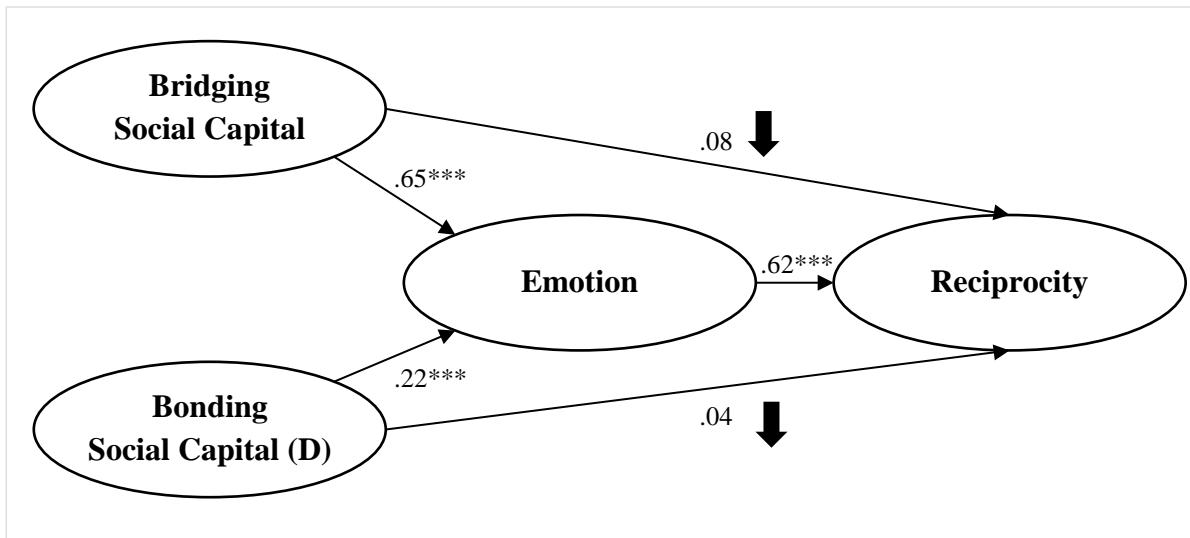
This research seeks to explore the possible mediation effects of emotion between bridging and bonding social capital on one hand and the likelihood of reciprocity on the other. Thus, the intervening construct in this research, emotion, is the mediator. To test for mediation, the researcher followed Baron and Kenny's (1986) procedures that was undertaken in Model One. Table 7.24 summarises the results at each stage of the test. Review Steps 1-3 were used to determine the zero-order correlations between the three constructs. The result from Step 2 revealed that both bridging and bonding social capital constructs had significant relationships with emotion, thus providing evidence to support  $H6$  ( $b = 0.65$ ,  $p\text{-value} < 0.001$ ) and  $H7$  ( $b = 0.22$ ,  $p\text{-value} < 0.001$ ). The final step of the mediation test was the introduction of the mediator (i.e., emotion) into the full path model (see Figure 7.12). The results showed that the beta coefficient between bridging social capital and reciprocity became non-significant ( $p\text{-value} = 0.267$ ), and the effect had been decreased ( $b = 0.49$  vs.  $b = 0.008$ ), which suggests that emotion was fully mediating the effect of bridging social capital on reciprocity, therefore  $H6a$  was supported. In addition, the beta coefficient between bonding social capital and reciprocity was also no longer significant ( $p\text{-value} = 0.56$ ), which suggested that emotion fully mediated the effect of bonding social capital on reciprocity, therefore  $H7a$  was supported. The final step of the mediation test also served as the hypotheses test for the overall proposed model, which simultaneously tested all the hypothetical paths and provided evidence to support  $H5$  ( $b = 0.62$ ,  $p\text{-value} < 0.001$ ),  $H6$  ( $b = 0.65$ ,  $p\text{-value} < 0.001$ ) and  $H7$  ( $b = 0.22$ ,  $p\text{-value} < 0.001$ ).

Table 7.24: Mediation Test Procedures for Model Two

Procedures	Analysis	
<i>Step 1</i> Social Capital → Reciprocity	Bridging SC → Reciprocity 0.49 ( $p\text{-value} < 0.001$ )	Bonding SC → Reciprocity 0.18 ( $p\text{-value} = 0.009$ )
<i>Step 2</i> Social Capital → Emotion	Bridging SC → Emotion 0.65 ( $p\text{-value} < 0.001$ )	Bonding SC → Emotion 0.22 ( $p\text{-value} < 0.001$ )
<i>Step 3</i> Emotion → Reciprocity	0.72 ( $p\text{-value} < 0.01$ )	
<i>Step 4</i> Social Capital → Reciprocity	Bridging SC → Reciprocity <b>0.06</b> ( $p\text{-value} = 0.267$ )	Bonding SC → Reciprocity <b>0.04</b> ( $p\text{-value} = 0.56$ )
Social Capital → Emotion	0.65 ( $p\text{-value} < 0.001$ )	0.22 ( $p\text{-value} < 0.001$ )
Emotion → Reciprocity	0.62 ( $p < 0.01$ )	

Procedures	Analysis	
Results	Full Mediation	Full Mediation

Figure 7.12: Test of Mediation Effects for Model Two

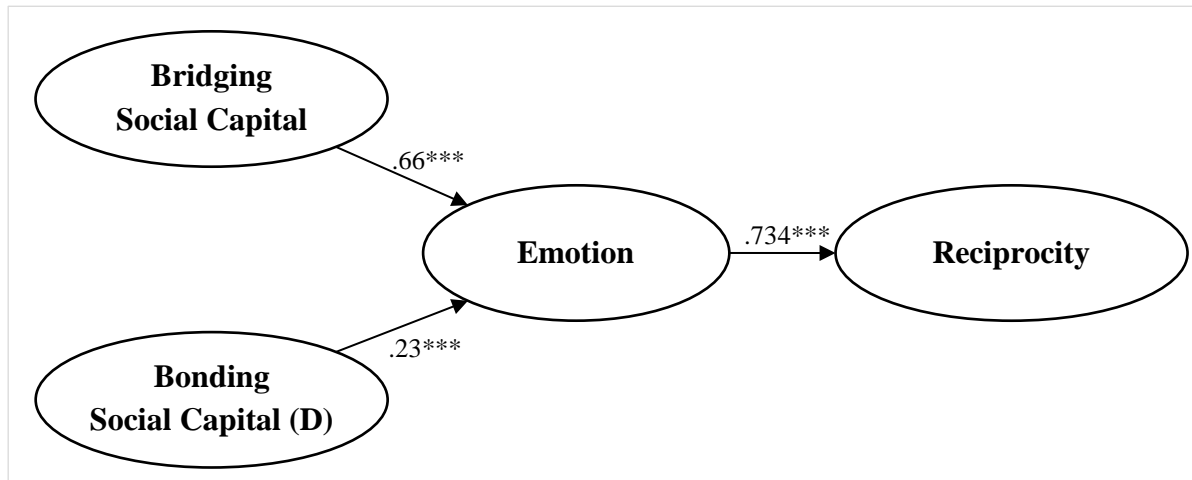


Note: (D) represents the direct form of bonding – social interaction in the form of comments; \*\*\* represents  $p < 0.001$ ; Arrow represents reduced direct effect of social capital on reciprocity due to mediation effect.

### Competing Model

The proposed model hypothesised the effect of emotion in mediating between social capital and the likelihood of reciprocity. The results showed that the direct effect of both types of social capital on reciprocity became non-significant (i.e.,  $p\text{-value} = 0.267$  for bridging social capital and  $p\text{-value} = 0.56$  for bonding social capital) and the effect for both types of social capital has significantly decreased. This allowed the researcher to further test the theoretical competing model. Specifically, the competing model is based on the *Cognition – Emotion* school of thought (Lazarus, 1991), which removes the direct impact from social capital onto the likelihood of reciprocity. It is believed that reciprocity is positively and strongly achieved through the mediation effects (i.e., emotion mediates the impact of social capital on reciprocity). The path diagram for result of the proposed competing model is in Figure 7.13.

Figure 7.13: Proposed Competing Model of Reciprocity for Model Two



Note: (D) represents the direct form of bonding – social interaction in the form of comments; \*\*\* represents  $p < 0.001$ ;

The results from the competing model indicated that both bridging social capital ( $b = 0.66$ ,  $p$ -value  $< 0.001$ ) and bonding social capital ( $b = 0.23$ ,  $p$ -value  $< 0.001$ ) had direct effects on emotion, and that emotion had a stronger impact on the likelihood of reciprocity than in the original proposed model ( $b = 0.734$  vs.  $b = 0.62$ ). In addition, the Chi-square difference test indicated that there was no significant difference between the two models. Further examination of the squared multiple correlations for both the proposed and the competing model revealed that the competing model explains marginally more variance in reciprocity. Lastly, the Parsimony-Adjusted Measures showed that both PCFI and PNFI of the competing model exceeds that of the proposed model; however, the difference is less than the 0.06 recommended by Williams and Holahan (1994) for a direct acceptance of the competing model. However, direct effects from social capital to reciprocity were non-significant and close to zero in the proposed model, hence the full mediation effects have superiority over direct effects and it confirms the theory of the *Cognition – Emotion* school of thought (Lazarus, 1991), so that this research acknowledges the competing model to be superior to the proposed model, and it is accepted.

Table 7.25: Comparison of Competing Model Fit Statistics for Model Two

Fit measure	Proposed Model	Competing Model
$\chi^2$ (df)	$\chi^2_{(49)} = 93.47$	$\chi^2_{(51)} = 97.376$
SMC (Reciprocity)	0.525	0.531
PCFI	0.739	0.769
PNFI	0.735	0.764



Table 7.26: Summary of Hypotheses Test Results for Proposed Conceptual Model Two

Hypothesis*		Evidence	Results
<b>H1</b>	Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered	$b = 0.49, C.R. = 7.19, p < 0.001.$ Direct effect of bridging social capital on reciprocity, emotion is not considered	<b>Supported</b>
<b>H2</b>	Bonding (D) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered	$b = 0.18, C.R. = 2.60, p = 0.009.$ Direct effect of bonding social capital (D) on reciprocity, emotion is not considered	<b>Supported</b>
<b>H5</b>	Emotion has a positive relationship with the likelihood of reciprocity	$b = 0.73, C.R. = 25.01, p < 0.001.$	<b>Supported</b>
<b>H6</b>	Emotion is positively affected by the cognitive evaluation of bridging social capital	$b = 0.66, C.R. = 11.51, p < 0.001.$	<b>Supported</b>
<b>H6a</b>	Emotion mediates the relationship between bridging social capital and likelihood of reciprocity	$b$ reduced from 0.49 ( $p < 0.001$ ) to 0.08, $p$ – value became statistical non-significance, full mediation achieved	<b>Supported</b>
<b>H7</b>	Emotion is positively affected by the cognitive evaluation of bonding (D) social capital	$b = 0.23, C.R. = 4.12, p < 0.001.$	<b>Supported</b>
<b>H7a</b>	Emotion mediates the relationship between bonding (D) social capital and likelihood of reciprocity	$b$ reduced from 0.18 ( $p = 0.03$ ) to 0.04, $p$ – value became statistical non-significance, full mediation achieved	<b>Supported</b>

Note: (D) represents the direct form of social bonding – comments; Hypothesis\* – statistical evidence was drawn from the results of the competing model for H5, H6, H7; statistical evidence for H6a and H7a was drawn from the test of mediation effects.

## 7.6. Chapter Summary

This chapter provided the analytical procedures undertaken for the hypothesis testing for two proposed *Social Capital – Emotion – Reciprocity Models*. Assumptions checks were performed with an emphasis on outlier detection and normality (§7.2.1 - 7.2.2). 3% (i.e., 26/800) of participants were considered as potential outliers, but the sample size was sufficiently large (n=800), and in order to prevent losing important information and to increase the generalisability of the result, all cases were retained in the data. The data does not show severe non-normality, with the ratio of respondents to parameters over 15:1, therefore the assumptions for structural equation modelling (SEM) were fulfilled for the data.

In order to identify structure through data summarisation and data reduction, exploratory factor analyses (EFA) were performed for the two proposed conceptual models, using SPSS 21. For both Model One [Social Capital (bridging & bonding (indirect)) → Emotion → Reciprocity] and Model Two [Social Capital (bridging & bonding (direct)) → Emotion → Reciprocity], their EFA factor structure consists of three distinctive factors and all constructs intended for SEM loaded onto their respected factors.

Confirmatory factor analyses (CFA) for scale evaluation and refinement were performed in AMOS 21, unidimensionality, discriminant validity, reliability and construct validity for all measures implemented in the two proposed conceptual models were established. The refinement of the scale end up with 9 items for Model One and 11 items for Model Two (see Table 7.11 & 7.18). This substantial reduction in the scale items (from 24 items) does not concern the researcher, since the scale was adopted from a Western context and modified to fit into Chinese context, the composite reliability of each construct was calculated and the results showed that all composite reliabilities exceeded the 0.70 level recommended by Nunnally (1978), therefore reliability was achieved.

Upon completion of the individual CFA for each model, the constructs were merged into the proposed conceptual model for hypothesis testing (§7.5.1 & 7.5.2). For Model One, six out of seven hypotheses were strongly supported, and the mediation effects were partially supported. For Model Two, all seven hypotheses were strongly supported.

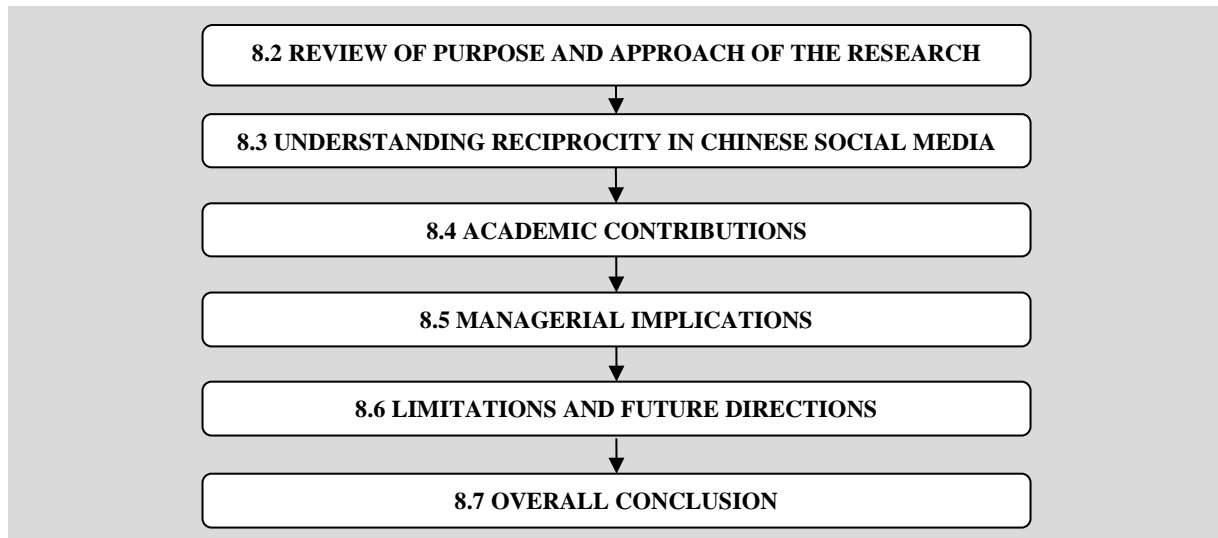
The parsimony of the proposed conceptual models and competing models were compared through observation of their parsimonious comparative indices, and the proposed Model One and the competing model for Model Two were favoured due their confirmation of theory and their practicality. Overall, the results from the conceptual model confirm that reciprocal behaviour in social media involves a process of mutual recognition between benefactors (i.e., followers) and recipients (i.e., users receiving followings) involving cognitive evaluation of each other's embedded value in their bridging and bonding social capital, and mediation through emotions triggered from the evaluation.

## CHAPTER 8: DISCUSSION, CONTRIBUTIONS AND FUTURE DIRECTIONS

### 8.1. Chapter Overview

This chapter concludes the thesis by providing in-depth discussions on findings obtained from the exploratory research (Chapter 3), the experiments (Chapter 6) and the modelling (Chapter 7) conducted around the concept of reciprocity in a Chinese SNS – Weibo. The first section of this chapter (§8.2) recaptures and discusses the purpose and approach of the research and is followed by an in-depth discussion of reciprocity in Chinese social media (§8.3), and of each research objective (§8.3.1-§8.3.4). The fourth section (§8.4) discusses the academic contributions to theory and methodology, and managerial implications (§8.5) are provided based on the key findings of the research, and also extended beyond user-to-user relationships to user-to-business relationships. The limitations of the research and future research directions are also discussed (§8.6), and an overall conclusion of the thesis is provided (§8.7). A summary of the research approach employed and key findings are provided in Table 8.1. Figure 8.1 illustrates the structure of this chapter.

Figure 8.1: Structure of Chapter Eight



## 8.2. Review of Purpose and Approach of the Research

This research was inspired by the largest extent of the reciprocal following phenomenon (commonly known as “*hufen*,” 互粉 in Chinese, which means “fans of each other”) in the largest Chinese SNS – Sina Weibo. Most research on SNSs to date has tended to focus on the conversational part of the community activities (Lampel and Bhalla, 2007), which involves the analysis of exchanges of messages and advice shared among SNS users. In contrast, this research focused on how reciprocal behaviour is affected by a follower’s social status, a key reference point on the basis of which recipients perceive discrepancies in value exchange. In particular, the research focused on the initiation and establishment of social relationships between strangers, an area which has received relatively little academic attention. This is important because a high proportion of social relationships were found to be built on serendipity (i.e., following one user without purposely looking for him/her). Hence, there is typically a lack of prior direct social interaction among users. This creates an interesting environment in which to test different theoretical explanations of reciprocity.

In the last decade reciprocity has been empirically studied primarily in the economics domain. Many types of experiments have been designed to capture reciprocal behaviours, but they have focused mainly on economic transactions which were largely monetarily incentivised. As a result, reciprocal behaviours were largely influenced by economic pay-outs and personality traits such as risk aversion. However, marketing researchers have not paid sufficient attention reciprocal behaviours in the marketplace. There are very few marketing studies that use experimental design to study reciprocity, and the effects of different levels of social distance and types of emotions in influencing reciprocity remain undiscovered. Therefore, one of the underlying purposes of this research is the acquisition of new knowledge about the norm of reciprocity in the virtual space of social media.

Specifically, this research included an exploratory study and two experimental simulations. A qualitative exploratory research was used to understand the phenomenon of reciprocal following behaviour, and sought to enable the building of a process-driven reciprocity model, conducted in a natural virtual environment and reporting the opinions of respondents. The quantitative stage of the research was based on testing theories (e.g., *Cognition – Emotion* school of thought, also see § 2.3: Key Theories which Underpin Reciprocity ) in order to determine whether their predictive generalisations held true, using constructs operationalised

in scales, measured with numerical data, and analysed through statistical procedures (i.e., two-way ANOVA, EFA, CFA and SEM).

More specifically, the experimental simulations (i.e., 2x2 design with scenario tests) were used to understand how the trade-off was made (i.e., based on cognitive evaluation) between two types of social networking influence indices: bridging social capital and bonding social capital (identified in the exploratory research). In addition, to further understand the role of emotion in SNS users' decision making, the research also incorporated the behavioural modelling approach. Overall, in the virtual space of social media the researcher has found strong evidence to support the *Cognition – Emotion* school of thought (Lazarus, 1991), which suggests that emotion plays a role as a mediator in catalysing the process of reciprocity based on the cognitive evaluation of social capital. It is also suggested that emotional triggers show greater influence than the status incentives of social capital. A summary of both the qualitative and the quantitative approach, and the findings, is provided in Table 8.1.

Table 8.1: Summary of Research Approach and Key Findings

	Qualitative Research	Quantitative Research			
	In-depth Interviews	Experiment One	Experiment Two	Conceptual Model One	Conceptual Model Two
<b>Aims</b>	<ul style="list-style-type: none"> <li>- To make available an accurate a description of the reciprocity phenomenon in social media</li> <li>- To investigate the existence of reciprocity and its magnitude in SNSs</li> <li>- To identify factors influencing reciprocity in SNSs</li> <li>- To assist in conceptual model development</li> </ul>	<ul style="list-style-type: none"> <li>- To determine if bridging social capital (the number of followers) and bonding social capital (the number of postings, an indirect form of bonding) have positive impacts on reciprocity</li> </ul>	<ul style="list-style-type: none"> <li>- To determine if bridging social capital (the number of followers) and bonding social capital in its direct form (i.e., commenting activity) impact on the reciprocity</li> </ul>	<ul style="list-style-type: none"> <li>- To empirically test the proposed social capital-emotion-reciprocity conceptual model</li> <li>- To test the mediation role of emotion</li> <li>- To provide additional supporting evidence for Experiment One</li> <li>- To confirm theory: <i>Cognition-Emotion</i> school of thought</li> </ul>	<ul style="list-style-type: none"> <li>- To empirically test the proposed social capital-emotion-reciprocity conceptual model</li> <li>- To test the mediation role of emotion</li> <li>- To provide additional supporting evidence for Experiment Two</li> <li>- To confirm theory: <i>Cognition-Emotion</i> school of thought</li> </ul>
<b>Method</b>	<ul style="list-style-type: none"> <li>- Semi-structured, in-depth interviews</li> <li>- Eight respondents</li> <li>- Transcripts analysed by using Nvivo 7.0</li> </ul>	<ul style="list-style-type: none"> <li>- Online experiment: scenario test</li> <li>- 2x2 balanced design</li> <li>- Sample size = 800</li> <li>- Analysed in SPSS21: Two-way ANOVA</li> </ul>	<ul style="list-style-type: none"> <li>- Online experiment : scenario test</li> <li>- 2x2 balanced design</li> <li>- Sample size = 800</li> <li>- Analysed in SPSS21: Two-way ANOVA</li> </ul>	<ul style="list-style-type: none"> <li>- Online questionnaire attached to Experiment One</li> <li>- Attitudinal measure</li> <li>- EFA, CFA &amp; SEM in AMOS 21</li> </ul>	<ul style="list-style-type: none"> <li>- Online questionnaire attached to Experiment Two</li> <li>- Attitudinal measure</li> <li>- EFA, CFA &amp; SEM in AMOS 21</li> </ul>
<b>Operationalisation</b>	-	<ul style="list-style-type: none"> <li>- Bridging social capital: manipulation of the number of followers in two levels (higher vs. lower)</li> <li>- Bonding social capital: manipulation of the number of positing in two levels (higher vs. lower)</li> <li>- Dependent variable: likelihood to reciprocate</li> </ul>	<ul style="list-style-type: none"> <li>- Bridging social capital: manipulation of the number of followers in two levels (higher vs. lower)</li> <li>- Bonding social capital: manipulation of level of textual richness in comments number of positing in two levels (short &amp; brief vs. long &amp; detailed)</li> <li>- Dependent variable: likelihood to reciprocate</li> </ul>	<ul style="list-style-type: none"> <li>- Bridging social capital: measuring participants' perceptions toward the manipulation of the number of followers by using modified internet social capital scale(ISCS)</li> <li>- Bonding social capital: measuring participants' perceptions toward the manipulation of the number of postings by using modified ISCS</li> <li>- Emotion: measuring participants' emotional responses when carrying out reciprocal behaviours</li> </ul>	<ul style="list-style-type: none"> <li>- Bridging social capital: measuring participants' perceptions toward the manipulation of the number of followers by using modified ISCS</li> <li>- Bonding social capital: measuring participants' perceptions toward the manipulation of the level of richness in comments by using modified ISCS</li> <li>- Emotion: measuring participants' emotional responses when carrying out reciprocal behaviours</li> </ul>

Table 8.1: Summary of Research Approach and Key Findings (Continued)

	Qualitative Research	Quantitative Research			
	In-depth Interviews	Experiment One	Experiment Two	Conceptual Model One	Conceptual Model Two
Hypotheses	<p>Not Applicable for Qualitative Research</p> <p>[Notes for Experiments &amp; Conceptual Models: *- direct bonding, comments; <i>I</i> - indirect bonding, the number of postings; <i>D</i>- direct bonding, comments]</p>	<p><b>H1a:</b> The greater the discrepancy in bridging social capital (followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user (<i>Supported</i>)</p> <p><b>H2a:</b> The greater the discrepancy in bonding social capital (postings) between two social network users, the greater the likelihood that the less-esteemed user will reciprocate an action from a more-esteemed user (<i>Supported</i>)</p> <p><b>H3a:</b> Discrepancies in bonding social capital (postings) between two social network users will not interact with differences in bridging social capital (followers) to affect the likelihood of reciprocity (<i>Supported</i>)</p> <p><b>H4a:</b> The greater the discrepancy in combined social capital (bridging/followers + bonding/postings) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual (<i>Supported</i>)</p>	<p><b>H1a:</b> The greater the discrepancy in bridging social capital (followers) between two social network users, the greater the likelihood that the lower-status user will reciprocate an action from a higher-status user (<i>Supported</i>)</p> <p><b>H2a*:</b> Higher bonding social capital (long and detailed comments) leads to greater likelihood of reciprocity than lower bonding social capital (short and brief comments) (<i>Supported</i>)</p> <p><b>H3b:</b> Differences in bonding social capital (comments) will interact with differences in bridging social capital (followers) to affect the likelihood of reciprocity (<i>Supported</i>)</p> <p><b>H4b:</b> The greater the discrepancy in combined social capital (bridging/followers + bonding/comments) between two social network users, the greater the likelihood that the lower-capital individual will reciprocate an action from a higher-capital individual (<i>Supported</i>)</p>	<p><b>H1:</b> Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered (<i>Supported</i>)</p> <p><b>H2:</b> Bonding (I) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered (<i>Supported</i>)</p> <p><b>H5:</b> Emotion has a positive relationship with the likelihood of reciprocity (<i>Supported</i>)</p> <p><b>H6:</b> Emotion is positively affected by the cognitive evaluation of bridging social capital (<i>Supported</i>)</p> <p><b>H6a:</b> Emotion mediates the relationship between bridging social capital and likelihood of reciprocity (<i>Partially Supported</i>)</p> <p><b>H7:</b> Emotion is positively affected by the cognitive evaluation of bonding (I) social capital (<i>Supported</i>)</p> <p><b>H7a:</b> Emotion mediates the relationship between bonding (I) social capital and likelihood of reciprocity (<i>Supported</i>)</p>	<p><b>H1:</b> Bridging social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered (<i>Supported</i>)</p> <p><b>H2:</b> Bonding (D) social capital has a positive relationship with the likelihood of reciprocity when emotion is not considered (<i>Supported</i>)</p> <p><b>H5:</b> Emotion has a positive relationship with the likelihood of reciprocity (<i>Supported</i>)</p> <p><b>H6:</b> Emotion is positively affected by the cognitive evaluation of bridging social capital (<i>Supported</i>)</p> <p><b>H6a:</b> Emotion mediates the relationship between bridging social capital and likelihood of reciprocity (<i>Supported</i>)</p> <p><b>H7:</b> Emotion is positively affected by the cognitive evaluation of bonding (D) social capital (<i>Supported</i>)</p> <p><b>H7a:</b> Emotion mediates the relationship between bonding (D) social capital and likelihood of reciprocity (<i>Supported</i>)</p>



Table 8.1: Summary of Research Approach and Key Findings (Continued)

	Qualitative Research	Quantitative Research			
	In-depth Interviews	Experiment One	Experiment Two	Conceptual Model One	Conceptual Model Two
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>- Reciprocity commonly exists in SNSs</li> <li>- Magnitude of reciprocity shows a diminishing trend</li> <li>- Emotions that were most commonly found to catalyse reciprocal behaviours among respondents: feelings of liking, gratitude, empathy/sympathy and indebtedness</li> <li>- Three key factors are identified in influencing reciprocity in the process of cognitive evaluation on users' social profile: bridging &amp; bonding social capital, and expected reciprocal value</li> </ul>	<ul style="list-style-type: none"> <li>- All hypotheses are strongly supported</li> <li>- Participants followed by strangers showed a greater tendency to follow back on those who had more followers than themselves</li> <li>- Participants showed a greater tendency to follow back on strangers who contribute highly to, and participate in social networks rather than those who are less socially bonded (i.e., lower number of postings)</li> <li>- In all conditions, higher discrepancies in bridging social capital dominated, consistently leading to a higher likelihood of reciprocity regardless of the level of bonding social capital</li> <li>- Bridging (number of followers) and bonding social capital (number of postings) have different effects, and do not interact</li> </ul>	<ul style="list-style-type: none"> <li>- All hypotheses are strongly supported</li> <li>- The overall effect is shown in the finding that discrepancies in combined social capital affect the likelihood of reciprocity (more social capital generates more reciprocation)</li> <li>- Bridging social capital (followers) and bonding social capital (i.e., comments) have a significant interaction effect</li> <li>- Higher bonding social capital could help to reduce the perception of being less influential caused by lower bridging social capital and lead to higher level of reciprocity</li> <li>- Individuals with higher bridging social capital do not have to be highly engaged with others (i.e., short and brief comments), but are still able to gain relatively high level of reciprocity</li> </ul>	<ul style="list-style-type: none"> <li>- Six out of seven hypotheses are supported, and one is partially supported</li> <li>- Bridging social capital (followers) has a positive relationship with the likelihood of reciprocity</li> <li>- Bonding social capital (postings) has a relatively weaker impact on the likelihood of reciprocity than bridging social capital</li> <li>- Emotion has a positive relationship with the likelihood of reciprocity</li> <li>- Both bridging and bonding social capital have direct effects on emotion</li> <li>- The proposed model the relationship between bridging social capital and reciprocity was not fully mediated by emotion, hence the direct effect of bridging social capital on reciprocity should not be ignored</li> </ul>	<ul style="list-style-type: none"> <li>- All hypotheses are strongly supported</li> <li>- Bridging social capital (followers) has a positive relationship with the likelihood of reciprocity</li> <li>- Bonding social capital (comments) has a relatively weaker impact on the likelihood of reciprocity than bridging social capital</li> <li>- Emotion has a positive relationship with the likelihood of reciprocity</li> <li>- Both bridging and bonding social capital have direct effects on emotion</li> <li>- Emotion fully mediates the effects of bridging and bonding social capital on reciprocity</li> <li>- Full mediation effects have superiority over direct effects (the proposed model) and it confirms the theory of the <i>Cognition – Emotion</i> school of thought, and the competing model is accepted</li> </ul>

### 8.3. Understanding Reciprocity in Chinese Social Media

The Chinese expression of reciprocity (i.e., *Lishang Wanglai* (礼尚往来)) is a very old Chinese idiom. The English direct translation of the Chinese reciprocity is social exchange due to respect and courtesy. Many younger generation Chinese do not really comprehend the full meaning of *Lishang Wanglai*, because the word *Li* also means gifts (in the form of tangible and valuable goods/service) in Chinese, and the meaning of *Shang* (moral judgment) has therefore played little role in the social exchange. Therefore this expression has been narrowly understood by younger Chinese as the exchange of favours and the giving of gifts. Due to this narrow interpretation, many younger Chinese would normally relate reciprocity only to the context in which gifts/favours are exchanged, hence reciprocal actions in the physical context will depend on the value of the gifts/favours received. This strong cultural norm in Chinese society has led the researcher to think that a similar form of reciprocity may exist beyond physical gifts/favours exchange relationships, in large social networking sites among people who have no social ties. Therefore the phenomenon of “reciprocal following” in Sina Weibo was selected as the research focus.

#### *Reciprocity as a gift valuation system*

In a broad sense, the following action in SNSs represents one’s recognition for another’s contribution, and the following back action is a way for users to show respect to each other. Therefore the following action can be perceived as a type of gift giving in the virtual environment, and serves as a cause or trigger for the anticipated reciprocal action – following back. This view is consistent with Reciprocal Action Theory (Gouldner, 1960), which suggests kind actions need to be returned. Social media experts Lampel and Bhalla (2007) have called it online gift giving, a type of informational gift giving where the gifts take the form of opinions, information and advice. As a result of the gift giving by following others in the SNS, the recipient (of the following) may gain extra social influence and increased social capital from having additional followers. This increase will be directly reflected in users’ numbers of followers, and the accumulation of this number over time may help to build up the recipient’s reputation in the community, and may in turn generate more followers (e.g., Hofer and Aubert, 2013).

This research has therefore focused on how recipients respond towards the gift/favour being given, and this action in return is called reciprocity (Girju and Paul, 2011). Hence, one action

causes the other. The exploratory research reported in this thesis indicated that due to the inherent large social distances between SNS users, the tendency toward obligation to return has been undermined, especially between strangers. This suggests that to a certain extent the likelihood of reciprocity depends on the recipient's perception of the value of the gift (e.g., the following action). The exploratory research findings support this suggestion by confirming that (from recipients' perspectives) Weibo users base judgements of whether to reciprocate on the limited information available on their follower's social profile. On a general level, the information process is intended to strengthen the equity character of reciprocity, which means that reciprocity is most likely to be yielded when the recipient perceives that the value received is at least equal to or more than the cost of reciprocation.

Reciprocity outcomes vary depending on the embedded value (differences in social capital) that a user perceives in a particular encounter. Therefore, reciprocity depends upon a valuation system that can be used to distinguish between gifts and commodities. This thesis explains the conversion mechanism that transforms one into another. In Chinese social media, reciprocity is a particular form of exchanging services between users, and is subject to a blend of liberty and obligation. An engaging relationship (among users with strong social ties) is dominated by a mutual recognition of value received, or debt. The valuation system of reciprocity is based on the type of social relations established among social actors, therefore a simple following action can be considered a commodity if no relational benefit is perceived, or it can be perceived as a gift if there is potential benefit residing in the relation. The empirical results show strong evidence to support this argument, by showing that the likelihood of reciprocity is significantly higher when the discrepancy (in the numbers of follower/posting/comments) is relatively large, and recipients can potentially benefit more from the reciprocal exchange.

### ***How social hierarchies affect reciprocity***

The simple following action does not occur in isolation. The research revealed that *who* performs that action is critically important: in Chinese social media contexts, social status plays the most significant role in guaranteeing reciprocal following. Previous research (e.g., Sahlins, 1972) has largely focused on types of reciprocity, by considering “what, when and how much to return,” and understanding the direct and indirect forms of reciprocity (e.g., Fehr and Gächter, 2002). This research fills a gap by identifying the “who” component in the

process. And the question “why should we follow back?” can be deconstructed to “who should we follow back?” Because the motivations of “why” are hidden in the answers to “who.” In this research, the “who” component was assessed on the basis of the recipient’s priorities when making reciprocal following decisions, in terms of the number of followers and the number of postings, which represent two dimensions of social capital, bridging and bonding, respectively. The exploratory research found that the number of followers represents an individual’s level of social resource owned, and of social influence. In contrast, the number of postings represents an individual’s level of activity, contribution to and engagement with the community, and therefore one’s bonding to the community. Together these indices provide an adequate indicator of an individual’s social network influence, and the embedded value of these indices helps to determine the likelihood of reciprocity.

This research treats the two types of social capital – bridging and bonding – as carriers of value being exchanged, because the helping behaviour or the exchange of social value is relatively hard to determine in the social networking context due to its vagueness and remoteness. Findings indicate that the value being exchanged is embedded more in the social identity of the social network users than in their helping actions. This suggests that the implicit nature of the following action may be perceived differently depending on the embedded value that the social network influence indices carry, and on emotions that evolve in the iterative process.

Reciprocity in a social network may not be as intuitive as in the physical world where value exchange is more explicit and return is often prompted. In other words, whether the following action will be perceived as valued conduct depends on who performed the action, and this is very similar to the idea of “who you know” in the conduct of business in China. Therefore in the context of Weibo, the more followers an individual has, the more likely he/she will be followed back, because the value of the original following action has been enhanced by “how many you know and who you know” (larger social influence and extensive social connections). Those being followed by an individual who has high social influence may want to be affiliated with him/her in order to tap into his/her social network, or simply to show gratitude and appreciation. These exploratory findings reflect Foa’s (1971) Resource Exchange Theory that value embedded in one’s social status is exchanged.

To synthesise the findings discussed above, reciprocity in Chinese social media could be used to explain the stability of social hierarchies dominated by symbiotic relationships. In symbiotic relationships, users have a strong incentive to maintain the status quo, since social inferiors acquire status, prestige and power from the gift received by the privileged ones, in exchange for help in case of need. In Weibo, social inferiors are those users who have weaker social capital and strive to keep their voice heard, and these were more likely to reciprocate to those who had substantial social capital, because they received the affiliation of honour that they valued most. The key to the continuity of this kind of symbiotic relationship lies in the fact that two classes have different value systems regarding the act of “following.” When “being followed” is considered unimportant by a class of users who can actually provide it, and, at the same time, “being followed” is highly considered by a class of users who have no access to it, the creation of a social system in which asymmetrical exchange exists assures the existence and continuity of reciprocal relationships.

In addition, the empirical findings also suggested that bridging social capital showed significantly more influence on the likelihood of reciprocity than did bonding social capital, which in a way is consistent with the Chinese custom of respecting the hierarchy of power: even when a high level of (direct) bonding capital (i.e., commenting) was presented, higher bridging social capital still yielded a marginally higher level of tendency to reciprocate. Although there is no empirical evidence from any other cultural context to make comparisons with, a few academics from Western cultural backgrounds (e.g., New Zealand and the US scholars from The University of Auckland Business School) have suspected that there might be a different result in a culture with low-power distance and higher levels of individualism, because direct personal bonding activities could be more valued there.

### 8.3.1. Existence of Reciprocity and its Magnitude in SNSs

Reciprocity has been observed to be a universal phenomenon (Burgoon et al., 2002), which is commonly seen as a norm (Cialdini, 1993). Consequently, reciprocity is also important in virtual communities, and because it has been claimed that the concept is a building block of any form of social community, this should include communities based in online social networks (Leider et al., 2009). However, little attention has been given to the nature of reciprocal behaviour in social media.

The focus of this research is to understand SNS users' reciprocal behaviour in relation to the initiation of relationships between strangers. The reasons for focusing on these specific social ties are threefold. Firstly, both previous research and exploratory findings from this research showed that among people who have close social ties (i.e., established relationships such as family and friends), reciprocity is largely influenced by feelings of indebtedness or *renqing* (人情) ("emotional debts" in Chinese). Hence, users with affective ties in the physical world directly transfer their "real life" feelings to their online lives, therefore reciprocity is largely influenced less by their online activities than by their past experiences in their social interactions. Secondly, users who have one-directional ties (e.g., celebrities' and organisations' Weibo account) can hardly receive returns (i.e., following back) from those whom they follow, because of the unique features of these individuals (i.e., highly influential). It is commonly known that rather than these social exchanges being "real," these users' accounts are mostly managed by agents to create publicity. Lastly, most personal Weibo users have pseudonyms so that their real social identities can be protected and their expressions of feeling (e.g., comments relate to political issues) can be more freely expressed, and they will be hard for other users, or the authorities, to trace. Therefore, investigations into stranger-to-stranger online relationship can potentially provide a more true and accurate account of the social phenomenon of reciprocity.

The findings of the exploratory research indicated that there are two types of Weibo users – "those who always followed back" and "those who only followed back when there was a mutual benefit." Therefore, it appears that reciprocity does universally exist, but that it is not a norm that everyone follows in social media. Both groups practiced reciprocity, but to different degrees. Half claimed to be consciously reciprocal in their real lives as they sought to protect their face value; Chinese people believe that if a kind action is not repaid to people who they

already know, it is impolite and they may feel ashamed when they meet those people again. But the research subjects felt reluctant to reciprocate when followed by strangers in social media. This reflects a diminution of the norm of reciprocity, which, in an online environment, may be mainly caused by the perception of large social distances, the chance of escaping from being criticised, and as a way of avoiding unnecessary hassles. Therefore the norm of reciprocity was disrespected, but those who followed it benefited from serendipitously receiving unexpected information and meeting interesting people.

Overall, this research suggests that there is no fundamental division in reciprocity between the physical and the virtual environment, however the extent to which the norm is respected in Chinese social media is lower. The value embedded in the physical environment in favour exchange and gift giving takes a different format in the virtual environment. In Chinese social media, social capital as expressed by the number of followers, the number of postings, and commenting activities, operates as a form of status symbol operated in a way that represents the social hierarchy, which is highly regarded in the physical context: status seeking and affiliation to people with greater social resources therefore remain as the fundamental motives for reciprocity.

### **8.3.2. Influence of Social Distance on Reciprocity in SNSs**

This research also contributes to the theoretical understanding of social distance in virtual space, with social capital indices being introduced as measures of social distances between SNS users. Traditionally, researchers have focused on the normative, affective and interactive perspectives of social distance, and have considered factors such as gender differences, geographical differences, strength of relational ties, and level of interactions. There is, however, a lack of quantification of the actual social distances of these study subjects. Further, the development of online relationships between strangers is limited because the relationship is anonymous and without history. Therefore this research has adopted new measures to reflect perceived social distance, and the findings of the exploratory research have indicated that social distance is largely determined by the perceived similarities and differences in users' current social status and community/interpersonal activities, as reflected in their social profiles. Specifically, this research operationalised and examined the impact of social distance in the form of discrepancies in social capital. Social distance was evaluated through the comparison

of different users' social capital in the virtual community, by comparing the number of followers and the number of postings between followers and their recipients.

The assessment of bridging social capital between users was seen as providing the normative (cognitive) dimension of social distance, because bridging social capital represents achieved social status as the ranking of a SNS user's position within the online social hierarchy, and this type of social distance can be considered as a non-subjective, structural aspect of social relations. In contrast, the assessment of bonding social capital between users could be seen as the affective dimension of social distance, because it involves the affective feeling towards other members in terms of how much they have contributed to the community as a whole and how engaged they are in their personal postings. This research focused on the stage of relationship initiation and establishment among strangers in the virtual community, hence there should be no direct interaction among SNS users. But from another perspective, both the number of postings and the comments could also be recognised as indirect indicators for the interactive dimension of social distance. Even though a comment might not be repeated, this still suggests that the affective and interactive dimensions of social distance are not mutually exclusive.

The manipulations in the experiments in this research showed that SNS users do differentiate between other users and themselves based on indicators such as the number of followers and the number of postings. For example, when one individual wishes to connect to another user on Weibo, before initiating a conversation he/she may rely on certain signals (i.e., the number of followers), which may reflect the other's online social status, and this information processing stage includes a process for users to measure the social distance between them. According to previous social distance research, people who wish to escape from processing extensive amounts of information (Chaiken, 1980), and to avoid confusing proximate sources of information with the actual one (Reeves and Nass, 1996; Stone and Beell, 1975) tend regularly to use social cues, heuristics or mental shortcuts. Thus, in the information-overloaded SNS, to a certain extent such practice can be considered as another indication of which users tend to process information in a lazy or irrational way (Moon, 2000). Social cues presented in an SNS user's social profile may serve as the gateway for interpersonal relationships to be initiated. This is because they signal to other users who the user is and what he or she owns in the social media space. This explanation is consistent with existing theories about social identity and social presence (e.g., Lea and Spears, 1991; Schlenker, 1980; Short et al., 1976).





### **8.3.2.1. Influence of Bridging Social Capital**

One of the most salient findings of this research is how, in virtual environments, bridging social capital impacts on reciprocity: specifically, it is about how well-connected individuals are (indicated by how their “number of followers” could impact on how they will be reciprocated by others). The findings from the exploratory research suggested that the number of followers as an indicator of bridging social capital reflects the structural perspective of social capital. It represents the overall pattern of connections between actors in social networking sites, and reflects Lin’s (1999) conceptualisation of social capital as status, representing what has been achieved and attained through personal accomplishments. And in practice, if there is one number that really matters in increasing reciprocity, it would be the “number of followers,” which acts as a clear indicator of the most important dimension of bridging social capital and represents prominence, respect and influence among others (Anderson et al., 2001).

Recent research that has explored the motivational aspects of reciprocity in virtual communities (e.g., Wiertz and de Ruyter, 2007; Wasko and Faraj, 2005) has focused on reputation as an influential factor in occupationally-driven virtual communities where real personal identities were revealed. Such virtual communities have many similarities with offline communities, hence the risk of behaving reciprocally is relatively lower than when exposed to individuals in an anonymous and stranger-to-stranger dominant virtual environment (i.e., Weibo). Furthermore, in anonymous communities, professional reputations are replaced by social validation gained through the accumulation of bridging social capital (i.e., high number of followers). In other words, in a situation where face-to-face relations do not exist, trust and reputation are embedded in bridging social capital. If direct reciprocity cannot be triggered due to the differences in the value evaluation system, indirect reciprocity may be able to assist the exchange. In this case, bridging social capital serves as a partial identification system, and exists in others’ recognition of the reputation. Therefore this research contributes to the relevant theories of reciprocity by positioning bridging social capital as a reputation system in anonymous online communities.

Furthermore, the empirical findings provided strong evidence to indicate that when deciding on whether to form a reciprocal relationship most of the participants in the experiments showed strong status-seeking behaviour. The simulated social profiles with higher bridging

social capital indices consistently received a higher proportion and higher likelihood of following backs, hence it was concluded that experimental recipients were heavily driven by status seeking, and that being affiliated with individuals with higher bridging social capital tended to trigger stronger emotional responses. Status seeking could therefore be seen as a social passion that drives participants to 1) reciprocate on request; 2) potentially continue to invest more time and effort in information exchange; and 3) reduce the feeling of insecurity by self-exposure. In fact, most SNS users are impressed when a user has a large number of Weibo followers, Twitter followers, YouTube subscribers, multiple retweets, shares and comments about their online voice. In both Twitter and Sina Weibo, members are aware of the power of number of followers, and this has led to the emergence of paid services from which members can buy “followers.” This is a shortcut to boost one’s social capital, and it helps to build an influential but forged social influential identity; however it will not necessarily buy an engaged set of followers.

### **8.3.2.2. Influence of Bonding Social Capital**

The findings from the exploratory research suggested that the number of postings, as an indicator of (indirect) bonding social capital, reflects the relational perspective of social capital and the kind of personal relationships users have developed with each other through a history of interactions. This research suggests that generating and contributing a high volume of resources for others in social media can help both individuals to gain social approval (i.e., being recognised as a contributor) and lead to reciprocations from others. Activities such as writing attractive postings and providing reviews for other users can not only provide social proof in themselves, but can also assist in gaining a support network capable of continuing attracting attention to postings, receiving comments, and sharing among more people etc. Therefore, the reciprocity earned through bonding social capital (i.e., the number of postings – non-direct interaction) can be seen as indirect reciprocity. On the other hand, reciprocity earned through direct engagement at an individual level can be seen as direct reciprocity; in this research direct reciprocity was measured in terms of the level of richness in commenting activities. When results between the indirect and direct types of bonding in the experiments were compared, the latter triggered a higher level of tendency to reciprocate, hence a personal touch in communications may gain more attention, and the time and effort put into relationship-building is more easily identified.

Beyond the scope of reciprocal following, direct reciprocity in virtual communities is often characterised as “I made a comment on your posting and you will reciprocate in the future by commenting on my postings,” while indirect reciprocity would be “I made a comment on your posting, and other users will indirectly reciprocate by sharing my comment.” The former requires users to remember their bilateral commenting interactions, but the latter requires them to track interactions between other participating users in the event. Obviously, if users wish to thoroughly read all the postings of others, tracking past history can be time consuming; this would explain why direct bonding triggered a high level of reciprocity in this research. Furthermore, SNS users who follow the norm of reciprocity tend to limit their interactions to those they see as being reciprocal as well, because in that case equality can always be ensured and social well-being is taken care of reciprocally.

The main difference between direct and indirect reciprocity is that in the former a user evaluates a subjective view of the benefactors’ “gift giving,” but in the latter “gift giving” to everyone in the community as a whole is considered. If a certain number of SNS users follow the reciprocity-based approach, a distributed cooperation enforcement mechanism is created, which will prevent free-riders from using the community. The indirect bonding social capital operationalisation through the number of postings is similar to Wedekind and Milinski’s (2000) “image score” in confirming that indirect reciprocity promotes cooperation. This research also provides empirical evidence to Putnam’s (2000) proposition of a norm of generalised reciprocity, which states that “I’ll do this for you without expecting anything specific back from you, in the confident expectation that someone else will do something for me down the road” (p.21), therefore, in the context of social media, generalised reciprocity also resembles the notion of indirect reciprocity. Hence, if direct reciprocity (i.e., enacted by direct social bonding activities, such as commenting behaviour) cannot be triggered due to the differences in the value evaluation system, indirect reciprocity (i.e., enacted by perceptions of bridging social capital, such as the number of followers) may be able to assist the exchange. Because it serves as a partial identification system, a user who has a low level of social influence but a high level of bonding/engagement to a community can also reflect his/her values to others.

Lastly with regard to the bonding social capital in this research, recipients who put less weight on bridging social capital but more on bonding social capital can be considered as altruistic individuals, and their reciprocal pattern was more like indirect reciprocity. Because altruistic behaviour is not directed by expectations of future returns, especially where repetitive

exchange is unlikely, what they perceived to be valuable and important was how much their followers had contributed to the community as a whole for the general public's social well-being. Therefore the role of altruism in cooperation in face-to-face environments may be extended and adapted to virtual environments.

### **8.3.3. Emotions Attached to Reciprocal Behaviours in SNSs**

For experimental economists who have studied reciprocity, rational choice (Coleman, 1990) has been a central concept (e.g., Bolton and Ockenfels, 2000; Dufwenberg and Kirchsteiger, 2004; Fehr and Schmidt, 1999; Levine, 1998; Rabin, 1993). However, relationship marketing studies have shown that in face-to-face interactions, reciprocity is supported by emotions (e.g., Greenberg, 1980; Becker, 1986; Kolm, 1995; Komter and Vollebergh, 1997; Pervan et al., 2004, 2009). Studies of emotion and feeling on one hand, and learning on digital culture, new media, and information communication technology on the other, have also begun to converge (e.g., Vincent and Fortunati, 2009, 2014). Hence, emotion is seen as a valid and important construct to investigate even in virtual environments.

Most of the definitions used in describing the process of reciprocity in relationship marketing literature include the word "feel" (e.g., Bagozzi, 1995; Pervan et al., 2004; Price and Arnould, 1999), and this was also found in the exploratory research. Four major emotional elements relating to reciprocity were found, and operationalised in the post-experiment survey, namely, feelings of liking, gratitude, empathy/sympathy (focused on the perspective of mutual understanding) and indebtedness. Each of these emotional drivers reflects a dimension of feelings involved when reciprocal behaviours were carried out, but they were not mutually exclusive and could be aroused simultaneously. The quantitative research in this thesis provided strong evidence that emotions are extremely influential in users' decisions as to whether to behave reciprocally, and the emotions this research captured are considered integral to the process of assessing the value of social capital, therefore emotions played the role of mediator between cognition and behaviour.

The exploratory research suggested that most of the respondents respected reciprocity as a norm in their everyday life due to various reasons, such as being polite, being respectful to others' kind actions, and trying to avoid being perceived as anti-social. However, in virtual communities as compared with physical settings, reciprocity is relatively difficult to achieve

due to large social distances (i.e., faceless interactions and anonymous social identifies). Previous research has found that in the physical context “feeling of indebtedness” is the key emotional driver for reciprocity (e.g., O’Guinn and Belk, 1989; Dahl et al., 2005; Baumeister and Sommer, 1997; Leith and Baumeister, 1998), however the exploratory research showed weak support for this finding, except when participants were followed by an influential community member. This can be explained by Cognitive Dissonance Theory (Festinger, 1957) in that failure to reciprocate one’s social connectedness to an influential SNS user is counter-normative. This dissonance is likely to be expressed in a feeling of indebtedness. Because the relationships are mostly “no strings attached,” the feeling of indebtedness may not be triggered or may be significantly reduced, and anonymity reduces the chance of being identified in real life: under these circumstances, even being somewhat anti-social would not bring any negative effect.

Even though the norm of reciprocity has strong roots in Chinese culture, its value has not been fully transferred to the virtual lives of Chinese social media users, and this could be perceived as being due to opportunistic behaviour or individualism, where individuals escape from cultural constraints and become more self-interest driven. Other than in the scenario shown above, very few participants felt the urge to reciprocate, mainly due to the fact that the non-face-to-face environment provides the opportunity for them to escape from following the social norm, and due to their weak social ties there may be no significant negative consequence for non-reciprocation.

In the two experiments, manipulations were performed on the cognitive evaluation of bridging social capital and bonding social capital (i.e., manipulation of the number of followers and postings in Experiment One; manipulation of the number of followers and comments in Experiment Two). Subsequently, participants’ value perception of the manipulations of social capital, and emotions associated with reciprocal behaviour were measured on attitudinal scales after participants’ being exposed to each experimental conditions.

Under the experimental conditions in Experiment One, the quantitative findings from the conceptual test of Model One differed from those in the exploratory study. Bridging social capital in the form of the number of followers indeed enhanced the value of the following action and was reflected in the emotional response of “feelings of indebtedness” and “obligation to return,” which contributed to the greater proportion of the emotion construct.

This finding, despite being inconsistent with the exploratory research, was not unexpected. Firstly, expressing status-seeking intentions would be despised in Chinese culture, hence respondents in the one-on-one interview process might have been hiding their true feelings and holding a high moral ground. Secondly, participants were more open-minded when thinking about their past reciprocal actions, which were not limited to just the specific experimental condition articulated. In addition, the computer-mediated online survey provided an anonymous environment which allowed less biased opinions to be expressed.

Under the experimental conditions in Experiment Two, “feelings of indebtedness” and “obligation to return” became less important and less observable in the emotional construct: instead “gratitude,” “liking,” and “empathy” were more salient. The manipulation in the second experiment treated bonding social capital, measured by direct commenting behaviours, in a relatively more direct form. In this case, respondents could assess the value proposition more easily from the richness of the comments given rather than inferring the value of the number of postings, which was more remote. The strong impact of empathetic emotions in the emotion construct suggests the importance of mutual understanding and support. In addition, the interaction effect found in Experiment Two suggested that the likelihood of reciprocity is not dependent solely on the level of bridging social capital but also on the level of bonding social capital, hence direct bonding activities influence users’ emotional responses, thus reducing the level of status-seeking intentions.

#### 8.3.4. A Conceptual Model of Reciprocity

Various social science researchers have considered the emotional (e.g., Ben-Shakhar et al., 2004; Reuben and van Winden, 2006), cognitive (e.g., Blau, 1964; Charness et al., 2007) and behavioural (Chaudhuri et al., 2002; Fehr and Gächter 2000a, 2000b) dimensions of reciprocity. However, most of the experimental economics literature has treated reciprocity as a one-dimensional construct and rather than include all other aspects in a holistic view, economics researchers have focused on different aspects independently. Therefore, this research investigates each of the single dimensions suggested by previous literature, and frames them in a process-driven model which includes antecedents and consequences.

The exploratory research reveals that users who practice reciprocity in SNSs experience a variety of psychological pathways. Each of the pathways represents a school of thought on how reciprocity is enacted through users' cognitive evaluations and emotional responses. Firstly, the *Emotion – Cognition* school of thought (Zajonc, 1980) suggests that emotions can occur as a direct consequence of users' exposure to a sufficient stimulus (i.e., being followed), therefore it does not regard cognitive evaluation as a necessary condition for emotions to occur. In contrast to this school of thought, Lazarus (1991) claims that cognition is a necessary condition for emotions to take place, and suggests the *Cognition – Emotion* approach. Based on the later school of thought, it is postulated that SNS users go through the cognitive evaluation of the value embedded (i.e., social capital) in the initial action (i.e., being followed) first, and then the effect of evaluation leads to emotions, which then triggers reciprocal actions.

Furthermore, Clark and Fairburn (1997) described the relationship between cognition, emotion and behaviour as a combination. Specifically, Rand (1964) believed that rational individuals know the sources of their emotions, and can correct them if the evaluation is wrong, hence emotions and cognitions constitute an iterative process in which they reinforce each other on action. Based on two schools of thought and the view of the iterative process, a conceptual model of reciprocity in SNSs is proposed. It is believed that the emotions and cognitive evaluations work in combination in an iterative form, and reinforce each other in decision making about reciprocal action. A Five-Phase reciprocity process model is also provided that seeks to visually present the psychological process of reciprocity, and which includes I) receipt of value, II) emotional responses, III) cognitive evaluation, IV) the iterative process of emotion and cognitive evaluation, and V) reciprocal behaviour.



The iterative processes of reinforcement between cognitive evaluations and emotions are relatively difficult to observe and capture in a one-off experimental setting, therefore it was deemed more important to investigate the phase where reciprocity is caused. The researcher therefore favours the *Cognition – Emotion* Approach (Lazarus, 1991), because users' self-reported emotional measures are mostly likely to represent retrospective thinking, which means that emotions could have been corrected when cognitive evaluations were processed. For that reason emotion might not be a direct cause of reciprocity but an effect of cognitive evaluation, therefore the emotions that lead to reciprocal behaviours might be the final emotions after the corrections. Two conceptual models for *Social Capital – Emotion – Reciprocity* relationship are proposed, where both (indirect) bonding and (direct) bonding social capital are assessed.

This research treats self-presentational indices (e.g., the number of followers, the number of postings and comments) which are presented in users' social profiles as indicators of an individual's social capital. In the social network context, these indices function as a reputation system which allows users to manage their social appearance and to provide cues for others to recognise who they are, what they have contributed, etc. In the specific context of this research, these indices provided recipients (i.e., individuals who were being followed by other Weibo users) with opportunities to cognitively assess their followers, and this represented the cognitive dimension of social capital suggested by Nahapiet and Ghoshal (1998), which was described by these authors as shared representation, interpretations, and systems of meaning among parties. Theoretical foundations for explaining the evaluation process are provided by theories such as Equity Theory (Adams, 1965), Balance Theory (Walster et al., 1973), Resource Exchange Theory (Foa, 1971) and Rational Choice Theory (Coleman, 1990).

The findings from the tests of two conceptual models (i.e., two types of operationalisation for bonding social capital: indirect vs. direct) through structural equation modelling confirmed that reciprocal behaviours in social media were driven by the cognitive evaluation of users' embedded value in their bridging and bonding social capital, and mediation through emotions. This has provided empirical evidence to support the *Cognition – Emotion* school of thought (Lazarus, 1991), which also confirmed Triver's (1971) view that emotions act as a mediator between receiving and retuning of gifts/favours, encouraging people's emotions in such a way as to bring about positive feelings of obligation to reciprocate.

Specifically, when assessing the direct impacts of social capital on reciprocity, the strength of the relationships was significantly less than was the case after emotion constructs were introduced. This suggested that on the basis of results from this research Rational Choice Theory (Coleman, 1990) cannot be relied upon as a single theory, and that the emotion component, which goes beyond utility calculations, cannot be ignored in human interactions, even in a non-face-to-face computer-mediated virtual environment. Both Equity Theory and Balance Theory focus on how to restore balance in an inequitable relationship as a means to cancel the feeling of indebtedness. However, the qualitative findings suggest that the intensity of the feeling of indebtedness is less strong than in face-to-face situations, especially among strangers in virtual environments. Further, the quantitative findings provide supporting evidence that feeling of indebtedness only shows effects in the indirect reciprocity model (i.e., Model One), where strong bridging social capital is presented.

Lastly, when comparing the two models, firstly, bridging social capital always shows greater direct impact on reciprocity than bonding social capital does, hence the importance, in social media, of social status in influential people. Cialdini (1993) has also referred it as the influence of authority. Secondly, the direct bonding activity in Model Two (i.e., manipulation of bonding social capital – comments) shows greater impact than the indirect bonding manipulation in Model One (i.e., the number of followers) on reciprocity. This finding indicates the importance of direct interactions or engagement among social media users, and suggests that the sustainability of a social network relies on interactions, and that the higher the commitment, the higher the likelihood that reciprocation will be yielded (Cialdini, 1993). Since Model Two involves actual and direct information exchange it can be also applied more generally in evaluating reciprocal behaviours between users who have already established relationships.

## 8.4. Academic Contributions

### 8.4.1. Contributions to Theory

To date there is a lack of empirical confirmation of the existence of reciprocity in virtual communities for the purpose of interpersonal relationship building. This is especially true of the marketing literature. The research findings therefore make three primary contributions to theory:

- 1) The theoretical development of the concept of reciprocity in Chinese social media (i.e., SNSs), by revealing its existence, and identifying factors that influence it;
- 2) An examination of the impact of social distance, in the form of discrepancies in social capital, on SNS users' reciprocal behaviour, thereby facilitating rethinking and redefinition of the nature of social distance in virtual environments. It is worth noting that the factors (i.e., bridging and bonding social capital) used to determine social distance among SNS users are unique in nature and extremely relevant to the process of cognitive evaluation of reciprocity. In this research, social capital is one of the fundamental resources being recognised and exchanged in this specific virtual environment, and;
- 3) A proposed conceptual model of the psychological processes of reciprocity in social media based on exploratory findings and previous literature, and the empirical support of hypotheses based on the theory.

These three primary contributions have also contributed to two of the 2010-2012 Marketing Science Institute (MSI) research priorities: 1) to understand customer experience and behaviour; and 2) to develop marketing capability for customer-focused organisations (MSI, 2010). Firstly, in terms of understanding customer experience and behaviour, Carr (2006) suggested that providing users with a good customer service experience (e.g. being respected, listened to, and dealt with as individuals) is essential for the functioning of information services, and this is more important than technological efficiency and skills. The exploratory research found that reciprocity commonly exists in SNSs, and users experience reciprocity through alternative psychological pathways, and the empirically tested conceptual models were in favour of the *Cognition – Emotion* process. Therefore, by understanding social media users' experience and behaviour, this research can help organisations to anticipate changing marketing conditions by modifying their users' behaviour through better designed service

platforms (e.g., prioritise the location of social network influence indices), which can lead to more reciprocal exchange of resources.

Secondly, because SNS users' reciprocal behaviour can reflect the success of their service platform structure, and its ability to deliver the value proposition, reciprocity research can help SNSs to assess their marketing capabilities. SNS users' reciprocal behaviour can be balanced, positive or negative; and it can be economically driven or driven by social benefits, but it always involves two-way communication. What is given to users will eventually be returned by users, therefore it is important for SNSs to provide opportunities for users to engage in this two-way communication in order to achieve a wider and more sustainable network.

Findings from this research also provide empirical evidence to support existing theories which underpin reciprocity. Firstly, the recognition of "following" behaviour in the virtual environment as a kind action (e.g. showing recognition and respect can be perceived as a form of intangible gifting in virtual environment) confirms Gouldner's (1960) Reciprocal Action Theory. Reciprocal Action Theory (Gouldner, 1960) described reciprocity from a general perspective, but does not precisely specify the relevant mechanisms that lead to reciprocal behaviours. This research has identified both emotional and cognitive factors influencing reciprocal behaviour.

Secondly, research findings also provided empirical evidence for Equity Theory (Adams, 1965) and Balance Theory (Walster et al., 1973), by confirming that a perception of inequity in an exchange motivates individuals to commit to reciprocal behaviour, and the more inequitable the relationship, the more they will be motivated to reduce the inequity (Greenberg, 1986). Both of these theories focused on how to restore balance in an inequitable relationship as a means to cancel the feeling of indebtedness. However, both qualitative and quantitative results suggested that the intensity of the feeling of indebtedness is less strong than in face-to-face situations, especially among strangers, hence another emotional factor (gratitude) was more prevalent than balance restoration in catalysing reciprocal behaviour.

Thirdly, Foa (1971) identified that status is a form of resource for social exchange, and treating social capital (embedded in social status profiles) as a form of resource for social exchange confirms Foa's (1971) Resource Exchange Theory. Specifically, the predominant type of social capital being exchanged in Chinese social media is the bridging social capital

(i.e., number of followers). By actively reciprocating to individuals who have high bridging social capital could help users to tap into stronger social networks, and the affiliations with high bridging social capital individuals could potentially help users to gain more social attentions and increase other users' tendency of reciprocation toward him/her.

Furthermore, Chang (2010) proposed a spectrum of reciprocities – generous, expressive, instrumental and negative – governed by a spectrum of criteria – moral judgment, human feeling, rational calculation and spiritual belief. In the context of Chinese social media, the findings from this research suggest that reciprocal behaviour is relatively instrumental, in that Weibo users in the experiments showed a strong status-seeking tendency, while discrepancies in social capital represented the rational calculation proposed by Chang (2010) and to certain extent supported the Rational Choice Theory (Coleman, 1990) – recipients of value are driven by self-interest, so that cost-benefit analysis determines the occurrence of reciprocity. Also, for social capital, the comparative outcomes from cognitive evaluation suggested the importance of the proposition of reciprocal value: beneficiaries always determine in their own terms what is of value (Ballantyne et al., 2011).

### 8.4.2. Contributions to Methodology

In order to understand the implications of reciprocity in a new social context and to be able to generalise the emerging theory, this research chose to use mixed methods research seeking for convergence and integrating data across both qualitative and quantitative approaches. Thus, this research started with qualitative in-depth interviews for exploratory purposes, and followed up with quantitative experimental designs and survey methodology (i.e., measuring attitudes) with a large sample so that the researcher could seek convergence across qualitative and quantitative studies and could generalise the results to a population (i.e., Chinese social media users). The integration of the qualitative findings may not only help to generate new knowledge but also provide questions to be answered in the quantitative work.

In the last decade reciprocity has been extensively studied in economics by using experiments (e.g., Charness et al., 2007; Chaudhuri, Sopher, and Strand, 2002; Garbarino and Slonim, 2009; Gernsbacher, 2006; Kanagaretnam, et al., 2009; López-Pérez, 2009). However, there are very few marketing studies that use experimental design to measure reciprocity, so that the strength of different levels of social distance suggested by economists and the types of emotions that influence reciprocity remain undiscovered. Therefore, the main methodological contribution of this research is its adoption of experimental design to measure reciprocity in social media. Specifically, in its quantitative stage this research adopted a sequential approach, including both experimental design and modelling approaches to establish the causality between social capital, emotion and reciprocity, so that the theorised mediation relationship between social capital and reciprocity through emotion was quantified empirically. Firstly, this allowed the researcher to assess the impact of each dimension of social capital (i.e., two focal perspectives of social capital identified in this research – bridging and bonding social capital) – on reciprocity; and secondly, the embedded emotional elements which could not be observed in the experiment were explicitly examined in the sequentially incorporated self-reported survey.

More specifically, this sequential experiment-to-modelling approach was used to uncover the emotional perspective of reciprocity that the experiments alone could not capture. The conceptual models were developed based on the primary exploratory findings and the *Cognition – Emotion* school of thought, which conceptualises the act of reciprocity as an outcome of an iterative process involving cognitive evaluations of social capital and emotional responses. Findings from the structural equation modelling provided strong evidence to

support the conceptual model, where emotion constructs behaved as mediators between social capital and reciprocal action, and bridging social capital again had a larger impact on reciprocity than bonding social capital, and made this impact through the mediation of emotion. Therefore, the adoption of a modelling approach has offered the researcher further empirical evidence that supports the findings in the experiment and has enabled theory development and testing.

Another key contribution from the methodological perspective is the measure of perceived discrepancy in social distance through the operationalisation of social capital in virtual environments. Traditionally, researchers focus on the normative, affective and interactive perspective of social distance, such as gender differences, geographical differences, strength of relational ties, and levels of interaction (Nedim, 2009). However, such research lacks quantification of the psychological distance between study subjects. In virtual environments, it is sometimes difficult to infer the physiological distance among SNS users by using such measures, therefore new measures are developed. The first approach used to measure the perceived discrepancy in social distance was through the manipulation of bridging social capital (i.e., the number of followers – a normative perspective of social distance) and bonding social capital (i.e., level of richness in comments – an interactive perspective of social distance). These measures were used to determine the influence of social capital on reciprocity.

The second approach used was to find out what value recipients perceived in their followers' social capital, and that was achieved by adopting and modifying two sets of attitudinal measurement scales based on the Internet Social Capital Scale (Williams, 2006). These modified scale items for measuring the construct of bridging and bonding social capital have passed the tests for convergent validity, discriminant validity, construct validity, and reliability, and this has provided evidence of nomological validity for the conceptual model. It is important to note that in the evaluation and refinement stage of the measures more than half of the modified items were removed following confirmatory factor analysis. However, this is not a major concern for the researcher. This is because firstly, the context of the original scale development and validation was different from that in this research (i.e., a specific culture and social media environment); secondly, the composite reliability indices of the remaining measures were all over 90% and showed sufficient discriminant validity. The final scales for each construct used for conceptual model testing exhibited sufficient power in confirming the

hypothesised model, therefore these scales were deemed reliable and valid for explaining users' value perception of social capital, and contributed to methodological approaches for evaluating social capital.



### **8.5. Managerial Implications**

Reciprocity and the associated concept of engagement are central concepts in business dialogue about social media, and the functioning of SNSs, and the effectiveness of commerce transacted within them depends on reciprocal behaviours (Zhu and Brodie, 2013). With the fast development of online technology and emerging service logic, companies have prioritised engagement strategies to enhance their social bonding with customers in the social media space. Of particular interest is how customers interact and engage so that reciprocal value and social capital are co-created between the service provider and customers, and also between customers. Most companies have taken this approach from a business-to-consumer perspective by means of mass marketing through a convenient internet channel, and have ignored the essence of the social element. Social media marketing is not only about generating awareness through electronic word-of-mouth (eWOM) but also about enhancing engagement among the users and the service platform. Only when the bonding is established among users, and between them and the service platform, can social media be really effective for businesses. This research has attempted to show how relevant and well-studied social constructs from the physical world, such as reciprocity and social capital, may operate in a virtual environment. Such an exercise inevitably carries managerial implications.

First, in general, reciprocity as a social norm and weapon of influence can be promoted and operationalised in SNSs. Since reciprocity is not absent in virtual environments, strategies and tactics implemented in the physical world might also work in such a versatile social context. SNSs are a relatively new form of media channel; within this new medium users do not just want their voice to be added to the large pool of conversation, they want their voice to be heard, repeated, and valued. Many users are seeking not just social entertainment, but also social influence. One way of being influential in such a versatile social environment is by practising the norm of reciprocity, which has been recognised by Cialdini (1993) as one of the most influential tools. There is an etiquette involved between link exchanges that is based on reciprocity: if a fellow user adds your postings to their page, it is a common courtesy to do the same for them. The more your postings are added to posting-rolls, the greater your influence within the community. Such a system can help not only to reinforce the norm of reciprocity in the virtual environment but also to benefit long-term relationship building. At the end of the day, an SNS is a platform to display not how powerful you are but how you care about others' social well-being, and how you will be looked after in return.

Specifically, reciprocity-driven information exchange can be a reliable source of continuing participation, making it more likely that an SNS will survive and grow. Reciprocal following is only the starting point of relationship building: sharing or commenting of each other's postings is another step forward in nurturing relationships, because link exchanges tie together large communities of users, and symbolise affiliation. The large amount of information exchange required for SNSs to be sustainable is heavily dependent on how their relationships are initiated and developed.

Secondly, social networking sites that seek to help relationship building among network users in order to expand the scope of each user's communication radius, could capitalise on the obviously important social profile information users provide. Research findings show that one number really matters in increasing reciprocity: the number of followers. This is a clear indicator of bridging social capital and the strength of a user's network. This finding corresponds well with the importance of personal social networks in conducting "real-world" business in China. It also suggests that Chinese SNS users may respect individuals with more extensive connections than themselves, which is consistent with a culture characterised by high power distance and respect for social status. SNS users are not necessarily heavy spenders, but they may be significant in spreading information by eWOM in virtual communities. This is especially true of those who possess a lot of social capital, because their attitudinal preferences potentially influence others' behaviour.

Reciprocity is a response to a kind action: it is different from altruism, and can be expected. In Chinese, the word for requesting a following back is *qiu* (求), which literally translates as "begging". However begging for reciprocal following (i.e., explicitly asking others to follow back) when there is no obvious social value presented is not an appropriate practice of reciprocity. In reality, many SNS users try to attract and receive more followers by actively adding other users and presenting themselves to others as high-flyers (i.e., buying fake fans to boost their numbers of followers). Such manipulation of one's social capital could create illusions and misconceptions for other users, and result in a reciprocal following. Such behaviour is not encouraged or welcomed in SNSs, however it is one of the most effective ways for start-ups to build their initial follower base, though longer-lasting relationships need more reciprocal interactions.

Lastly, constant reminders can facilitate reciprocal behaviours. Due to the fast information flow in social networking sites, reciprocity can be momentary, hence if a favour cannot be recognised in the moment of initial social exchange, the chance for reciprocal behaviours may simply be forgotten or ignored. This suggests that SNSs may wish to incorporate in their exchange platforms either reminder/recommendation systems, or suggestion search engines, which have been widely used in e-commerce platforms. The reminder/recommendation system has been adopted in professional social network development sites such as LinkedIn, where an “endorsement” function was introduced in 2013 that prompted users to return favours when they received endorsements from others. The site specifically has messages such as “*now it’s your turn*” or “*does x know marketing research?*” on the top of the webpage.

### **8.6. Limitations and Future Directions**

One of the key limitations of this research is that it investigates only the one-off stranger relationship establishment stage of reciprocity, and only in a Chinese SNS. But reciprocity is often observed after a connection is established, and therefore reciprocity as a source of power in strengthening the bonds developed in ongoing social exchanges needs further study (Zhu et al., 2014). Future studies could also go beyond the scope of interpersonal “private life” resource exchange, and include professional advice and more explicit eWOM marketing communications, because all online communication within SNSs are embedded in potential implicit and explicit economic consumption behaviours, and all SNSs are first established for the long-term purpose of economic gain (Kozinets, 1999).

From a social profile perspective, the exploratory findings also indicated that Weibo users prefer to have a greater number of followers than number of attentions (following others) to other Weibo users. This is because the follower-to-attention ratio may represent an individual’s level of social influence or social validation suggesting perhaps that the larger the ratio the greater the influence, and these are typically the characteristics that celebrities’ Weibo accounts have. Future research could therefore consider this more dynamic follower-to-attention ratio in order to understand what would be an effective balance to portray in order to gain the largest social influence. If the “the larger the ratio the greater the influence” principle is supported, does it mean that social media users need to be more selective? And will an SNS with many selective users – a “tribe” built around highly influential individuals – be sustainable?

From a culture perspective, the findings from this research indicate that basic principles around reciprocity and social capital, which were largely developed in a Western context, also apply in Chinese SNSs contexts. The researcher speculates that the same general principles may hold in Western SNS contexts, but that the effects are likely to be weaker. This is because the drivers of reciprocity that are found in this research – disparities in social distance, operationalised in terms of social capital – are better understood, more central, and more closely adhered to in the East. Therefore future cross-cultural studies could be beneficial to reveal potential differences between the East and West in reciprocity.

Furthermore, social media have a unique quality in that emotion is generated and derived from interpersonal communications and emotion can be iteratively transformed between individuals through repeated interactions. This is different from the traditional media, where a voice can be heard by consumers but they cannot effectively or efficiently communicate back, hence the opportunities for reciprocity are limited. Thus social media give their users the chance to look after each other's social well-being, and emotionally engaged consumers may be more likely to generate useful content that may be potentially product and service experience driven. In order to focus on the social capital elements among strangers' establishment of relationships in a short time frame, this research purposely excludes the content (quality) of the postings. There is, therefore scope for future research which could be conducted with regard to content and emotion, such as what type of user-generated content might inspire emotion effectively, and trigger reciprocity? And from a business perspective, how do businesses practice reciprocity among social media users in a more refined way (e.g., content design) rather than, as in the physical context, "giving out free gifts?"

For more than a decade, experimental economists have been studying reciprocity and trust issues in behavioural game contexts (e.g., Berg, Dickhaut and McCabe, 1995; Croson and Buchan, 1999; Cox and Deck, 2006). The common findings suggest that trust and social value orientation interact with each other to increase reciprocity (Kanagaretnam et al., 2009). Most of these trust-focused studies have emphasised long-term relationship building, which requires substantial social interactions and increased levels of bonding either between individuals or among SNS users. In virtual communities formed through social media, the bonding of SNS users is important, but social media businesses themselves put more emphasis on how SNS

users can be linked or bridged as broadly as possible, so that network effects can be achieved. Therefore, trust as a construct of popular interest in economic research should not be included in the definition of social capital. Putnam (2000) suggested that trust is undoubtedly a close consequence of the development of social capital, and only by unravelling social capital's structural components from its consequences and antecedents will it be possible to reveal the costs and benefits of social networks (Appel et al., 2014). This research therefore focused on social capital, and treated reciprocity as the outcome: but future research could introduce trust to the conceptual model as another antecedent, and it would be useful to find out how emotion and trust correlate, because they may represent similar attitudinal outcomes.

Last but not least, there are other mediators and covariates, such as gender, age, work experience, level of expertise in using social media etc. that can influence the likelihood of reciprocity. Previous research on gender issues has suggested that females are more reciprocal than males and that reciprocity may be a behaviour learned over time (e.g., Buchan et al., 2008; Croson and Buchan, 1999; Dufwenberg and Muren, 2006). This research did not seek in-depth understanding of these aspects, but some preliminary findings from the exploratory research (i.e., reasons provided by female respondents for the diminishing of reciprocity in SNSs) suggest that females may be less reciprocal than males due their risk-averse attitudes in virtual environments, and that after a while reciprocity may be a behaviour leaned by participants in virtual communities due to their observation of other successful members' reciprocal actions and other personal experiences. However, this research was not purposely or systematically designed to capture these phenomena, and it is recommended that future research validate these areas of interest.

## **8.7. Overall Conclusion**

This research investigates reciprocity in a Chinese SNS – Sina Weibo. Overall, reciprocity is considered to be a process of mutual recognition between benefactors and recipients, which operates by means of users' cognitive evaluations of each other's embedded value in their bridging and bonding social capital, which are mediated through emotions triggered from the evaluation.

The first research objective was to empirically test the existence of reciprocity and its magnitude in SNSs. Exploratory research findings suggest that reciprocity does universally exist, but it is not an absolute norm that everyone follows in virtual environments, and that for various reasons the magnitude of intention to reciprocate shows a trend of reducing. Empirical research also validates the existence of reciprocity, the magnitude of which depends on the cognitive evaluation of SNS users' level of social network influence and their emotional responses.

The second research objective was to empirically test the influence of social distance on reciprocity in SNS. Findings from this research contribute to the theoretical understanding of social distance in virtual environments, and the concept of social capital is introduced as a measure of social distance between SNS users. Specifically, this research operationalises and examines the impact of social distance in the form of discrepancies in social capital, and the empirical findings provide strong evidence to indicate that most of the participants in the experiments, when deciding on whether to form a reciprocal relationship, showed strong status-seeking behaviour. In other words, in Chinese social media bridging social capital is highly regarded regardless of the level of bonding activity involved: this is consistent with the significance of the concept of "who you know" in Chinese business practice.

The third research objectives was to explore emotions attached to reciprocal behaviours in SNS and validate their impact. Four major types of emotional responses are found to be influential on reciprocity in SNSs: feeling of liking, gratitude, empathy/sympathy and indebtedness. Lastly, in order to propose a psychological process model of reciprocity, the impact of emotion on reciprocity was measured through structural equation modelling, and the results show that emotion mediates the relationship between social capital and reciprocity. This provides empirical evidence for the proposed *Social Capital – Emotion – Reciprocity* model and confirms the *Cognition – Emotion* school of thought (Lazarus, 1991), which suggests that the Rational Choice Theory (Coleman, 1990) is not a theory that could be relied upon on its own in virtual environments. Therefore, emotional components which go beyond utility calculations cannot be ignored in human interactions, even in a non-face-to-face computer-mediated virtual environment.

## REFERENCES

- Ackert, L. F., Church, B. K., & Davis, S. (2006). Social Distance and Reciprocity. Experimental Economics Centre Working Paper Series 2006-27, Andrew Young School of Policy Studies, Georgia State University.
- Adam, F., & Roncevic, B. (2003). Social Capital: Recent Debates and Research Trends. *Social Science Information*, 42 (2), 155-183.
- Adler, P. S., & Kwon, S. (2002). Social Capital: Prospects for a New Concept. *Academy of Management Review*, 27 (1), 17-40.
- Alessandrini, M. (2002). Is Civil Society an Adequate Theory? *Third Sector Review*, 8 (2), 105-119.
- Algoe, S. B., & Haidt, J. (2009). Witnessing Excellence in Action: The “Other-Praising” Emotions of Elevation, Gratitude, and Admiration. *The Journal of Positive Psychology*, 4 (2), 105–127.
- \_\_\_\_\_, \_\_\_\_\_, & Gable (2008). Beyond Reciprocity: Gratitude and Relationships in Everyday Life. *Emotion*, 8 (3), 425-429.
- Allsop, K., Fifield, K., & Seiter, J. S. (2002). Empathy and Generalised Reciprocity in Compliance with Requests for Help. *Psychological Reports*, 91 (1), 241-242.
- American Heritage Dictionary (2013). Reciprocity [Def. 2] Retrieved 2<sup>nd</sup> January, 2013, from <https://www.ahdictionary.com/word/search.html?q=reciprocity&submit.x=33&submit.y=25>
- Anderson, E. W., & Weitz, B. (1992). The Use of Pledges to Build and Sustain Commitment in Distribution Channels. *Journal of Marketing Research*, 29 (1), 18-34
- Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103 (3), 411-423.
- \_\_\_\_\_, Gerbing, D. W., & Hunter, J. E. (1987). On the Assessment of Unidimensionality Measurement: Internal and External Consistency, and Overall Consistency Criteria. *Journal of Marketing Research*, 24 (4), 432-437.
- Apple, L., Dadlani, P., Dwyer, M., Hampton, K., Kitzie, V., Matni, Z. A., Moore, P., & Teodoro, R. (2014). Testing the validity of Social Capital Measures in the Study of Information and Communication Technologies. *Information, Communication & Society*, 17 (4), 398-416.

- Arbuckle, J. L. (1994). AMOS: Analysis of Moment Structures. *Psychometrika*, 59, 135-137.
- Arrow, K. (1990). Economics and Sociology. In Economics and Sociology, 136-148, Swedberg, R. (Ed.), Princeton: Princeton University Press.
- Axelrod, R. (1984). *The Evolution of Cooperation*. New York: Basic Books.
- Babbie, E. (2002). *The Practice of Social Research* (10th Edition). Wadsworth: Thomson Learning Inc.,
- Bagozzi, R. P. (1995). Reflections on Relationship Marketing in Consumer Markets. *Journal of the Academy of Marketing Science*, 23 (4), 272-277.
- \_\_\_\_\_, & Dholakia, U. M. (2006). Antecedents and Purchase Consequences of Customer Participation in Small Group Brand Communities. *International Journal of Research in Marketing*, 23 (1), 45-61.
- \_\_\_\_\_, & Phillips, L. (1982). Representing and Testing Organisational Theories: A Holistic Construal. *Administrative Science Quarterly*, 27 (3), 459.
- \_\_\_\_\_, & Yi, Y. (1991). Multi-Trait-Multimethod Matricies in Consumer Research. *Journal of Consumer Research*, 17 (4), 426-439.
- Baker, W. (1990). Market Networks and Corporate Behaviour. *American Journal of Sociology*, 96 (3), 589 – 625.
- Bankston, C. L, & Zhou, M. (2002). Social Capital as a Process: The Meanings and Problems of Theoretical Metaphor. *Sociological Inquiry*, 72 (2), 285-317.
- Ballantyne, D., Williams, J., & Aitken, R. (2011). Introduction to Service-Dominant Logic: From Propositions to Practice. *Industrial Marketing Management*, 40 (2), 202-210.
- \_\_\_\_\_, & Varey, R. J. (2006). Creating Value-In-Use through Marketing Interaction: The Exchange Logic of Relating, Communicating and Knowing. *Marketing Theory*, 6 (3), 335-348.
- Baron R. M, & Kenny, D. A. (1986). The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51 (6), 1173–1182.
- Baumeister, R. F., & Sommer, K. L. (1997). What Do Men Want? Gender Difference and the Two Spheres of Belongingness. *Psychological Bulletin*, 122 (1), 38-44.
- Becker, L. C. (1986). *Reciprocity*. New York: Routledge and Kegan Paul.
- \_\_\_\_\_. (1990). *Reciprocity*. Chicago: University of Chicago Press.
- Begehr, J. (2011). Are Reputation and Reciprocity the Key Success Factors in Business? Reputation, Reciprocity Keys to Small Business Advocacy – Forbes. Retrieved 14<sup>th</sup> June



- 2012 from <https://www.sunzu.com/articles/are-reputation-and-reciprocity-the-key-success-factors-in-business-165521/>
- Belliveau, M., O'Reilly, C.A., & Wade, J. (1996). Social Capital: The Effects of Social Similarity and Status on CEO Compensation. *Academy of Management Journal*, 39 (5), 1568–159.
- Benabou, R., & Tirole, J. (2006). Incentives and Prosocial Behaviour. *American Economic Review*, 96 (5), 1652-1678.
- Ben-Ner, A., & Putterman, L. (2000). On Some Implications of Evolutionary Psychology for the Study of Preferences and Institutions. *Journal of Economic Behaviour and Organisation*, 43 (1), 91-99.
- Ben-Shakhar, G., Bornstein, G., Hopfensitz, A., & van Winden, F. (2004). Reciprocity and Emotions: Arousal, Self-Reports, and Expectations. CREED working paper, 1-99, University of Amsterdam.
- Berg, J., Dickhaut, J., & McCabe, K. (1995). Trust, Reciprocity, and Social History. *Games and Economic Behavior*, 10 (1), 122-142.
- Bergin, A. E., & Garfield, S. L. (1994). *Handbook of Psychotherapy and Behavior Change* (4<sup>th</sup> Edition). New York: Wiley.
- Berkowitz, L. (1968). Responsibility, Reciprocity, and Social Distance in Help-Giving: An Experimental Investigation of English Social Class Differences. *Journal of Experimental Social Psychology*, 4 (1), 46-63.
- Berry, B. (1991). *Justice as Reciprocity*. Oxford: Clarendon Press.
- Berry, L. L. (1995). Relationship Marketing of Services - Growing Interest, Emerging Perspectives. *Journal of the Academy of Marketing Science*, 23 (4), 236-245.
- Bertocci, P. A., & Millard, R. M. (1963). *Personality and the Good: Psychological and Ethical Perspectives*. New York: David McKay.
- Blackburn, S. (2008). *The Oxford Dictionary of Philosophy*. Oxford: Oxford University Press.
- Blau, P. M. (1964). *Exchange and Power in Social Life*. New York: Wiley.
- Blume, L., & Easley, D. (2008). Market Competition and Selection. In the *New Palgrave Dictionary of Economics* (5<sup>th</sup> Edition), 296-300, Blume, L & Durlauf, S. N. (Ed). UK: Macmillan.
- Bogardus, E. S. (1940). Scales in Social Research. *Sociology and Social Research*, 24, 69-75.
- \_\_\_\_\_ (1947). Measurement of Personal-Group Relations. *Sociometry*, 10 (4), 306-311.

- Bollen, K. (1989). *Structural Equations with Latent Variables*. New York: Wiley-Interscience Publication.
- \_\_\_\_\_, & Lennox, R. (1991). Conventional Wisdom on Measurement: A Structural Equation Perspective. *Psychological Bulletin*, 110 (2), 305-14.
- Bolton, G., & Ockenfels, A. (2000). ERC: A Theory of Equity, Reciprocity, and Competition. *American Economic Review*, 90, 166-193.
- Bonvillain, N. (2010). *Cultural Anthropology* (2<sup>nd</sup> Edition). Boston: Pearson Education.
- Bourdieu, P. (1972) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- \_\_\_\_\_. (1986). The Forms of Capital. In *Handbook of Theory and Research for the Sociology of Education*, 241-258, Richardson, J., (Ed). New York: Greenwood Press.
- \_\_\_\_\_, & Wacquant, L. P. D. (1992). *An Invitation to Reflexive Sociology*. Chicago: University of Chicago Press.
- Bowles, S., & Gintis, H. (2002). Social Capital and Community Governance. *Economic Journal*, 112 (483), 419-436.
- Boxman, E. A. W, De Grant, P. M., & Flap, H. D. (1991). The Impact of Social and Human Capital on the Income Attainment of Dutch Managers. *Social Networks*, 13 (1), 51 – 73.
- Boyd, D. M. (2004). Friendster and Publicly Articulated Social Networks. *Proceedings of ACM Conference on Human Factors in Computing Systems*, 1279–1282, New York: ACM Press.
- \_\_\_\_\_. (2006). Friends, Friendsters, and MySpace Top 8: Writing Community into Being on Social Network Sites. *First Monday*, 11 (2). Retrieved 20<sup>th</sup> April 2013 from [http://www.firstmonday.org/issues/issue11\\_12/boyd/index.html](http://www.firstmonday.org/issues/issue11_12/boyd/index.html)
- \_\_\_\_\_, & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, 13 (1), 210-230.
- Brandts, J., & Charness, G. (2003). Truth or Consequences: An Experiment. *Management Science*, 49 (1), 116-130.
- \_\_\_\_\_, & Solà, C. (2001). Reference Points and Negative Reciprocity in Simple Sequential Games. *Games and Economic Behaviour*, 36 (2), 138–157.
- Brehm, J., & Rahn, W. (1997). Individual-Level Evidence for the Causes and Consequences of Social Capital. *American Journal of Political Science*, 41 (3), 999 – 1023.
- Brill, J. E. (1994). Beyond Managerial Opportunism: Supplier Power and Managerial Compliance In A Franchised Marketing Channel. *Journal of Business Research*, 30 (3), 211-223.

- Brooks, B., Ellison, N. B., & Vitak, J. (2014). Assessing Structural Correlates to Social Capital in Facebook Ego Networks. *Social Networks*, 38 (1), 1-15.
- Brown, J., Broderick, A. J., & Lee, N. (2007). Word Of Mouth Communication within Online Communities: Conceptualising the Online Social Network. *Journal of Interactive Marketing*, 21(3), 2-20.
- Browne, M. (1984). Asymptotically Distribution-Free Methods for the Analysis of Covariance Structures. *British Journal of Mathematical and Statistical Psychology*, 37 (1), 62-83.
- \_\_\_\_\_, & Cudek, R. (1993). *Alternative Ways of Assessing Model Fit: Testing Structural Equation Models*. Newbury Park: Sage Publications.
- Buchan, N. R., Croson, R. T. A., & Dawes, R. M. (2002). Swift Neighbours and Persistent Strangers: A Cross-Cultural Investigation of Trust and Reciprocity in Social Exchange. *American Journal of Sociology*, 108 (1), 168–206.
- \_\_\_\_\_, Croson, R. T. A., & Johnson, E. J. (2006). Let's Get Personal: An International Examination of the Influence of Communication, Culture, and Social Distance on Other Regarding Preferences. *Journal of Economic Behavior and Organisation*, 60 (3), 373-398.
- \_\_\_\_\_, Croson, R., & Solnick, S. J. (2008). Trust and Gender: An Examination of Behaviour and Beliefs in the Investment Game. *Journal of Economic Behavior and Organisation*, 68 (3-4), 466-476.
- Burgoon, J.K., Bonito, J.A., Ramirez, A., Jr., Dunbar, N.E., Kam, K., & Fischer, J. (2002). Testing the Interactivity Principle: Effects of Mediation, Propinquity, and Verbal and Nonverbal Modalities of Interpersonal Interaction. *Journal of Communication*, 52 (3), 657-677.
- Burt, R. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge: Harvard University Press.
- \_\_\_\_\_ (1997). The Contingent Value of Social Capital. *Administrative Science Quarterly*, 42 (2), 339-365.
- \_\_\_\_\_ (2001). Structural Holes versus Network Closure as Social Capital. In *Social Capital: Theory and Research*, 31-56, Burt, R. (Ed). New York: Aldine de Gruyter.
- Callaghan, M. B., McPhail, J., & Yau, O.H.M. (1995). Dimensions of a Relationship Marketing Orientation: An Empirical Exposition. *Proceedings of the Seventh Bi-Annual World Marketing Congress*, 8 (Session 10), 59-65, Grant K., & Walker, I., (Ed). Melbourne: The Department of Marketing, Monash University.

- Campbell, D. T., & Fiske, D. W. (1959). Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. *Psychological Bulletin*, 56 (2), 81-105.
- Carpenter, J., & Matthews, P. (2002). No Switchbacks: Rethinking Aspiration-Based Dynamics in the Ultimatum Game. Middlebury College working paper series. Department of Economics, Middlebury College.
- Carr, C. L. (2006). Reciprocity: The Golden Rule of IS-User Service Relationship Quality and Cooperation. *Communications of the ACM*, 49 (6), 77-83.
- Chaiken, S. (1980). Heuristic Versus Systematic Information Processing and The Use Of Source Versus Message Cues in Persuasion. *Journal of Personality and Social Psychology*, 39 (5), 752-766.
- Chan, K., & Li, S. (2010). Understanding Consumer-to-Consumer Interactions in Virtual Communities: The Salience of Reciprocity. *Journal of Business Research*, 63 (9/10), 1033-1040.
- Chang, X. (2010). Guanxi or Li Shang Wanglai? Reciprocity, Social Support Networks, and Social Creativity in a Chinese Village, Taipei: Airiti Press.
- Charness, G., Haruvy, E., & Sonsion, D. (2007). Social Distance and Reciprocity: An Internet Experiment. *Journal of Economic Behaviour & Organisation*, 63 (1), 88-103.
- \_\_\_\_\_, & Gneezy, U. (2008). What's in a Name? Anonymity and Social Distance in Dictator and Ultimatum Games. *Journal of Economic Behaviour & Organisation*, 68 (1), 29-35.
- Chaudhuri, A., Sopher, B., & Strand, P. (2002). Cooperation in Social Dilemmas, Trust and Reciprocity. *Journal of Economic Psychology*, 23 (2), 231-249.
- Chebat, J. C., & Michon, R. (2003). Impact of Ambient Odors on Mall Shoppers' Emotions, Cognition, and Spending – A Test of Competitive Causal Theories. *Journal of Business Research*, 56 (7), 529-539.
- Chen, Z. X., Aryee, S., & Lee, C. (2005). Test of a Mediation Model of Perceived Organisational Support. *Journal of Vocational Behaviour*, 66 (3), 457-470.
- Chiu, C.-M., Hsu, M.-H., & Wang, E. T. G. (2006). Understanding Knowledge Sharing In Virtual Communities: An Integration of Social Capital and Social Cognitive Theories. *Decision Support Systems*, 42 (3), 1872-1888.
- Chou, C. P., & Bentler, P. M. (1995). Estimates and Tests in Structural Equation Modelling. Thousand Oaks: Sage Publications.
- Churchill, G., & Brown, T. (2004). Basic Marketing Research. Mason: South-Western.

- \_\_\_\_\_, & Iacobucci, D. (2002). *Marketing Research: Methodological Foundations*. Orlando: Harcourt College Publishers.
- Cialdini, R. B. (1993). *Influence: Science and Practice* (3rd Edition), New York: Harper Collins.
- Clark, D. M., & Fairburn, C. G. (1997). *Science and Practice of Cognitive Behavior Therapy*. New York: Oxford University Press.
- Cohen, R. L., & Greenberg, J. (1982). The Justice Concept in Social Psychology. In J. Greenberg & R. L. Cohen (Ed), *Equity and Justice in Social Behaviour*, New York: Academic Press.
- Cohn, M. (2011). The Reality of Social Media Reciprocity. Retrieved on 2<sup>nd</sup> April 2012, from <http://www.compukol.com/blog/the-reality-of-social-media-reciprocity/>
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology*, 94 (supplement), s95-s120.
- \_\_\_\_\_. (1990). *Foundations of Social Theory*. Cambridge: Harvard University Press.
- Consalvo, J. (2010). The Power of Reciprocity in Business. TechCocktail LLC. Retrieved 2<sup>nd</sup> April 2011, from <http://tech.co/the-power-of-reciprocity-video-2010-12>
- Cook, K. S., & Emerson, R. M. (1978). Power, Equity and Commitment in Exchange Networks. *American Sociological Review*, 43 (5), 721-739.
- Corfman, K. P., & Lehmann, D. R. (1993). The Importance of Others' Welfare in Bargaining Outcomes. *Journal of Consumer Research*, 20 (1), 124-137.
- Coricelli, G. (2004). Reciprocity-Based Emotions: An Experimental Study. *Rivista Internazionale di Scienze Sociali*, 112, (4), 359-379.
- \_\_\_\_\_, McCabe, K. A., & Smith V. L. (2000). Theory-of-Mind Mechanism in Personal Exchange. In *Affective Minds*, 249-259, Hatano et al. (Ed). Elsevier Science Publishers.
- Craighead, C. W., Ketchen, D. J., Dunn, K. S., & Hult, G. T. M. (2011). Addressing Common Method Variance: Guidelines for Survey Research on Information Technology, Operations, and Supply Chain Management. *Transactions on Engineering Management*, 58 (3), 578-588.
- Creswell, J. W. (1998). *Research Design: Qualitative and Quantitative Approaches*. Thousand Oaks: Sage Publications.
- Croson, R., & Buchan, N. (1999). Gender and Culture: International Experimental Evidence from Trust Games. *American Economic Review*, 89 (2), 386-391.
- Crotty, M. (1998). *The Foundations of Social Science Research: Meaning and Perspective in the Research Process*. London: Sage Publications.

- Cova, B. (1997). Community and consumption: Towards a Definition of the “Linking Value” of Products or Services. *European Journal of Marketing*, 31 (3/4), 297-316.
- Cox, J., & Deck, C. (2006). Assigning Intentions When Actions Are Unobservable: The Impact of Trembling in the Trust Game. *Southern Economic Journal*, 73 (2), 307-314.
- Czaja, R. (1998). Questionnaire Pretesting Comes of Age. *Marketing Bulletin*, 9 (1), 52-66.
- Dahl, D. W., Honea, H., & Manchanda, R. V. (2005). Three Rs of Interpersonal Consumer Guilt: Relationship, Reciprocity, Reparation. *Journal of Consumer Psychology*, 15 (4), 307-315.
- Dai, S. (BC476-221). Liji – Quli: Shang (The Book of Rites – Specific Etiquette: Chapter One).
- Damasio, A. (1994). *Descartes' Error*, New York: HarperCollins Books.
- \_\_\_\_\_ (2004). *Looking for Spinoza* Vintage.
- Darvill, T. (2008). *The Concise Oxford Dictionary of Archaeology* (2<sup>nd</sup> Edition) Oxford University Press.
- Darwin, C. (1872). *The Origin of Species By Means Of Nature Selection or the Preservation of Favoured Races in the Struggle for Life* (6<sup>th</sup> English Edition). London: John Murray.
- Darwin, C. (1872/1965). *The Expression of the Emotions in Man and Animals*. Chicago: University of Chicago Press. (Original work published 1872, London: John Murray).
- Dawson, S. (1988). Four Motivations For Charitable Of Giving: Implications For Marketing Strategy To Attract Monetary Donations For Medical Research. *Journal of Health Care Marketing*, 8 (2), 31-37.
- Decety, J., & Michalska, K. J. (2010). Neurodevelopmental Changes in the Circuits Underlying Empathy and Sympathy from Childhood to Adulthood. *Developmental Science*, 13 (6), 886-899.
- Deighton, J., (1996). The Future of Interactive Marketing. *Harvard Business Review*, 74 (6), 151-161.
- Dekker, P., & Uslander, E.M. (2001). Introduction. In E.M. Uslander (Ed.), *Social Capital and Participation in Everyday Life* (1-8). London, Routledge.
- de Waal, F. B. M. (1996). *Good Natured: The Origins of Right and Wrong in Humans and Other Animals*. Cambridge: Harvard University Press.
- \_\_\_\_\_ (1997). The Chimpanzee’s Service Economy: Food for Grooming. *Evolution and Human Behavior*, 18 (6), 375–386.

- \_\_\_\_\_, & Luttrell, L. M. (1988). Mechanisms of Social Reciprocity in Three Primate Species: Symmetrical Relationship Characteristics or Cognition? *Ethology and Sociobiology*, 9, 101–118.
- Dholakia, U. M., Bagozzi, R. P., & Pearo, L. K. (2004). A Social Influence Model of Consumer Participation in Network- and Small-group-based Virtual Communities. *International Journal of Research in Marketing*, 21 (3), 241-263.
- Diamantopoulos, A., & Schlegelmilch, B. B. (1996). Determinants of Industrial Mail Survey Response: Researcher vs. Manager Views. *Journal of Marketing Management*, 12 (6), 505–531.
- Diekmann, A. (2004). The Power of Reciprocity: Fairness, Reciprocity, and Stakes in Variants of the Dictator Game. *The Journal of Conflict Resolution*, 48 (4), 487-505.
- Dirks, K. T., & Ferrin, D. L. (2001). The Role of Trust in Organisational Settings. *Organisation Science*, 12 (4), 450-467.
- Donath, J., & Boyd, D. (2004). Public Displays of Connection. *BT Technology Journal*, 22 (4), 71–82.
- Duffy, M. K., & Ferrier, W. J. (2003). Birds of a Feather...? How Supervisor-Subordinate Dissimilarity Moderates The Influence Of Supervisor Behaviours On Workplace Attitudes. *Group and Organisation Management*, 28 (2), 217-248.
- Dufwenberg, M., & Kirchsteiger, G. (2004). A Theory of Sequential Reciprocity. *Games and Economic Behaviour*, 47 (2), 268-298.
- \_\_\_\_\_, & Muren, A. (2006). Generosity, Anonymity, Gender. *Journal of Economic Behavior & Organisation*, 61 (1), 42-49.
- Eastis, C. M. (1998). Organisational Diversity and the Production of Social Capital. *American Behavioural Scientist*, 42 (1), 66-77.
- Eastwick, P. W., Finkel, E. J., Mochon, D., & Ariely, D. (2007). Selective Versus Unselective Romantic Desire: Not All Reciprocity Is Created Equal. *Psychological Science*, 18 (4), 317-319.
- Ellison, N. B. (2007). Social Networking Sites: Definition, History, and Scholarship. *Journal of Computer – Mediated Communication*, 13 (1), 210-230.
- \_\_\_\_\_, Steinfield, C., Lampe, C. (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12 (4), 1143-1168.

- \_\_\_\_\_, Steinfield, C. & Lampe, C., (2011). Connection Strategies: Social Capital Implications of Facebook-enabled Communication Practices. *New Media & Society*, 13 (6), 873-892.
- Enterprise Weibo (2013). Retrieved on 28<sup>th</sup> April 2014, from <http://www.enterpriseweibo.com/>
- Erickson, B. (2004). The Distribution of Gendered Social Capital. In *Creation and Returns of Social Capital*, 27-50, Flap, H. D. & Völker, B. (Ed), New York: Routledge.
- Evans, B. & Chi, E. (2008). Towards A Model of Understanding Social Search. *Proceedings of the 2008 ACM Conference on Computer Supported Cooperative Work*. New York: ACM, 485–494.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the Use of Exploratory Factor Analysis in Psychological Research. *Psychological Methods*, 4 (3), 272-299.
- Falk, A. (2007). Gift Exchange in the Field. *Econometrica*, 75 (5), 1501-1511.
- \_\_\_\_\_, Fehr, E., & Fischbacher, U. (2000). Testing Theories of Fairness - Intentions Matter. Institute for Empirical Research in Economics, working paper No. 63, University of Zurich,
- \_\_\_\_\_, Fehr, E., & Fischbacher, U. (2005). Driving Forces behind Informal Sanctions. *Econometrica*, 7 (6), 2017-2030.
- \_\_\_\_\_, & Fischbacher, U. (2006). A Theory of Reciprocity. *Games and Economic Behaviour*, 54 (2), 293–315.
- Fehr, E., & Gächter, S. (2000a). Cooperation and Punishment in Public Goods Experiments. *American Economic Review*, 90 (4), 980-994.
- \_\_\_\_\_, & Gächter, S. (2000b). Fairness and Retaliation: The Economics of Reciprocity. *Journal of Economic Perspectives*, 14 (3), 159-181.
- \_\_\_\_\_, & Gächter, S. (2002). Do Incentive Contracts Undermine Voluntary Cooperation? Working paper No. 34, Institute for Empirical Research in Economics, University of Zurich.
- \_\_\_\_\_, & Fischbacher, U. (2003). The Nature of Human Altruism. *Nature*, 425 (6090), 785-792.
- \_\_\_\_\_, & Schmidt, K. M. (1999). A Theory of Fairness, Competition, and Cooperation. *Quarterly Journal of Economics*, 114 (3), 817-868.



- \_\_\_\_\_, & Schmidt, K. M. (2006). Chapter 8: The Economics of Fairness, Reciprocity and Altruism-Experimental Evidence and New Theories. *Handbook on the Economics of Giving*, 1, 615-691.
- Ferragina, E. (2010). Social Capital and Equality: Tocqueville's Legacy. *The Toqueville Review*, 31 (1), 73-98.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Evanston: Row & Peterson.
- Field, A. (2000). *Discovering Statistics Using SPSS for Windows*. London: Sage Publications.
- Fiedler, M., Haruvy, E., & Li, S. X. (2011). Social Distance in a Virtual World Experiment. *Games and Economic Behavior*, 72 (2), 400-426.
- Flew, A. (1979). "Golden Rule" A Dictionary of Philosophy. London: Pan Books in Association with the Macmillan Press.
- Foa, E. B., & Foa, U. G. (1974). *Societal Structures of the Mind*. Spring Field: Charles C. Thomas.
- Foa, U. G. (1971). Interpersonal and Economic Resources. *Science*, 171, 345-351.
- Folger, R. (1986). Rethinking Equity Theory: A Referent Cognitions Model. In H. W. Bierhoff, R. L. Cohen., & J. Greenberg (Eds.), *Justice in Social Relations*, 145-162. New York: Plenum.
- Forgas, J. P. (1992). Mood and the Perception of Unusual People: Affective Asymmetry in Memory and Social Judgments. *European Journal of Social Psychology*, 22 (6), 531-547.
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18 (1), 39-50.
- Forrest, E., & Mizerski, R. (1996). *Interactive Marketing, the Future Present*. Chicago: American Marketing Association.
- Fox, N., & Roberts, C. (1999). GPs in Cyberspace: the Sociology of 'Virtual Community'. *The Sociological Review*, 47 (4), 643-671.
- Frazier, G. L., & Rody, R. C. (1991). The Use of Influence Strategies in Interfirm Relationships in Industrial Product Channels. *The Journal of Marketing*, 55 (1), 52-69.
- \_\_\_\_\_, & Summers, J. O. (1986). Perceptions of Interfirm Power and Its Use within a Franchise Channel. *Journal of Marketing Research*, 23 (2), 169-176.
- Fredrickson, B. L. (2004). Gratitude, Like Other Positive Emotions, Broadens and Builds. In *The Psychology of Gratitude*, 145-166. Emmons, R. A. & M. E. McCullough (Ed), New York: Oxford University Press.

- Fukuyama, F. (1997) *Social Capital – the Tanner Lectures on Human Values*, Oxford: Brasenose College.
- \_\_\_\_\_ (1995). *Trust: Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Gale, J., Binmore, K.G., & Samuelson, L. (1995). Learning To Be Imperfect: The Ultimatum Game, *Games and Economic Behaviour*, 8, 1995, 56-90.
- Garbarino, E., & Slonim, R. (2009). The Robustness of Trust and Reciprocity across a Heterogeneous U.S. Population. *Journal of Economic Behaviour & Organisation*, 69 (3), 226-240.
- Garcia, P. R. J. M., Restubog, S. L. D., & Denson, T. F. (2010). The Moderating Role of Prior Exposure to Aggressive Home Culture in the Relationship between Negative Reciprocity Beliefs and Aggression. *Journal of Research in Personality*, 44 (3), 380-385.
- Garde-Hansen, J., & Gorton, K. (2013) *Emotion Online: Theorising Affect on the Internet*. New York: Palgrave Macmillan.
- Gernsbacher, M. A. (2006). Toward A Behaviour of Reciprocity. *Journal of Developmental Processes*, 1, 139-152.
- Geyskens, I., Steenkamp, J-B. E. M., Scheer, L. K., Kumar, N. (1996). The Effects of Trust and Interdependence on Relationship Commitment: A Transatlantic Study. *International Journal of Research in Marketing*, 13 (4), 303–17.
- Girju, R., & Paul, M. (2011) Modelling Reciprocity in Social Interactions with Probabilistic Latent Space Models. *Journal of Natural Language Engineering - Distributional Lexical Semantics*. 17 (1), 1-36.
- Gilewicz, N. (2009). *Factors Affecting Bridging Social Capital in Online Professional Networks: An Exploratory Study of Social Capital Formation on LinkedIn*. Theses and Dissertations. Paper 507, Ryerson University.
- Glaeser, E. L., Laibson, D., Scheinkman, J. A., & Soutter, C. (1999). What is Social Capital? The Determinants of Trust and Trustworthiness. National Bureau of Economic Research working paper No. 7216.
- Glaser, S. (2006). The Value of the Manager in the Value Chain, *Management Decision*, 44 (3), 442-47.
- Goggin, G., & Hjorth, L. (2009). *Mobile Technologies: From Telecommunications to Media*, Mew Yeak: Routledge.
- Gouldner, A. W. (1960). The Norm of Reciprocity: A Preliminary Statement. *American Sociological Review*, 25 (2), 161-178.

References

- Graeber, D. (2001). *Toward an Anthropological Theory of Value: The False Coin of Our Own Dreams*. New York: Palgrave.
- Greenberg, J. (1968). Effects of Reward Value and Retaliative Power on Allocation Decisions: Justice, Generosity or Greed? *Journal of Personality and Social Psychology*, 36 (4), 367-379.
- Greenberg, M. S. (1986). A Preliminary Statement on a Theory of Indebtedness, Justice in Social Exchange. Symposium presented at the western psychological association, San Diego.
- Greig, F., & Bohnet, I. (2005). Is There Reciprocity in a Reciprocal-Exchange Economy? Evidence from a Slum in Nairobi, Kenya. Working paper: Kennedy School of Government, Harvard University.
- Guba, E. G. (1990). The Alternative Paradigm Dialog. In *The Paradigm Dialog*, 17–30, Guba, E. G. (Ed.). Newbury Park: Sage Publications.
- Gummesson, E. (2000). Total Relationship Marketing in the Network Society. In the International Marketing Educators Conference. American Marketing Association. Buenos Aires, Argentina.
- Guralnik, D. B. (1971). *Webster's New World Dictionary*. Nashville: Southwestern Co.
- Hair, J., Black, W., Babin, B., Anderson, R. E., & Tatham, R. (2006). *Multivariate Data Analysis (6th Edition)*. Uppersaddle River: Pearson Prentice Hall.
- Hallen, L., Johanson, J., & Seyed-Mohamed, N. (1991). Interfirm Adaptation in Business Relationships. *Journal of Marketing*, 55 (2), 29-37.
- Hammer, M. (1985). Implications of Behavioral and Cognitive Reciprocity in Social Network Data. *Social Networks*, 7 (2), 189-201.
- Hanifan, L. J. (1916). The Rural School Community Center. *The Annals of the American Academy of Political and Social Science*, 67 (1), 130-138.
- Harnden-Warwick, D. (1997). Psychological Realism, Morality, and Chimpanzees. *Zygon*, 32 (1), 29–40.
- Harper, M., Li, X., Chen, Y., & Konstan, J. (2007) Social Comparisons to Motivate Contributions to an Online Community. *Persuasive Technology*, 63 (1), 148-159.
- Heeler, R., & Ray, M. (1972). Measure Validation in Marketing. *Journal of Marketing Research*, 9 (4), 361-370.
- Hennig-Thurau, T., Gwinner, K., Walsh, G., & Gremler, D. (2004). Electronic Word-Of-Mouth Via Consumer - Opinion Platforms: What Motivates Consumers To Articulate Themselves On The Internet? *Journal of Interactive Marketing*, 18 (1), 38-52.

- Herche, J., & Engelland, B. (1996). Reversed-Polarity Items and Scale Unidimensionality. *Journal of the Academy of Marketing Science*, 24 (4), 366-374.
- Ho, R. (2013). Handbook of Univariate and Multivariate Data Analysis with IBM SPSS (2<sup>nd</sup> Edition). Chapman and Hall.
- Hofer, M., & Aubert, V. (2013). Perceived Bridging and Bonding Social Capital on Twitter: Differentiating between Followers and Followees. *Computer in Human Behaviour*, 29 (6), 2134-2141.
- Hoffman, E., McCabe, K., & Smith, V. L. (1996). Social Distance and Other-Regarding Behaviour in Dictator Games. *American Economic Review*, 86 (3), 653-660.
- \_\_\_\_\_, McCabe, K., & Smith, V. L. (1998). Behavioural Foundations of Reciprocity: Experimental Economics and Evolutionary Psychology. *Economic Inquiry*, 36 (3), 335-352.
- Hoffman, L. D., & Novak, P. T. (1996). Marketing in Hypermedia Computer Mediated Environments Conceptual Foundations. *Journal of Marketing*, 60 (3), 50-68.
- Homans, G. C. (1958). Social Behaviour as Exchange. *American Journal of Sociology*, 63 (6), 597-606.
- \_\_\_\_\_. (1961). *Social Behaviour: Its Elementary Forms*. New York: Harcourt, Brace and World.
- Houston, F. S., & Gassenheimer, J. B., (1987). Marketing and Exchange. *Journal of Marketing*. 51 (4), 3-18.
- Howard, D. J., Gengler, C., & Jain, A. (1995). What's in a Name? A Complimentary Means Of Persuasion. *Journal of Consumer Research*, 22 (2), 200-211.
- Hsieh, G., & Counts, S. (2009). Mimir: A Market-Based Real-Time Question and Answer Service. Proceedings of the 27th International Conference on Human Factors in Computing Systems, 769-778.
- Hu, L. T., & Bentler, P. M. (1995). Evaluating Model Fit. Structural Equation Modelling. In Hoyle, R.H. *Structural Equation Modelling: Concepts, Issues, and Applications*, 76-99. Thousand Oaks: Sage Publications.
- Hwang, K. K. (1987). Face and Favour: Chinese Power Game. *American Journal of Sociology*, 92 (4), 944-974.
- Inglehart, R. (1997). *Modernisation and Post-modernisation: Cultural, Economic and Political Change in 43 Societies*. Princeton: Princeton University Press.

- iResearch (2012) 艾瑞咨询：2012 年 Q2 社交服务覆盖人数超过 4 亿 微博服务成为主  
Retrieved 12<sup>th</sup> September 2012, from <http://www.iresearch.com.cn/view/177753.html>
- ISU-UE (1999). Reciprocity in the Rural Community and in the Retail Marketplace. Iowa State University – University Extension.
- Jaccard, J., & Wan, C. (1996). LISREL Approaches to Interaction Effects in Multiple Regression. California: Sage Publications.
- Jacobs, J. (1961). The Death and Life of Great American Cities. New York: Random House.
- Jacobs, R. S., Evans, K. R., Kleine, R. E., & Landry, T. D. (2001). Disclosure and Its Reciprocity as Predictors of Key Outcomes of an Initial Sales Encounter. *Journal of Personal Selling & Sales Management*, 21 (1), 51-61.
- Jick, T. D. (1979). Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly*, 24 (4), 2-11.
- Jøsang, A., Ismail, R., & Boyd, C. (2007). A Survey of Trust and Reputation Systems for Online Service Provision. *Decision Support Systems*, 43 (2), 618–644.
- Joreskog, K. G., & Sorbom, D. (1989). Lisrel 7. A Guide to the Program and Applications. (2<sup>nd</sup> Edition). Chicago: SPSS Inc.
- Joshi, A. W., & Stump, R. (1999). The Contingent Effect of Specific Asset Investments on Joint Action in Manufacturer-Supplier Relationships: An Empirical Test of the Moderating Role of Reciprocal Asset Investments, Uncertainty and Trust. *Journal of the Academy of Marketing Science*. 27 (3), 291-305.
- Kaltcheva, V. D., & Parasuraman, A. (2009). Personality-Relatedness and Reciprocity Framework for Analysing Retailer-Consumer Interactions. *Journal of Business Research*, 62 (6), 601-608.
- Kanagaretnam, K., Mestelman, S., Nainar, K., & Shehata, M. (2009). The Impact of Social Value Orientation and Risk Attitudes on Trust and Reciprocity. *Journal of Economic Psychology*, 30 (3), 368 -380.
- Kaplan, A. (1964). The Conduct of Inquiry. Pennsylvania: Chandler Publishing.
- Kashlak, R. J., Chandran, R., & Di Benedetto, C. A. (1998). Reciprocity in International Business: A Study of Telecommunications Alliances and Contracts. *International Business Review*, 29 (2), 281-304.
- Kassarjian, H. H. (1981). Low Involvement: A Second Look. In *Advances in Consumer Research*, 8, Monroe, K. & Arbor, A. (Ed.), ACR, 31-33.

- Katz, M. & Byrne, M. (2003). Effects of Scent and Breadth on Use of Site-Specific Search on E-Commerce Web Sites. *ACM Transactions on Computer-Human Interaction*, 10 (3), 198-220.
- Kehrwald, B. (2008). Understanding Social Presence in Text-Based Online Learning Environments. *Distance Education*, 29 (1), 89-106.
- Keohane, R. O. (1986). Reciprocity in International Relations. *International Organisation*, 40 (1), 1-27.
- Kerres, M., & Preussler, A. (2009). Managing Reputation by Generating Followers on Twitter. Translated by the Authors. Preprint from: Hug, Theo (Ed.) (2010) *Medien – Wissen – Bildung: Explorationen visualisierter und kollaborativer Wissensräume*, Innsbruck University Press.
- Klein, H. K. & Myers, M. D. A. (1999). Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly, Special Issue on Intensive Research*, 23 (1), 67-93.
- Knoke, D. (1999). Groups, Interests, and U.S. Public Policy. *Journal of Policy Analysis and Management*, 18 (3), 524-525.
- Kollock, P. (1999). The Economies of Online Cooperation: Gifts and Public Goods in Cyberspace. In *Communities in Cyberspace*, 219-239, Smith, M., & Kollock, P. (Ed) London: Routledge.
- Kolm, S.-Ch. (1995). The Theory of Social Sentiments: The Case of Envy. *The Japanese Economic Review*, 1 (46), 63-87.
- \_\_\_\_\_, & Ythier, J. M. (2006). *Handbook of the Economics of Giving Altruism and Reciprocity*. North-Holland/Elsevier: Amsterdam.
- Komter, A., & Vollebergh, W. (1997). Gift Giving and the Emotional Significance of Family and Friends. *Journal of Marriage and the Family*, 59 (3), 747-757.
- Kozinets, R. V. (1999). E-tribalised Marketing? The Strategic Implications of Virtual Communities of Consumption. *European Management Journal*, 17 (3), 252-264.
- Kranton, R. E. (1996). Reciprocal Exchange: A Self-Sustaining System. *American Economic Review*, 86 (4), 830-51.
- Kraut, R., Sunder, S., Telang, R., & Morris, J. (2005). Pricing Electronic Mail to Solve the Problem of Spam. *Human - Computer Interaction*, 20 (1) 195-223.
- Lampe, C., Ellison, N. B., & Steinfield, C. (2006). A Face (Book) In the Crowd: Social Searching Vs. Social Browsing. Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative Work. New York: ACM, 167-170.

- \_\_\_\_\_, Ellison, N. B., & Steinfield, C. (2007) A Familiar Face (Book): Profile Elements as Signals in an Online Social Network. Proceedings of the 2007 ACM Conference on Human Factors in Computing Systems. New York: ACM, 435–444.
- Lampel J., & Bhalla, A. (2007), the Role of Status Seeking in Online Communities: Giving the Gift of Experience. *Journal of Computer Mediated Communication*, 12 (2), 100-121
- Lasen, A. (2010). Mobile Culture and Subjectivities: An Example of the Shared Agency between People and Technology. In Fortunati, L., Gebhardt, J., Vincent, J., Petroveie, A. & Vershinskaya, O. (Ed) *Interacting with Broadband Society*, Berlin: Peter Lang.
- Lauterbach, D, Truong, H., Shah, T., & Adamic, L. (2009). Surfing a Web of Trust: Reputation and Reciprocity on CouchSurfing.com. Proceedings of the 2009 International Conference on Computational Science and Engineering, 4, 346-353.
- Lazarus, R. S. (1991). Progress on a Cognitive-Motivational-Relational Theory of Emotion, *American Psychologist*, 46 (8), 819-34.
- Lea, M., & Spears, R. (1991). Computer-Mediated Communication, De-Individuation and Group Decision-Making. *International Journal of Man Machine Studies*, 34 (2), 283-301.
- LeDoux, J. (1996). *The Emotional Brain*, New York: Touchstone.
- Lee, D., Jeong, I., Lee, H. T., & Sung, H. (2008). Developing a Model of Reciprocity in the Importer–Exporter Relationship: The Relative Efficacy of Economic Versus Social Factors. *Industrial Marketing Management*, 37 (1), 9-22.
- Lee, M. J. W., McLoughlin, C., & Chan, A. (2008). Talk the Talk: Learner - Generated Podcasts as Catalysts for Knowledge Creation. *British Journal of Educational Technology*, 39 (3), 501-521.
- Leedy, P. D. (1997). *Practical Research-Planning and Design*. Merrill: Prentice Hall.
- Leider, S., Mobius, M. M., Rosenblat, T., & Do, Q-A. (2009). Directed Altruism and Enforced Reciprocity in Social Networks. *Quarterly Journal of Economics*, 124 (4), 1815 - 1851.
- Leith, K. P., & Baumeister, R. F. (1998). Empathy, Shame, Guilt, and Narratives of Interpersonal Conflicts: Guilt-prone People are better at Perspective Taking. *Journal of Personality*, 66 (1), 1-37.
- Levine, D. K. (1998). Modelling Altruism and Spitefulness in Experiments. *Review of Economic Dynamics*, 1 (3), 593-622.
- Lindell, M. K. & Whitney, D. J. (2001) Accounting for Common Method Variance in Cross-Sectional Research Designs. *Journal of Applied Psychology*, 86 (1), 114–121.

- Liden, R. C., Sparrowe, R. T., & Wayne, S. J. (1997). Leader-Member Exchange Theory: The Past and Potential for the Future. *Research in Personnel and Human Resources Management*, 15 (1), 47–119.
- Lin, A. C. (1998). Bridging Positivist and Interpretivist Approaches to Qualitative Methods. *Policy Studies Journal*, 26(1), 162-180.
- Lin, N. (2001). *Social Capital. A Theory of Social Structure and Action*. Cambridge: Cambridge University Press.
- \_\_\_\_\_, & Dumin, M. (1986). Access to Occupations through Social Ties. *Social Networks*, 8 (4), 365–85.
- \_\_\_\_\_, & Erickson, B. (2008). *Social Capital: An International Research Program*. New York: Oxford.
- Lincoln, Y. S. & Guba, E. G. (2000). Paradigmatic Controversies, Contradictions, and Emerging Confluences. In *The Handbook of Qualitative Research (2<sup>nd</sup> Edition)*, 163-188, Denzin, N.K. & Lincoln, Y.S. (Ed), London: Sage Publications.
- Lishner, D. A., Batson, C. D., & Huss, E. (2011). Tenderness and Sympathy: Distinct Empathic Emotions Elicited By Different Forms of Need. *Personality and Social Psychology Bulletin*, 37 (5), 614-625.
- López-Pérez, R. (2009). Followers and Leaders: Reciprocity, Social Norms and Group Behaviour. *The Journal of Socio-Economics*, 38 (4), 557-567.
- Loury, G. (1992). The Economics of Discrimination: Getting To the Core of the Problem. *Harvard Journal for African American Public Policy*, 1 (1), 91-110.
- MacInnis, D. J. (2011). A Framework for Conceptual Contributions in Marketing. *Journal of Marketing*, 75 (4), 136-154.
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is Gratitude A Moral Affect? *Psychological Bulletin*, 127, 249–266.
- Marketing Science Institute (2010). 2010-2012 Research Priorities. Retrieved 20<sup>th</sup> April 2010, from <http://www.msi.org/research/2010-2012-research-priorities/>
- Mathews, M. A., & Green, J. D. (2009). Looking At Me, Appreciating You: Self-Focused Attention Distinguishes Between Gratitude and Indebtedness. *Cognition & Emotion*, January (iFirst).
- Mauss, M. (1923/1990). *The Gift: Forms and Functions of Exchange in Archaic Societies*. London: Routledge. (Original work published 1923)
- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is Gratitude A Moral Affect? *Psychological Bulletin*, 127 (2), 249–266.



## References

- Mehrabian, A., & Russell, J. A. (1974). *An Approach to Environmental Psychology*. UK: MIT Press.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass.
- Michelle, & Uking. (2011). Micro Blog's Macro Impact' in China Daily. Retrieved 1<sup>st</sup> February 2012, from [http://www.chinadaily.com.cn/china/201103/02/content\\_12099500.htm](http://www.chinadaily.com.cn/china/201103/02/content_12099500.htm)
- Mobius, M., & Szeidl, A. (2007). Trust and Social Collateral. National Bureau of Economic Research working papers No.13126.
- Molm, L., Collett, J., & Schaefer, D. (2007). Building Solidarity through Generalised Exchange: A Theory of Reciprocity. *American Journal of Sociology*, 13 (1), 205–242.
- Morais, D. B., Dorsch, M. J., & Beckman, S. J. (2004). Can Tourism Providers Buy their Customers' Loyalty? Examining the Influence of Customer-provider Investments on Loyalty. *Journal of Travel Research*, 42 (3), 235-243.
- Moon, Y. (2000). Intimate Exchanges: Using Computers to Elicit Self-Disclosure from Consumers. *Journal of Consumer Research*, 26 (4), 323-339.
- Morales, A. C. (2005). Giving Firms an "E" for Effort: Consumer Responses to High-Effort Firms. *Journal of Consumer Research*, 31 (4), 806-811.
- Moustakas, C. E. (1994). *Phenomenological Research Methods*. Thousand Oaks: Sage Publications.
- Muniz, A. M., & O'Guinn, T. C. (2001). Brand Community. *Journal of Consumer Research*, 27 (4), 412-431.
- Nahapiet, J., & Ghoshal, S. (1998) Social Capital, Intellectual Capital, and the Organisational Advantage. *Academy of Management Review*, 23 (2), 242-66.
- Narayan, D., & Pritchett, L. (1999). Social Capital: Evidence and Implications. In *Social Capital: A Multifaceted Perspective*, 269-296. Serageldin, I. (Ed) Washington, DC: World Bank.
- Neal, D. A., & Heckman, J. (1996) Coleman's Contribution to Education: Theory, Research Styles, and Empirical Research. In James S. Coleman, Clark, J. (Ed), p. 81-98. London, New York, Philadelphia: Falmer Press.
- Nedim, K. (2009). Social Distance and Affective Orientations. *Sociological Forum*, 23 (3), 538-562.
- Netemeyer, R. G., Bearden, W. O. & Sharma, S. (2003). *Scaling Procedures: Issues and Applications*. Thousand Oaks: Sage Publications.

- Newsom, R. J. (2010.) Testing mediation with regression analysis. Retrieved 3<sup>rd</sup> August 2013, from [http:// www. upa. pdx. edu/ IOA/ newsom/ semclass/ho\\_indirect.pdf](http://www.upa.pdx.edu/IOA/newsom/semclass/ho_indirect.pdf)
- Newton, K. (1997). Social Capital and Democracy. *American Behavioural Scientist*, 40 (5), 575-586.
- Nielsen, J. (1995). Usability Engineering. New Edition. Boston: AP Professional.
- Nowak, M.A. (2006). Five Rules for the evolution of Cooperation. *Science* 314(5805), 1560-1563.
- Nowak, M. A., & Sigmund, K. (1998a). The Dynamics of Indirect Reciprocity. *Journal of Theoretical Biology*, 194 (4), 561-574.
- \_\_\_\_\_, & Sigmund, K. (1998b). Evolution of Indirect Reciprocity by Image Scoring. *Nature International Weekly Journal of Science*, 393 (6685), 573-577.
- \_\_\_\_\_, & Sigmund, K. (2005). Evolution of Indirect Reciprocity. *Nature*, 437 (7063), 1291-1298.
- Oh, H., Kilduff, M., & Brass, D. J. (1999). Communal Social Capital, Linking Social Capital, And Economic Outcomes. Paper presented at the Annual Meeting of the Academy of Management. Chicago.
- O'Guinn, T. C., & Belk, R. W. (1989). Heaven on Earth: Consumption at Heritage Village, USA. *Journal of Consumer Research*, 16 (2), 227-238.
- Orbell, J. M., van de Kragt, A. J. C., & Dawes, R. M. (1988). Explaining discussion include cooperation. *Journal of Personality and Social Psychology*, 54 (5), 811-819.
- Ortony, A., Clore, G. L., & Collins, A. (1988). The Cognitive Structure of Emotion. New York: Cambridge University Press.
- Osborne, J. W., & Overbay, A. (2004). The Power of Outliers (and Why Researchers Should Always Check for Them). *Practical Assessment, Research & Evaluation*, 9 (6), 1-12.
- Ostrom, E., & Walker, J. (2003). Trust and Reciprocity: Interdisciplinary Lessons from Experimental Research. New York: Russell Sage Foundation.
- Oxford Dictionary (2013). Reciprocity [Def. 1]. Retrieved 2<sup>nd</sup> January 2013, from <http://www.oxforddictionaries.com/definition/english/reciprocity>
- Parisi, F. (1995). Toward a Theory of Spontaneous Law. *Constitutional Political Economy*, 6 (3), 211-231.
- Patel, J. K., & Read, C. B. (1996). Handbook of the Normal Distribution (2<sup>nd</sup> Edition). CRC Press.
- Pelapat, E., & Brown, B. (2012). Reciprocity: Understanding Online Social Relations. *First Monday*, 17 (10). Available at <http://firstmonday.org/ojs/index.php/fm/article/view/3324>

- Pennar, K. (1997). The Tie That Leads To Prosperity: The Economic Value Of Social Bonds Is Only Beginning To Be Measured. *Business Weekly*, 15 December, 153 – 155.
- Perkins, D. D., & Long, D. A. (2002). Neighbourhood Sense of Community and Social Capital: A Multi-Level Analysis. In *Psychological Sense of Community: Research, Applications, and Implications*, 291–318. Fisher, A. T. & Sonn, C. C. (Ed), New York: Kluwer Academic Plenum Publishers.
- Pervan, S. J., & Johnson, L. W. (2003). Understanding Process in Relationship Marketing: A Focus on Reciprocity. *Journal of Customer Behaviour*. 2 (2), 167-192.
- \_\_\_\_\_, Bove, L. L., & Johnson, L. W. (2004). Conceptualising The Role Of Reciprocity In Relationship Marketing: An Examination Of Its Supporting Virtues. Proceedings of the Australian and New Zealand Marketing Academy (ANZMAC) Conference, Victoria University of Wellington Press.
- \_\_\_\_\_, Bove, L. L., & Johnson, L. W. (2009). Reciprocity as a Key Stabilising Norm of Interpersonal Marketing Relationships: Scale Development and Validation. *Industrial Marketing Management*, 38 (1), 60-70.
- \_\_\_\_\_, & Johnson, L.W. (2002). Reciprocity as a Virtue in Relationship Marketing. In R.N. Shaw, Adam, S. & McDonald, H. (Ed), *Interactive Marketing: Proceedings of the Australian and New Zealand Marketing Academy (ANZMAC) Conference*, Deakin University Press.
- Peter, J. P. (1981). Construct Validity: A Review of Basic Issues and Marketing Practices. *Journal of Marketing Research*, 18 (2), 133-145.
- Podsakoff, P. M., MacKenzie, S.B., Lee, J-Y, & Podsakoff, N. P. (2003). Common Method Biases in Behavioural Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88 (5), 879-903.
- Polanyi, K. (1957). The Economy as Instituted Process. In *Trade and market in the early empires* (Ed) Polanyi, K., Arensberg, C., & Pearson, H. Glencoe: Free Press.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology, *Annual Review of Sociology*, 24 (1), 1–24.
- \_\_\_\_\_, & Sensenbrenner, J. (1993). Embeddedness and Immigration: Notes on the Social Determinants of Economic Action. *American Journal of Sociology*, 98 (6), 1320-1349.
- Postmes, T., Spears, R., & Lea, M. (1998). Breaching or Building Social Boundaries? SIDE Effects of Computer-Mediated Communication. *Communication Research*, 25 (6), 689-715.

- Price, L. L., & Arnould, E. J. (1999). Commercial Friendships: Service Provider-Client Relationships in Context. *Journal of Marketing*, 63 (4), 38-56.
- Putnam, R. D. (1993). The Prosperous Community: Social Capital and Public Life. *The American Prospect*, 4 (13), 11-18.
- \_\_\_\_\_ (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy* 6 (1), 65-78.
- \_\_\_\_\_ (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- Putterman, L. (2006). Reciprocity, Altruism, and Cooperative Production. In Kolm, S. & Ythier, J. M. (Ed.), *Handbook of the Economics of Giving Altruism and Reciprocity* (Chapter 22, 1411-1431), North-Holland/Elsevier: Amsterdam.
- Quan-Haase, A., & Wellman, B. (2004). Local Virtuality in a High-Tech Networked Organisation. *Analyse and Kritik*, 26 (1), 241-57.
- Rabin, M. (1993). Incorporating Fairness into Game Theory. *American Economic Review*, 83 (5), 1281-1302.
- Rand, A. (1964). *The Virtue of Selfishness*. New York: Penguin Group.
- Rapoza, K. (2011). China's Weibo vs. US' Twitter: And the Winner is? Retrieved 1st February 2012, from <http://blogs.forbes.com/kenrapoza/2011/05/17/chinas-weibos-vs-uss-twitter-and-the-winner-is/>.
- Ray, J. J. (1979). Is the Acquiescent Response Style Problem Not So Mythical After All? Some Results from a Successful Balanced F Scale. *Journal of Personality Assessment*, 43 (6) 638-643.
- Reeves, B., & Nass, C. (1996). *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places*. New York: Cambridge University Press.
- Reuben, E., & van Winden, F. (2006). Negative Reciprocity and the Interaction of Emotions and Fairness Norms. CESifo working paper series No.1685, CESifo Group Munich.
- Rice, L., & Markey, P.M. (2009). The Role of Extraversion and Neuroticism in Influencing Anxiety Following Computer-Mediated Interactions. *Personality and Individual Differences*, 46 (1), 35-39.
- Rilling, J. K., Gutman, D.A., Zeh, T. R., Pagnoni, G., Berns, G. S. & Kilts, C. D. (2002). A Neural Basis for Social Cooperation. *Neuron*, 35 (1), pp. 395-405.
- Ritchie, J., Lewis, J., & Elam, G. (2003). Designing and Selecting Samples. In *Qualitative Research Practice*, 77-108, Ritchie, J., & Lewis, J. (Ed), London: Sage Publications.

References

- Robison, L. J., Schmid, A. A., & Siles, M. E. (2002). Is Social Capital Really Capital. *Review of Social Economy*, 60 (1), 1-24.
- Roth, A. E., & Erev, I. (1995). Learning in Extensive Form Games: Experimental Data and Simple Dynamic Models in the Intermediate Term. *Games and Economic Behaviour*, 8, 163-212.
- \_\_\_\_\_, & Malouf, M. (1979). Game Theoretic Models and the Role of Information in Bargaining. *Psychological Review*, 86 (6), 574-594.
- \_\_\_\_\_, & Murnighan, J.K. (1982). The Role of Information in Bargaining: An Experimental Study, *Econometrica*, 50 (5), 1123-1 142.
- Rook, K. S. (1987). Reciprocity of Social Exchange and Social Satisfaction among Older Women. *Journal of Personal and Social Psychology*, 52 (1), 145-154.
- Roseman, M. (1984). The Social Structuring of Sound: The Temiar of Peninsular Malaysia. *Ethnomusicology*, 28 (3), 411-445.
- Rosenbaum, M. S., & Massiah, C. A. (2007). When Customers Receive Support From Other Customers: Exploring the Influence of Intercustomer Social Support on Customer Voluntary Performance. *Journal of Service Research*, 9 (3), 257-270.
- Routledge, B. R., & von Amsberg, J. (2003). Social Capital and Growth. *Journal of Monetary Economics*, 50 (1), 167-193.
- Russell, D., Stefik, M., Pirolli, P., & Card, S. (1993). The Cost Structure of Sensemaking. CHI '93: Proceedings of the INTERACT '93 and CHI '93 Conference on Human Factors in Computing Systems, 269–276.
- Ryan, K. J. (2010). Building Business Trust - The Power of Reciprocity. Retrieved 4<sup>th</sup> February 2012 from <http://ezinearticles.com/?Building-Business-Trust---The-Power-of-Reciprocity&id=3694828>
- Sadlon, E., Y, S., Dever, H. J., & Nickerson, J. V. (2008). The Karma of Digg: Reciprocity in Online Social Networks. Proceedings of the 18th Annual Workshop on Information Technologies and Systems.
- Sahlins, M. (1972). *Stone Age Economics*. Aldine-Atherton: Chicago.
- Sander, T. H. (2002). Social Capital and New Urbanism: Leading a Civic Horse to Water. *National Civic Review*, 91 (3), 213-221.
- Satora, A. (2002). Asymptotic Robustness in Multiple Group Linear-Latent Variable Models. *Economic Theory*, 18 (2), 297.
- Schiff, M. (1992). Social Capital, Labour Mobility, and Welfare: The Impact of Uniting States. *Rationality and Society*, 4 (2), 157-175.

- Schlenker, B. R. (1980). *Impression Management*. Monterey: Brooks/Cole.
- Schultz, D. E., & Bailey, S. (2000). Customer/Brand Loyalty in an Interactive Marketplace, *Journal of Advertising Research*, 40 (3), 41-52.
- Schumaker, R., & Lomax, R. (2004). *A Beginners Guide to Structural Equation Modelling*. New Jersey: Lawrence Erlbaum Associates.
- Schwieren, C., & Sutter, M. (2008). Trust in Cooperation or Ability? An Experimental Study on Gender Differences. *Economics Letters*, 99 (3), 494-497.
- Seashore, C. E. (1908). *Elementary Experiments in Psychology*. New York: Henry Holt and Company
- Selltiz, C., Wrightsman, L. S. & Cook, S. W. (1976). *Research Methods in Social Relations* (3<sup>rd</sup> Edition). New York: Holt, Rinehart and Winston.
- Sen, A. (1977). Rational Fools: A Critique of the Behavioural Foundations of Economic Theory. *Philosophy and Public Affairs*, 6 (4), 317-44.
- Short, J., Williams, E., & Christie, B. (1976). *The Social Psychology of Communication*. New York: John Wiley.
- Shumaker, S. A., & Brownell, A. (1984). Toward A Theory of Social Support: Closing Conceptual Gaps. *Journal of Social Issues*, 40 (4), 11-36.
- Simmel, G. (1950). *The Sociology of Georg Simmel*. Glencoe: Free Press.
- Sin, L. Y. M., Tse, A. C. B., Yau, O. H. M., Chow, R. P. M., Lee, J. S. Y. & Lau, L. B. Y. (2005). Relationship Marketing Orientation: Scale Development and Cross-cultural Validation. *Journal of Business Research*, 58 (2), 185-194.
- Sisodia, R. S., & Wolfe, D. B. (2000). *Information Technology: Its Role in Building, Maintaining, and Enhancing Relationships*. Thousand Oaks: Sage Publications.
- Slonim, R. (2004) Gender Selection Discrimination: Evidence from a Trust Game. Working paper, Case Western Reserve University.
- Smith, C. (2015). By the Numbers: 37 Amazing Weibo Statistics. Digital Marketing Ramblings. Retrieved 10<sup>th</sup> January 2015 from <http://expandedramblings.com/index.php/weibo-user-statistics/>
- Smith, S. S., & Kulynych, J. (2002). It May Be Social, But Why Is It Capital? The Social Construction of Social Capital and the Politics of Language. *Politics & Society*, 30 (1), 149-186.
- Smith, C. A., & Ellsworth, P. C. (1987). Patterns of Appraisal and Emotion Related to Taking an Exam. *Journal of Personal and Social Psychology*, 52 (3), 475-488.

- Snijders, T.A.B. (1999). Prologue to the Measurement of Social Capital. *The Tocqueville Review*, 20 (1), 27-44.
- Song, F., Cadsby, C.B. & Bi, Y. (2012). Trust, Reciprocity, and Guanxi in China: An Experimental Investigation. Working paper No.1204, University of Guelph, Department of Economics and Finance.
- Sobel, J. (2004). Interdependent Preferences and Reciprocity. Working paper. UC San Diego.
- Sparrowe, R. T., & Liden, R. C. (1997). Process and Structure in Leader-Member Exchange. *Academy of Management Review*, 22 (2), 522-552.
- Spears, R., & Lea, M. (1994). Panacea or Panopticon? The Hidden Power in Computer-Mediated Communication. *Communication Research*, 21 (4), 427-459.
- Spector, P. E. (1992). Summated Rating Scale Construction. Newbury Park: Sage Publications.
- Statistic Brain (2014). Twitter Statistics. Retrieved on 10<sup>th</sup> Jan 2015 from <http://www.statisticbrain.com/twitter-statistics/>
- Steenkamp, J. B., & van Trijp, H. (1991). The Use Of LISREL In Validating Marketing Constructs. *International Journal of Research in Marketing*, 8 (4), 283-299.
- Steidlmeier, P. (1999). Gift Giving, Bribery and Corruption: Ethical Management of Business Relationships in China. *Journal of Business Ethics*, 20 (2), 121-132).
- Stace, W. T. (1937). The Concept of Moral. London: Macmillan Company.
- Synthesio (2012). Harnessing the Chinese Market with Sina Weibo. Retrieved on 15<sup>th</sup> June 2012 from <http://synthesio.com/corporate/2012/marketing-2-0/harnessing-the-chinese-market-with-sina-weibo/>
- Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are Shame, Guilt, And Embarrassment Distinct Emotions? *Journal of Personality and Social Psychology*, 70 (6), 1256-1269.
- Tashakkori, A., & Teddlie, C. (1998). Mixed Methodology: Combining Qualitative and Quantitative Approaches. Thousand Oaks: Sage Publications.
- Teng, C. Y., Lauterbach, D., & Adamic, L. A. (2010). I Rate You. You Rate Me. Should We Do So Publicly? Proceedings of the 3rd Conference on Online Social Networks, University of Michigan, USENIX Association, 12-12.
- Tepper, B. J., (2000). Consequences of Abusive Supervision. *Academy of Management Journal*, 43 (2), 178-190.
- Thibaut, J. W., & Kelley, H. H. (1959). The Social Psychology of Groups. New York: John Wiley and Sons Inc.

- Thomas, C. Y. (1996). Capital Markets, Financial Markets and Social Capital. *Social and Economic Studies*, 45 (2/3), 1 – 23.
- Torche, F., & Valenzuela, E. (2011) Trust and Reciprocity: A Theoretical Distinction of the Sources of Social Capital. *European Journal of Social Theory*, 14 (2), 181-198.
- Trivers, R. L. (1971). The Evolution of Reciprocal Altruism. *Quarterly Review of Biology*, 46 (1), 35–57.
- Truong, Y., Simmons, G., & Palmer, M. (2012). Reciprocal Value Propositions in Practice: Constraints in Digital Markets. *Industrial Marketing Management*, 41 (1), 197-206.
- Tsai, W., & Ghoshal, S. (1998). Social Capital and Value Creation: The Role of Intrafirm Networks. *The Academy of Management Journal*, 41 (4), 464-476.
- Tsui, A. S., & Farh, J. L. (1997). Where Guanxi Matters: Relational Demography And Guanxi In The Chinese Context. *Work and Occupations*, 24 (1), 56–79.
- Turner, R. H. (1970). *Family Interaction*. New York: Wiley.
- Uslaner, E. M. (2001). Volunteering And Social Capital: How Trust And Religion Shape Civic Participation In The United States. In E.M. Uslaner (Ed.), *Social Capital and Participation in Everyday Life*, 104-117. London: Routledge.
- van der Gaag, M., & Snijders, T. A. B. (2005). The Resource Generator: Measurement of Individual Social Capital with Concrete Items. *Social Networks*, 27 (1), 1-29.
- \_\_\_\_\_, Snijders, T. A. B., & Flap, H. D. (2008). *Position Generator Measures and Their Relationship to Other Social Capital Measures*. New York: Oxford.
- Vargo, S. L., & Lusch, R. F. (2008). Service-Dominant Logic: Continuing the Evolution. *Journal of the Academy of Marketing Science*, 36 (1), 1-10.
- Vincent, J., & Fortunati, L. (2009). Electronic Emotion: The Mediation of Emotion via Information and Communication Technologies. *Interdisciplinary Communication Studies*, 3. Oxford: Peter Lang Verlag.
- \_\_\_\_\_, & Fortunati, L. (2014). The Emotional Identity of the Mobile Phone. In *The Routledge Companion to Mobile Media*. Edited by Goggin, G., Hjorth, L., & Routledge C., New York: Routledge.
- Walster, E., Berscheid, E., & Walster, G.W. (1973). New Directions in Equity Research. *Journal of Personality and Social Psychology*, 25 (2), 151-176.
- Wang, Q., Razzaque, M. A., & Keng, K. A. (2007). Chinese Cultural Values and Gift-Giving Behaviour. *Journal of Consumer Marketing*, 24 (4), 214-228.
- Warner, R. M. (2013). *Applied Statistics: From Bivariate Through Multivariate Techniques* (2<sup>nd</sup> Edition), Thousand Oaks: Sage Publications.



- Wasko, M. M., & Faraj, S. (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly*, 29 (1), 35-57.
- Watkins, P., Scheer, J., Ovnicek, M., & Kolts, R. (2006). The Debt of Gratitude: Dissociating Gratitude and Indebtedness. *Cognition and Emotion*, 20 (2), 217- 241.
- Waugh, C. E., & Fredrickson, B. L. (2006). Nice To Know You: Positive Emotions, Self-Other Overlap, and Complex Understanding in The Formation of a New Relationship. *Journal of Positive Psychology*, 1 (2), 93-106.
- Weber, M. (1922). *Economy and Society*. Berkeley: University of California Press.
- Webster, J. & Martocchio, J. J. (1992). Microcomputer Playfulness: Development of a Measure with Workplace Implication. *MIS Quarterly*, 16 (2), 201-226.
- Wedekind, C. (1998). Give and ye shall be recognised. *Science*, 280 (5372), 2070-2071.
- \_\_\_\_\_, & Milinski, M. (2000). Cooperation through Image Scoring in Humans. *Science*, 288 (5467), 850-852.
- Wheeler, J. (2010). Reciprocity In Business Leads to More Referrals - How To Build Trust In Your Business Relationships. Retrieved on 2<sup>nd</sup> April 2012 from <http://www.jasonwheeler.biz/reciprocity-in-business-leads-to-more-referrals-how-to-build-trust-in-business/>
- Whitener, E. M., Brodt, S. E., Korsgaard, M. A., & Werner, J. M. (1998). Managers as Initiators of Trust: An Exchange Relationship Framework for Understanding Managerial Trustworthy Behaviour. *Academy of Management Review*, 23 (3), 513-530.
- Wikstrom C, & Frostling-Henningssoon, M. (2002). From Real Word to Mirror World Representation. *Journal of Business Research*, 55 (8), 647-654.
- Wilke, H., & Lanzetta, J. T. (1970). The Obligation to Help: The Effects of the Amount of Prior Help on Subsequent Helping Behaviour. *Journal of Experimental Social Psychology*, 6 (4), 488-493.
- Williams, D. (2006). On and Off the Net: Scales for Social Capital in an Online Era. *Journal of Computer-Mediated Communication*, 11 (2), 593-628.
- Williams, L. J., & Holahan, P. J. (1994). Parsimony-Based Fit Indices for Multiple-Indicator Models: Do They Work? *Structural Equation Modelling*, 1 (2), 161-189.
- Woolcock, M. (1998). Social Capital and Economic Development: Towards A Theoretical Synthesis and Policy Framework. *Theory and Society*, 27 (2), 151-208.
- Wu, W., Chan, T. S., & Lau, H. L. (2008). Does Consumers' Personal Reciprocity Affect Future Purchase Intentions? *Journal of Marketing Management*, 24 (3-4), 345-360.

References

- Yau, O. H. M., Sin, L. Y. M., Lee, J. S. Y., & Tse, A. C. B. (1998). The Development of a Scale for Measuring Relationship Marketing Orientation. Working paper, Hong Kong: Chinese Management Research Centre City, University of Hong Kong.
- \_\_\_\_\_, McFetridge, P. R., Chow, R. P. M., Lee, J. S. Y., Sin, L. Y. M., & Tse, A. C. B. (2000). Is Relationship Marketing for Everyone? *European Journal of Marketing*, 24 (9/10), 1111-1127.
- Zajonc, R. B. (1980). Feeling and Thinking, Preferences Need No Inferences. *American Psychologist*, 35 (2), 151-175.
- \_\_\_\_\_, & Markus, H. (1984). Affect and Cognition: The Hard Interface. In Izard, C.E., Kagan, J., & Zajonc, R. B. (Ed) *Emotions, Cognition, and Behavior*, 63-103. Cambridge: Cambridge University Press.
- \_\_\_\_\_, & Markus, H. (1985). Must All Affect Be Mediated By Cognition? *Journal of Consumer Research*, 12 (1), 363-364.
- \_\_\_\_\_, & McIntosh, D. N. (1992). Emotions Research: Some Promising Questions and Some Questionable Promises. *Psychological Science*, 3 (1), 70-74.
- Zhu, A. Q., & Brodie, R. (2013). Engagement, Reciprocal Behaviour and Value Co-creation in Social Media. Competitive paper presented at the 21st Frontiers in Service Conference, Taipei, Taiwan.
- \_\_\_\_\_, & Starr, R., & Brodie, R. (2014). The Influence of Perceived Social Capital on Reciprocity in Chinese Social Media. Competitive paper presented at the Australian and New Zealand Marketing Academy Conference, Brisbane, Australia.

## APPENDICES

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## Appendix I: Interview – Participant Information Sheet, Consent Form & Interview Guide

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### [PARTICIPANT INFORMATION SHEET - CHINESE VERSION]

#### 社交网络的互利互惠行为访谈

#### 参与者须知

#### 网络社区中的礼尚往来: 我们为什么要互粉?

亲爱的参与者,

你被邀请参加一个关于网络社区中的互利互惠行为的访谈调查研究, 此访谈调研是关于社交媒体中您对您的关注者的选择因素, 例如微博中的互粉行为。这项研究是由来自奥克兰大学市场营销系安德鲁, 朱来执行。这项研究将是我的博士论文中的一个重要组成部分。我将感激您在此次访谈中可以给我任何帮助。

在过去的几年里, 社交媒体已经对我们的日程生活产生越来越多的影响, 我们有更多的机会与我们素未谋面的人产生联系。在这次采访中, 我们要求社交媒体用户讨论他们的媒体社区中的关注者选择的过程, 以及社交距离感和动机对互粉行为的影响。这是一个重要的研究, 并没有被任何社交网站的资助。但是, 所有的社交媒体网站都会对我们的研究结果产生兴趣, 因为研究结果将会告诉他们, 他们是否构建了一个良好的社交媒体平台, 通过何种途径社交媒体用户可以更好的相互构建关系和促进交流。此访谈将侧重于您如何定义社交媒体中的社交距离, 您与关注者的互粉的动机, 以及这些因素对社交媒体中礼尚往来, 互惠互助的影响。

这项研究没有任何已知的风险, 您的参加将不会有任何费用。您也许不会直接受益于本次访, 但是在此研究中产生的成果会对学术文献产生良好的贡献。本人将十分感激如果你可以花费约 45-60 分钟参与到此访谈中。访谈将通过即时消息的在线工具, 如腾讯 QQ。如果您喜欢语音

沟通，采访可以通过音频/视频音频功能进行，研究人员将确保没有其他人可以听到访谈的对话。访谈将被录制以用于分析的目的，并在市场营销系保存 6 年。

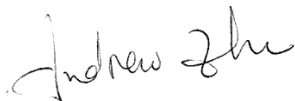
您的参与是完全自愿的，并且保密的。没有人能够识别您或您的答案，除研究人员外没人会知道您是否参加此调研。研究结果会在国际学术类文献上发表，但是绝不掺杂任何个人信息。如果您提供的信息被发表或是以报告的形式出现，比如在我的博士论文中，但是并不会暴漏任何与您相关的信息。访谈同意书将会发送给您，如果您同意参与这项研究，请点击同意书上的“同意”按钮。你可以自由地拒绝回答您不希望以任何理由来回答任何特定的问题。

非常感谢您的时间和帮助，使这一研究项目成为可能。如果您有任何问题或疑问，有关研究，你可以与我联系或奥克兰大学的其他成员如下。

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敬礼



如果您对此调研问卷有道德伦理方面的质疑，请致信奥克兰大学道德管理委员会，地址如下：

The Chair  
The University of Auckland Human Participants Ethics Committee  
The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

---



Department of Marketing  
The University of Auckland  
Private Bag 92019  
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**RECIPROCAL BEHAVIOUR IN ONLINE COMMUNITIES INTERVIEW**  
**PARTICIPANT INFORMATION SHEET [ENGLISH TRANSLATION]**

**Reciprocity in Online Communities: Why Should We Follow Back?**

Dear participant,

You are invited to participate in an interview research study about the reciprocal behaviour in online communities; in this case it is about your follower selection process in social media platforms such as Weibo. This study is being conducted by Andrew Qiang Zhu from the Department of Marketing at The University of Auckland. This study is being conducted as part of the research for my Doctor of Philosophy thesis. I would appreciate any assistance you can offer me.

In the past several years, social media has become more influential in our everyday life, and we have more and more opportunities to connect with people who we have never met before. In this interview we ask social media users to discuss their personal experience about their online follower selection process. This is an important study and is not funded by any of the social media organisations. However all the social media sites are very interested in the results of our study, for it informs them how well they have constructed their social media platforms, or not, and how social media users can be more effectively connected with each other. The interview focuses on your perceptions of how social distance is defined by you, your motivations to connect to your followers and their impact on your reciprocal actions.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information from this study should provide more general benefits for the advancement of academic literature. It will be greatly appreciated if you could spend approximately 45-60 minutes to participate in this online interview through instant message based online tools, such as Tencent QQ, or whatever is more convenient to you. If you prefer verbal communication, interview can be conducted through their audio/video audio functions, and the researcher will ensure no other people can hear the

conversation. The interview will be recorded for transcribing and analysis purpose and it may be stored for 6 years in the Department of Marketing.

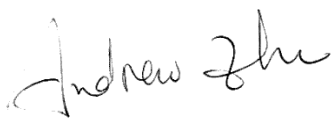
Your participation is voluntary, no one will be able to identify you or your answers, and no one will know whether or not you participated in the study other than the researcher. Should the data be published, no individual information will be disclosed. If the information you provide is reported or published, such as in my thesis, this will be done in a way that does not identify you as its source. A copy of Interview Consent Form can be found in the following page, by clicking the 'Agree' button on the consent form, you agree to participate in the study. You are free to decline to answer any particular question you do not wish to answer for any reason.

Thank you very much for your time and assistance to make this research project possible. If you have any questions or queries regarding the research, you may contact me or the other member of The University of Auckland shown below.

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My supervisor and Head of Department is:  
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Yours sincerely,



Andrew Qiang. Zhu

For any queries regarding ethical concerns, please contact:

The Chair

The University of Auckland Human Participants Ethics Committee

The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**  
on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

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[INTERVIEW CONSENT FORM - CHINESE VERSION]

## 访谈同意书

访谈话题：网络社区中的互惠行为

- 1.我同意接受采访上述的研究性题目。
- 2.采访的目的和性质已经向我解释，我已经阅读了由研究人员提供的采访者须知。
- 3.我明白，采访内容将被记录（文本或音频）。
- 4.本人同意采访内容将或许被研究员以电子格式储存 6 年。
- 5.我询问了此调查研究的目的是性质并得到了让我满意的回答。
- 6.我不想我的名字在此研究中被引用或暴露。
- 7.我已年满 18 岁，我没有就职于任何社交传媒公司或市场研究公司。

受访者姓名 \_\_\_\_\_

同意

我同意上述条件并参加本次访谈

我已经向受访者解释过该调研访谈，以及此采访对受访者的影响，我相信同意授权书是被理解的，他/她了解参与此项访谈的意义。

采访者: Andrew Q. Zhu

A handwritten signature in black ink that reads "Andrew Q. Zhu".

.....





Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland, NZ

## INTERVIEW CONSENT FORM [ENGLISH TRANSLATION]

**NAME OF THE INTERVIEW TOPIC: RECIPROCAL BEHAVIOUR IN ONLINE COMMUNITIES**

1. I agree to be interviewed for the purposes of the research study named above.
2. The purpose and nature of the interview has been explained to me, and I have read the interview information sheet as provided by the researcher.
3. I understand that I will be recorded (Text or Audio).
4. I agree that the interview may be stored in electronic format by the researcher for 6 years.
5. Any questions that I asked about the purpose and nature of the interview and research study have been answered to my satisfaction.
6. I do not wish my name to be used or cited, or my identity otherwise disclosed, in the research study.
7. I am 18 years old or older and not working for social media companies or market research companies.

Name of interviewee \_\_\_\_\_



**I agree the above conditions to participate in this interview**

I have explained the research and the implications of being interviewed to the interviewee and I believe that the consent is informed and that he/she understands the implications of participation.

Name of interviewer: Andrew Q. Zhu

A handwritten signature in black ink that reads 'Andrew Q. Zhu'.

.....

**[SEMI-STRUCTURED INTERVIEW GUIDE - CHINESE VERSION]**

社交网络的互利互惠行为

访问大纲

我们为什么要“互粉”？

社交网络互惠互利：社交距离和驱动力对互惠互利的影响

简介

我的名字是安德鲁·朱，目前在奥克兰大学商学院攻读博士学位。我目前正在筹划一个实验来研究社交媒体用户的互惠行为（彼此关注对方，加互相为粉丝），关于他们的在新浪微博上的“关注”和“互粉”的社交行为。作为实验设计的一部分，我们正在收集社交媒体用户的个人互惠经验和见解，他们对“关注行动”的看，他们和他们的追随者（关注者）之间的社会距离，和可能的动机 – 例如有人关注了你而后你互粉了他。你在微博已经聚集了大量的追随者（插入关注者/粉丝数量）这是一种社交资源，你可能有互惠互利（礼尚往来）的经验。因此我们认为你可能是一个有具有发言权的社交媒体用户。

请阅读附件中的‘参与者信息介绍’，如果您希望参加此次调研，请在“调研同意书”中按下“同意”键。

在我们开始访问前，您有什么问题吗？

**[INTERVIEW GUIDE - CHINESE VERSION]**

**访问大纲（半开放式）**

**背景问题**

- 可以请您简单介绍一下您自己和您的微博使用使用情况吗？
- 你在使用微博的时候怎么选择关注对象？当您关注这些人的时候，他们也会与您互粉吗？假如他们与你互粉了，或不互粉，您会有什么感觉吗？

**对‘被关注’和礼尚往来的理解**

- 当您对陌生人关注了，你有什么特殊感觉？
- 你对礼尚往来，互惠互利这条社会准则在现实社会和社交网络中有什么理解和看法？
- 请谈一下在现实社会中和社交网络中，在何种程度上您认为你遵循着礼尚往来，互惠互利这条社会准则？

**对社交距离的理解**

- 请问您在微博中的社交地位（影响力）和您的关注对象还有您的粉丝是何种状况？
- 您如何评估您和您的粉丝之间的社交距离？
- 在何种程度上您会特别注意您的粉丝的个人主页？例如他们的粉丝数量，关注量还有他们的微博数量？
- 请问这些主页上的“数量”指标会给您产生什么样的印象？
- 这些“数量”指标会影响你的互粉行为吗？

**互惠互利的行为中的动机/感情因素（例如互粉）**

- 请问个人信息页中的哪些因素会促使您与您的粉丝互粉？
- 请问有哪些感情因素被激发以至于您的互粉行为？
- 请问如果与之互粉您会得到什么好处？

**结束**

十分感谢你在此次调研投入的时间和贡献，我会把您的想法融入到我的实验当中，并且希望在实验阶段邀请您再次参与，再次感谢您对本次调研的协助。

## RECIPROCAL BEHAVIOUR IN ONLINE COMMUNITIES

### INTERVIEW GUIDE [ENGLISH TRANSLATION]

#### Reciprocity in Social Networking Sites: Why Should We “Follow Back”?

##### **Introduction**

My name is Andrew Zhu, a PhD student from the Department of Marketing in the University of Auckland. I am currently planning an experiment to study social media users’ reciprocal behaviour with respect to their “Follow” and “Follow back” actions in online communities (e.g., Sina Weibo). As part of the experimental design, I am looking to gather insights from social media users about their experience of reciprocal exchange, their perceptions of “following actions,” their perceptions of social distance between them and their followers, and possible motivations for reciprocation – such as ‘follow back’ on those who followed you. We thought you might be a great resource to speak to regarding social media as you have achieved in gathering (insert number of followers in here) of followers in Weibo, and you might have experienced scenarios of reciprocity.

Please read the ‘Participant Information Sheet’ attached and click on the “Agree” button in “Interview Consent Form” if you are willing to participate in this research.

Before we begin, do you have any questions for us?

## **INTERVIEW GUIDE (SEMI-STRUCTURED) [ENGLISH TRANSLATION]**

### **Background**

- Could you tell us a bit about yourself and your usage of Weibo?
- How do you determine who to follow in Weibo? Do those members you followed also followed back on you? What's your feeling like if they followed you back or followed you back?

### **Perceptions of the “Following Actions” on Weibo & Reciprocity**

- What is your perception of being followed by strangers?
- What is your understanding of the norm of reciprocity in real life and in virtual environment?
- To what extent do you think you've followed the norm of reciprocity in real life and in virtual environment?

### **Perceptions of Social Distance**

- What is your status in Weibo community in comparison to those you followed and those who followed you?
- How do you assess the social distance between you and your followers?
- To what extent do you pay attention to their social profile? Such as their number of followers, number of followings and number of postings?
- What impression does each of these “numbers” give to you?
- Does your followers' social profile information impact on your follow back actions?

### **Motivation/Emotions involved in reciprocating (e.g., following back)**

- What elements of your followers' social profile motivate you to follow back?
- Are there any emotions triggered/involved in your reciprocal behaviour?
- What benefits do you perceive if you follow back on your followers?

### **Closing**

Thanks for your time and contribution in this research, I would like to incorporate your thoughts into my experimental design and I would like to continue engaging with you as our experimental design moves forward. Your help is much appreciated.

## Appendix II: Motivations for Adopting Weibo

### Table of Summary: Motivations for Adopting Weibo

Motivations	Verbatim
<b>Curiosity</b>	<i>"I wanted to see what is in there (celebrities and friends' Weibo) out of curiosity." (Chrissie, 24, female, student)</i>
	<i>"I was curious to know what was actually happening (in celebrities' world)." (Lin, 30, female, sales representative)</i>
	<i>"But curiosity will stimulate you to check him out." (Farewell, 30, female, housewife)</i>
	<i>"In the beginning it was because of my wife, she used it every day and it made curious about it." (Kai,33, male, IT consultant)</i>
<hr/>	
<b>Social Connectivity</b>	
<b>Peer pressure</b>	<i>"Friends have been asking me if I have an account and they always discuss what they saw on Weibo... I will feel I am not up to date, (and a) very slow adapter, [...] if everyone else is sharing something and you don't, then people/ (yours followers) might not have interest in you (anymore). Sometimes it is not because there is something worth sharing, it is just to participate." (Chrissie, 24, female, student)</i>
	<i>"In the beginning it was because of my wife, she used it every day and it made curious about it." (Kai,33, male, IT consultant)</i>
<b>Social belongingness</b>	<i>"I will not feel guilty or impolite (if not contributing to Weibo) but may feel left out (from the circle of friends)." (Chrissie, 24, female, student)</i>
	<i>"Many of my friends around me are using it too. I do not want to be disconnected from the society." (Lin, 30, female, sales representative)</i>
<b>Communication tool</b>	<i>"I also use Weibo to keep in touch with friends in China and abroad." (Farewell, 30, female, housewife)</i>
<hr/>	
<b>Information Driven</b>	
<b>Information exchange</b>	<i>"At the beginning Weibo attracted me because it is a platform for sharing and exchanging information." (Sun, 25, male, photographer)</i>
	<i>"Sure, I am a 'grass root' class on Weibo so that I pay lots of attention to people like me as well. It is a great place for people like us to express ourselves and share what we know." (Kai,33, male, IT consultant)</i>
	<i>"We share information and resource about travelling." (Max, 32, male, travel agent)</i>
	<i>"Friends' recommended it (Weibo) for a better exchange of information. After using it, I realised that the usage of Weibo is quite broad. It provides information in multiple areas; this has satisfied the needs of many users." (Kun,</i>

Motivations	Verbatim <i>32, female, business owner</i>
<b>Information Driven</b>	
<b>Information gathering</b>	<p><i>“I use Weibo mainly for browsing information, I search for news or knowledge based categories of information.” (Farewell, 30, female, housewife)</i></p> <p><i>“Weibo itself has a lot of information. I can get a lot of the latest social information from it.” (Yang, 25, male, marketer)</i></p> <p><i>“I like reading and it (Weibo) provides unstopped information flow, whenever I feel bored there is always something new and interesting.” (Kai,33, male, IT consultant)</i></p>
<b>Uniqueness of information</b>	<p><i>“Weibo has a lot of the news that the CCTV will not mention or is scared to expose it out.” (Sun, 25, male, photographer)</i></p> <p><i>“It is a great place for people like us to express ourselves and share what we know the best by posting my own opinions.” (Kai,33, male, IT consultant)</i></p> <p><i>“Lots of information and most updated news that you don’t normally get from formal News channels.” (Max, 32, male, travel agent)</i></p> <p><i>“There is another attractive thing with Weibo; many issues that are not reported in the mainstream media are discussed on Weibo.” (Farewell, 30, female, housewife)</i></p>
<hr style="border-top: 1px dashed black;"/>	
<b>Sense of Security</b>	
<b>Express emotions freely</b>	<p><i>“To me I feel it (Weibo) focuses more about the exchange of everyday life emotions, [...] the reason why I started playing around with Weibo is mainly because it focuses on opinions and it has a comparatively better privacy to express your emotions (than other SNSs).” (Yang, 25, male, marketer)</i></p> <p><i>“Internet (Weibo) is a place to let out your emotions, feelings, and opinions etc., [...] I say when I want to say and see when I want to see. There’s a high degree of freedom.” (Sun, 25, male, photographer)</i></p> <p><i>“Internet is a virtual space, especially when we are strangers to each other, and there is no need to be so polite, because we don’t know each other. And that is the beauty of Weibo, if you don’t like anyone, just swear at them and block them, simple and easy. There is no obligation to anyone, and it is a great place to express yourself freely.” (Max, 32, male, travel agent)</i></p>
<b>Privacy</b>	<p><i>“I may want to say something and don't want to let all the friends see it. Maybe it is better if strangers see it” (Yang, 25, male, marketer)</i></p> <p><i>“Weibo is anonymous, I feel no stress to express when there is no friend around.”(Kun, 32, female, business owner)</i></p> <p><i>“There are many people who dare to speak the truth. They dare to disagree with the government. Let’s ignore whether communist should change or not, [...] Weibo is great place for me to express whatever I want to say, my identity is</i></p>

Motivations	Verbatim
	<i>hidden, so it is relatively safe.</i> (Kai,33, male, IT consultant)

### Appendix III: Pilot Study – Manipulation of Social Capital

[Question] The following questions are based a scenario, please read the information presented to you and answer a series of questions. There are no right or wrong answers in your responses. Please provide answers as similar as possible to the way you experience them in your actual Sina Weibo usage.

Looking at the Weibo social profile below, imagine that the profile on the left is yours and the other one on the right is person A's. Please read these social profiles carefully. 'A' and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. A is just an ordinary Weibo user, not a public figure.

**Note:** Manipulation based on Weber's Law (1834) of Just-noticeable Difference – ratio = 50% (more/less) (Scenario 1 is illustrated below, the other scenarios are constructed in the same manner)

Scenario 1: Low bridging & bonding social capital

A has 50% less of followers and postings than the participant

**Note:** Manipulation based on advice from an industry practitioner from Sina Weibo – ratio = 10 times (more/less) (Scenario 1 is illustrated below, see Appendix IV for other scenarios)

Scenario 1: Low bridging & bonding social capital

A has 10 times less of followers and postings than the participant

#### Manipulation Check

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1	2	3	4	5	6	7	8	9	10
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Appendix III: Pilot Study – Manipulation of Social Capital

	Strongly Disagree									Strongly Agree
MC1. I perceive that my contribution to Weibo is greater than A's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than A's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Manipulation Check Results (SPSS outputs for independent samples t-test)**

**Manipulation ratio = 50% (more/less)**

**Bridging Social Capital Manipulation Check Results**

Group Statistics					
	Bridging Social Capital	N	Mean	Std. Deviation	Std. Error Mean
MC_2 Bridging Social Capital Check: I perceive that my social influence in Weibo is greater than A/B/C/D	1 Lower Bridging Social Capital	60	5.58	2.227	0.287
	2 Higher Bridging Social Capital	60	4.52	2.103	0.272

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
MC_2 Bridging Social Capital Check: I perceive that my social influence in Weibo is greater than A/B/C/D	Equal variances assumed	0.329	0.567	2.697	118	0.008	1.067	0.395	0.248	1.85
	Equal variances not assumed			2.697	117.617	0.008	1.067	0.395	0.248	1.85

**Bonding Social Capital Manipulation Check Results**

Group Statistics					
	Bonding Social Capital	N	Mean	Std. Deviation	Std. Error Mean
MC1 Bonding Social Capital Check: I perceive that my contribution to Weibo is greater than A/B/C/D	1 Lower Bonding Social Capital	60	5.48	2.771	0.358
	2 Higher Bonding Social Capital	60	4.4	2.726	0.352

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
MC_1 Bonding Social Capital Check: I perceive that my contribution in Weibo is greater than A/B/C/D	Equal variances assumed	0.206	0.65	2.159	118	0.033	1.083	0.502	0.09	2.077
	Equal variances not assumed			2.159	117.968	0.033	1.083	0.502	0.09	2.077

**Manipulation Check Results (SPSS outputs for independent samples t-test)**

**Manipulation ratio = 10 times (more/less)**

**Bridging Social Capital Manipulation Check Results**

Group Statistics					
	Bridging Social Capital	N	Mean	Std. Deviation	Std. Error Mean
MC_2 Bridging Social Capital Check: I perceive that my social influence in Weibo is greater than A/B/C/D	1 Lower Bridging Social Capital	60	7.6	1.777	0.229
	2 Higher Bridging Social Capital	60	4.48	2.937	0.379

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MC_2 Bridging Social Capital Check: I perceive that my social influence in Weibo is greater than A/B/C/D	Equal variances assumed	6.575	0.012	3.85	118	0.000	1.768	0.459	0.859	2.677
	Equal variances not assumed			3.837	111.823	0.000	1.768	0.461	0.855	2.681

**Bonding Social Capital Manipulation Check Results (SPSS outputs)**

Group Statistics					
	Bonding Social Capital	N	Mean	Std. Deviation	Std. Error Mean
MC1 Bonding Social Capital Check: I perceive that my contribution to Weibo is greater than A/B/C/D	1 Lower Bonding Social Capital	60	7.34	2.25	0.288
	2 Higher Bonding Social Capital	60	5.58	2.762	0.36

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MC_1 Bonding Social Capital Check: I perceive that my contribution in Weibo is greater than A/B/C/D	Equal variances assumed	6.575	0.012	3.85	118	0.000	1.768	0.459	0.859	2.677
	Equal variances not assumed			3.837	111.823	0.000	1.768	0.461	0.855	2.681

## Appendix IV: Online Survey – Participant Information Sheet & Consent Forms

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Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland, NZ

**PARTICIPANT INFORMATION SHEET**  
**FOR**  
**THIRD PARTY SERVICE PROVIDER (RESEARCHNOW)**

**Project title: Reciprocal Behaviour in Social Networking Sites (Sina Weibo)**

**Researcher: Andrew Q. Zhu**

### **Researcher Introduction**

My name is Andrew Q. Zhu. I am a PhD student at the University of Auckland, in the Department of Marketing. I am conducting this survey as part of my PhD thesis. My supervisor and Head of Department is Professor Roderick Brodie. Our physical address is the University of Auckland Business School, Room 416, Owen G. Glen Building, and 12 Grafton Road, Auckland. My email address is [Andrew.zhu@auckland.ac.nz](mailto:Andrew.zhu@auckland.ac.nz).

### **Project Description**

This research will investigate social media (social networking sites specifically) users' reciprocal behaviour in Sina Weibo. The survey consists of two major parts, experiments and attitudinal measures. The experiment part is about Weibo users' follower selection process, and attitudinal measures could potentially provide us with causal explanations for their behaviour.

In the past several years, social media has become more influential in our everyday life, and we have more and more opportunities to connect with people who we have never met before. In this research we ask each Weibo user to play two scenario testing games, which involves their perceptions about different combinations of elements in one's online social profile and how these profile differences affect their reciprocal behaviour. This is an important study and is not funded by any of the social media organisations. However social media service

providers could be very interested in the results of the research, as it informs them as to how well their social media platforms are constructed (or not), and how social media users can be more effectively connected with each other.

This research requires a sample of 800, 400 males and 400 females. There are two main scenarios and 4 sub-scenarios attached to each of the main scenarios. Each participant will be facing one sub-scenario from each of the main scenarios, therefore two sub-scenarios in total. Overall each sub-scenario will receive 200 individual responses, each main scenario will receive 800 responses in total and 1,600 responses for two main scenarios together.

The purpose of this Participant Information Sheet (PIS) is to convey the research purpose, methods and approach to you in your role as Manager at ResearchNow (New Zealand office). Further, this PIS seeks your consent for the undertaking of this project. Specifically, your consent is sought with respect to providing access to a sample of 800 Sina Weibo users in mainland China during the period of August – October 2013. Your consent to participate as a third party service provider in this project requires formalisation by means of your completion of the Consent Form.

Your consent would be greatly appreciated in this research, which will take place by means of an online survey, which is approximately 15 minutes in length. Respondents' participation in this project is entirely voluntary. Further, the respondents may be eligible to receive a specific number of e-rewards for their participation in the survey. Respondents will have the opportunity to withdraw their consent relating to their participation in the research up until the online submission of their completed questionnaire. However, they will cease to be able to withdraw their consent after submitting their completed questionnaire online.

The survey data (including the electronic consent to participate in the research) will be provided in SPSS format for analysis purpose by ResearchNow. The data will be securely stored on the University of Auckland server and the researcher's personal computer. All data will be destroyed (deletion of all copies and relevant files) after a period of six years. During this period the data will be reviewed by the researcher and my academic supervisors only.

All respondents will be treated confidentially during and after the completion of the research. Specifically, none of the respondents will be identifiable to the main researcher at any stage

during the collection, analysis and/or dissemination of the research findings. Any future publications arising from this research, such as in an academic journal, will not in any way identify the respondents. Additionally, any intellectual property arising out of this project will remain with me, the main researcher and my PhD supervisors.

Thank you very much for your time and help in making this research possible. If you have any questions or queries regarding the research, you may contact me or the other member of The University of Auckland shown below.

Andrew Qiang Zhu  
Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland  
Tel: +64 210218889  
Email: [andrew.zhu@auckland.ac.nz](mailto:andrew.zhu@auckland.ac.nz)

My supervisor and Head of Department  
Professor Rod Brodie  
Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland  
Tel: +64 9 373 7599 ext. 87523  
Email: [r.brodie@auckland.ac.nz](mailto:r.brodie@auckland.ac.nz)

Yours sincerely,



.....  
Researcher: Andrew Q. Zhu

For any queries regarding ethical concerns, please contact:

The Chair  
The University of Auckland Human Participants Ethics Committee  
The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

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Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland, NZ

## CONSENT FORM

FOR

**THIRD PARTY SERVICE PROVIDER (RESEARCHNOW)**

**THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF 6 YEARS**

---

**Project title: Reciprocal Behaviour in Social Networking Sites (Sina Weibo)**


**Researcher: Andrew Q. Zhu**

I have read the Participant Information Sheet and have understood the nature of the research and why ResearchNow has been contracted to collect the data for this research. I have had the opportunity to ask questions and have them answered to my satisfaction. I understand that the participation of a sample of ResearchNow's registered members in this research will be entirely voluntary. I understand that the key findings of this research will remain the property of the researcher, his supervisor and the University of Auckland. I understand that the names of the respondents will not be used in any publication or report that may come out of the research without their consent. I understand that the respondents may withdraw themselves and/or their consent for any information traceable to them, at any time up to the submission of their online survey. I also understand that access to all data will be restricted to the researcher and his supervisors, and that these will be stored on the secure server of the University of Auckland and the researcher's personal computer, and be kept for up to six years. Further, I understand that the data and relevant files will be securely destroyed after that period. Hence,

1. I, the manager of ResearchNow in New Zealand, agree to take part in this research by providing the researcher (Andrew Q. Zhu) with access to a sample of approximately 800 registered members of the ResearchNow panel in mainland China. I understand that this sample is comprised of users of Sina Weibo. I understand that respondents will be requested to complete the online survey addressing their reciprocal behaviour in Sina Weibo usage;

2. I understand the survey will take the respondents approximately 15 minutes to complete;
3. I understand that respondents' survey responses will be treated confidentially, and only the researcher and his supervisors will have access to the completed questionnaire, Consent Forms and data;
4. I understand that the respondents are free to withdraw participation, and/or to withdraw any data traceable to them up to the submission of their completed online survey. I also understand that the respondent will not be able to withdraw their consent pertaining to their participation in the survey after submitting their completed questionnaire online;
5. I understand that the respondents will not have the opportunity to view and/or edit their survey responses after submitting their completed survey online;
6. I understand that data collection will take place between August and October 2013;
7. I understand that the data will be kept for 6 years, after which they will be destroyed;
8. I understand that to proceed to the online survey, the respondents will first be required to click the "I Agree to participate in this research" button with respect to the PIS and Consent Form.

Name of the Manager: George Glubb

Signature: 

Date: 15/08/13

For any queries regarding ethical concerns, please contact:

The Chair

The University of Auckland Human Participants Ethics Committee

The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830



APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968



Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland, NZ

[PARTICIPANT INFORMATION SHEET - CHINESE VERSION]

社交网络行为调研-参与者须知

尊敬的参与者，

您被邀请参加一项关于社交网络行为的学术调查研究。此调研是关于您与您的“粉丝”（关注您的其他微博用户）在微博中的互动行为。本人（Andrew Zhu）是此项研究的主负责人，我是奥克兰大学商学院市场营销系的一名博士生，此调研是我的博士论文的一个组成部分。我将不胜感激您给我提供的任何帮助。如果您觉得您不是填写此调查的最佳人选，希望您能将此调研给予您熟知的人选，此人必须是 18 岁以上，并有一个真实有效的新浪微博帐号。

在过去的几年里，社交媒体已经成为我们日常生活中较有影响力的一部分，我们有越来越多的机会去结交我们素昧平生的人。在本次调研中，我们将邀请您参与两个有关于微博的情景游戏测试，其中包括您通过微博用户的仅有个人信息对微博用户的鉴定和潜在的互动行为。这是一项较重要的研究，并没有任何社交媒体组织资助。但是我们的研究结果，将会引起社交网络公司的注意，因为研究结果可以告诉他们，他们建立的社交网络平台是否合理有效的帮助您达到您所需的目的，并且是否可以帮助您有效的相互结交朋友。这项调研对于参与者您无任何风险，您也不需要花费任何金钱来参与其中。这项调研您可能不会直接受益，但在这项研究中了解到的信息会提供更多的大众利益，结果也会受益于未来的学术文献。如果你可以花大约 15 分钟完成本次在线调研，并尽快提交，或最晚在 2013 年 9 月 1 日前提交，在此我和奥克兰大学商学院市场营销系的全体同仁将不胜感激您的合作。

您的参与是完全自愿的，并且保密的。没有人能够识别您或您的答案，除研究人员外没有人会知道您是否参加此调研。研究结果会在国际学术类文献上发表，但是绝不掺杂任何个人信息。如果您提供的信息被发表或是以报告的形式出现，比如在我的博士论文中，但是并不会暴漏任何与您相关的信息。你可以拒绝回答任何你不想回答的问题并退出问卷。

非常感谢您的时间和帮助，使这一研究项目成为可能。如果您有任何问题或疑问，有关研究，你可以与我联系或奥克兰大学的其他成员如下。

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Auckland  
电话 +64 210218889

电子邮件: [andrew.zhu@auckland.ac.nz](mailto:andrew.zhu@auckland.ac.nz)

My supervisor and Head of Department is:

Professor Rod Brodie  
Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland

电话: +64 9 373 7599 ext. 87523

电子邮件: [r.brodie@auckland.ac.nz](mailto:r.brodie@auckland.ac.nz)

敬礼



如果您对此调研问卷有道德伦理方面的质疑，请致信奥克兰大学道德管理委员会，地址如下：

The Chair

The University of Auckland Human Participants Ethics Committee

The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968



Department of Marketing

The University of Auckland

Private Bag 92019

Auckland, NZ

## **RECIPROCAL BEHAVIOUR IN SOCIAL NETWORKING SITE SURVEY**

### **PARTICIPANT INFORMATION SHEET [ENGLISH TRANSLATION]**

Dear Participant,

You are being invited to participate in a research study about the reciprocal behaviour in online communities; in this case it is about your follower selection process in a social networking site such as Sina Weibo. This study is being conducted by Andrew Zhu and the Department of Marketing in the University of Auckland. This study is being conducted as part of my doctoral thesis. I would appreciate any assistance you can offer me. If you do not feel you are the best person to fill out this survey, and then please pass this on to someone in your household who you feel is the best person, and who is aged over 18 and has an active WeiBo account.

In the past several years, social media has become more influential in our everyday life, and we have more and more opportunities to connect with people who we have never met before. In this survey we ask each Weibo user to play two scenario testing games, which involves their perceptions about different combinations of elements in one's online social profile and the impact of these on their reciprocal behaviour. This is an important study and is not funded by any of the social media organisations. However all the social media service providers are very interested in the results of our study, as it informs them as to how well their social media platforms are constructed, (or not), and how social media users can be more effectively connected with each other. There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits for the advancement of academic literature. It will be greatly appreciated if you could spend approximately 15 minutes to complete this online survey and submit it as soon as possible, or before 1 September 2013.

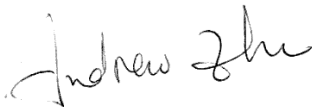
Your participation is voluntary, no one will be able to identify you or your answers, and no one will know whether or not you participated in the study other than the researcher. Should the data be published, no individual information will be disclosed. If the information you provide is reported or published, such as in my thesis, this will be done in a way that does not identify you as its source. However, your willingness to participate, and submit the survey, is a form of consent to take part in the study, and therefore no information you provide in the survey can be withdrawn once it has been collected. You are free to decline to answer any particular question you do not wish to answer for any reason.

Thank you very much for your time and assistance to make this research project possible. If you have any questions or queries regarding the research, you may contact me or the other member of The University of Auckland shown below.

Andrew Qiang Zhu  
Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland  
Tel: +64 210218889  
Email: [andrew.zhu@auckland.ac.nz](mailto:andrew.zhu@auckland.ac.nz)

My supervisor and Head of Department is:  
Professor Rod Brodie  
Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland  
Tel: +64 9 373 7599 ext. 87523  
Email: [r.brodie@auckland.ac.nz](mailto:r.brodie@auckland.ac.nz)

Yours sincerely,



.....  
Andrew Qiang. Zhu

For any queries regarding ethical concerns, please contact:

The Chair  
The University of Auckland Human Participants Ethics Committee  
The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

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Department of Marketing

The University of Auckland  
Private Bag 92019  
Auckland, NZ

[PARTICIPANT CONSENT FORM - CHINESE VERSION]

学术调研参与者-知情同意书

此调研知情同意书的有效期限为 6 年

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我已经阅读了“参与者信息须知”文件并且了解了此调研的意义所在，并明白为何我被邀请参与此项调研活动。我的参与完全出于自愿。我明白我的名字不会用在任何形式的出版物中，除非有我个人的允许。我明白我可以在任何阶段退出网络问卷。我明白此知情同意书只有调研学者和他的导师可以阅览。此文件和我的问卷答复将会安全的储存在新西兰奥克兰大学的服务器和调研者的个人电脑上，有效期为 6 年，此后，所有相关数据将被安全的销毁。因此，

1. 我同意参加此项关于新浪微博的学术调研；
2. 我明白此问卷大约需要 15 分钟来完成；
3. 我明白我的问卷回答会被安全的保管，只有调研学者和他的导师有权阅览；
4. 我明白我可以在交付问卷前的任何时刻停止回答问卷；
5. 我同意我无权索取回我已经上交的问卷回答；
6. 我明白一旦我上交了问卷，我将不能更改任何回答选项；
7. 我明白所有数据将会保留 6 年，其后将被安全销毁；
8. 我明白要正式开始此问卷，我需要了解调研须知信息，同意知情条款并按下“我同意参加此调研项目”。

如果您对此调研问卷有道德伦理方面的质疑，请致信奥克兰大学道德管理委员会，地址如下：

The Chair

The University of Auckland Human Participants Ethics Committee

The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

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Department of Marketing  
The University of Auckland  
Private Bag 92019  
Auckland, NZ

## CONSENT FORM for Research Participants [ENGLISH TRANSLATION]

### THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

I have read the Participant Information Sheet and have understood the nature of the research and why I have been invited to take part. My participation in this research is entirely voluntary. I understand that my name will not be used in any publication or report that may arise from the research without my consent. I understand that I may withdraw myself while completing the online survey. I understand this Consent Form will be restricted to the researcher and his supervisors, and will be stored on the secure server of the University of Auckland and the researcher's personal computer, and be kept for up to six years. Further, I understand that the data and relevant files will be securely destroyed after that period. Hence,

1. I agree to take part in this research by completing the online survey which addresses my reciprocal behaviour in Sina Weibo of research interest;
2. I understand the survey will take me approximately 15 minutes to complete;
3. I understand that my responses will be treated confidentially, and only the researcher and his supervisors will have access to the completed questionnaire, Consent Forms and data;
4. I understand that I am free to withdraw participation, and/or to withdraw any data up to the submission of my completed online survey;
5. I understand that I will not be able to withdraw my consent pertaining to my participation in the survey after submitting the completed questionnaire online;
6. I understand that I will not have the opportunity to view and/or edit my survey responses after submitting my completed survey online;
7. I understand that the data will be kept for 6 years, after which they will be destroyed;
8. I understand that to proceed to the online survey, I will be required to click the "I Agree to participate in this research" button with respect to the PIS and Consent Form.

---

For any queries regarding ethical concerns, please contact:

The Chair

The University of Auckland Human Participants Ethics Committee

The University of Auckland, Private Bag 92019, Auckland Tel: 373 7599 ext. 87830

**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE**

on 4 April 2012 for 3 years from 4 April 2012 to 4 April 2015

REFERENCE NUMBER 7968

## Appendix V: Online Survey – Questionnaire

### [ONLINE SURVEY - CHINESE ONLINE VERSION]

[Note] Due to a large quantity of the online survey webpages, the following screen shots are for illustrative purpose of conditions in Experiment One only. **The English version of the full questionnaire is followed.**

**Experiment One: Scenario 1 – Lower bridging social capital (the number of followers) & lower bonding social capital (the number of postings):** A is a hypothetical follower of the experiment participant, who has 50 followers (lower than the participant n=500) and 10 postings (lower than the participant n=100).

QMCA

以下部分将基于一个虚拟场景，请您仔细阅读和阅读场景信息并回答相关的一系列问题。您的回答没有对错与否，请尽可能的依照您日常微博的使用习惯做出选择。

假设以下图片中，左边是您的微博个人信息，右边是微博用户A的个人信息。请仔细阅读您和A的微博账户个人信息。您和A的关系属于完全的陌生人，无生活中的社交往来，无共同好友，A只是一个普通的微博用户，不属于大众名人。

您的主页 | A的主页

您 | A

共同好友: 0 | 共同好友: 0

详细资料 | 100 关注 | 500 粉丝 | 详细资料 | 100 关注 | 50 粉丝

100 条微博 | 10 条微博

在您仔细阅读完以上虚拟的微博账户个人信息后，请回答以下问题。

基于您对以上虚拟信息的观察与判断，请仔细阅读下列陈述并在1-10的数值范围内指示出您对这些陈述的认可度。1表示完全不同意陈述的观点，10表示完全同意陈述的观点。

	完全不同意	1	2	3	4	5	6	7	8	9	完全同意
我感觉我在微博中做出比A更多的贡献	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我感觉我的社交人脉资源比A要丰富	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**Experiment One: Scenario 2 – Higher bridging social capital (the number of followers) & lower bonding social capital (the number of postings):** B is a hypothetical follower of the experiment participant, who has 5000 followers (higher than the participant n=500) and 10 postings (lower than the participant n=100).

QMCB

以下部分将基于一个虚拟场景，请您仔细阅读和阅读场景信息并回答相关的一系列问题。您的回答没有对错与否，请尽可能的依照您日常微博的使用习惯做出选择。

假设以下图片中，左边是您的微博个人信息，右边是微博用户B的个人信息。请仔细阅读您和B的微博账户个人信息。您和B的关系属于完全的陌生人，无生活中的社交往来，无共同好友，B只是一个普通的微博用户，不属于大众名人。

您的主页 | B的主页

您 | B

共同好友: 0 | 共同好友: 0

详细资料 | 100 关注 | 500 粉丝 | 详细资料 | 100 关注 | 5000 粉丝

100 条微博 | 10 条微博

在您仔细阅读完以上虚拟的微博账户个人信息后，请回答以下问题。

基于您对以上虚拟信息的观察与判断，请仔细阅读下列陈述并在1-10的数值范围内指示出您对这些陈述的认可度。1表示完全不同意陈述的观点，10表示完全同意陈述的观点。

	完全不同意	1	2	3	4	5	6	7	8	9	完全同意
我感觉我在微博中做出比B更多的贡献	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我感觉我的社交人脉资源比B要丰富	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**Experiment One: Scenario 3** – Higher bridging social capital (the number of followers) & higher bonding social capital (the number of postings): C is a hypothetical follower of the experiment participant, who has 5000 followers (higher than the participant n=500) and 1000 postings (higher than the participant n=100).

●●●○○○○○

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QMCC

以下部分将基于一个虚拟场景，请您仔细观察和阅读场景信息并回答相关的一系列问题。您的回答没有对错与否，请尽可能的依照您日常微博的使用习惯做出选择。

假设以下图片中，左边是您的微博个人信息，右边是微博用户C的个人信息。请仔细观察您和C的微博账户个人信息。您和C的关系属于完全的陌生人，无生活中的社交往来，无共同好友，C只是一个普通的微博用户，不属于大众名人。

您的主页

您

共同好友: 0

详细资料
100 关注
500 粉丝

100 条微博

C 的主页

C

共同好友: 0

详细资料
100 关注
5000 粉丝

1000 条微博

在您仔细观察完以上虚拟的微博账户个人信息后，请回答以下问题。

基于您对以上虚拟信息的观察与判断，请仔细阅读下列陈述并在1-10的数值范围内指示出您对这些陈述的认可度。1表示完全不同意陈述的观点，10表示完全同意陈述的观点。

	完全不同意 1	2	3	4	5	6	7	8	9	完全同意 10
我感觉我在微博中做出比C更多的贡献	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我感觉我的社交人际资源比C更丰富	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**Experiment One: Scenario 4** – Lower bridging social capital (the number of followers) & higher bonding social capital (the number of postings): D is a hypothetical follower of the experiment participant, who has 50 followers (lower than the participant n=500) and 1000 postings (higher than the participant n=100).

●●●○○○○○

---

QMCD

以下部分将基于一个虚拟场景，请您仔细观察和阅读场景信息并回答相关的一系列问题。您的回答没有对错与否，请尽可能的依照您日常微博的使用习惯做出选择。

假设以下图片中，左边是您的微博个人信息，右边是微博用户D的个人信息。请仔细观察您和D的微博账户个人信息。您和D的关系属于完全的陌生人，无生活中的社交往来，无共同好友，D只是一个普通的微博用户，不属于大众名人。

您的主页

您

共同好友: 0

详细资料
100 关注
500 粉丝

100 条微博

D 的主页

D

共同好友: 0

详细资料
100 关注
50 粉丝

1000 条微博

在您仔细观察完以上虚拟的微博账户个人信息后，请回答以下问题。

基于您对以上虚拟信息的观察与判断，请仔细阅读下列陈述并在1-10的数值范围内指示出您对这些陈述的认可度。1表示完全不同意陈述的观点，10表示完全同意陈述的观点。

	完全不同意 1	2	3	4	5	6	7	8	9	完全同意 10
我感觉我在微博中做出比D更多的贡献	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
我感觉我的社交人际资源比D更丰富	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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[English Version of the Questionnaire with Technical Notes for Programmer]

**Reciprocity in Social Media – A Study of Sina Weibo**

Notes: *[Red Text]* indicates information for online survey programmer, these notes are remained in this thesis to provide readers with a logic flow of the questionnaire



**Introduction**

Thanks for participating in this academic study. This study is carried out by a PhD student from the University of Auckland in order to fulfill his Doctoral degree. The University of Auckland is the highest ranked university in New Zealand and its business school also ranked within Top-100 University globally. This survey is trying to understand Sina Weibo users' social network behaviour from academic perspective. The study has received ethical oversight approval from the University of Auckland Human Participants Ethics Committee (7968). The study will take approximately 10-15 minutes of your time, all your responses will be used for academic research, and no information will be used for business related purpose. (This study is not sponsored by Sina Weibo).

Please download a copy of the full 'Participant Information Sheet' and 'Consent Form' [\[insert the link\]](#). Participation in this research is entirely optional. If you agree with information provided in PIS and Consent to participate in the survey, please click "I Agree to participate in this research," or exist the survey by clicking "I DO NOT agree to participate in this research."

**I Agree to participate in this research**

**I DO NOT agree to participate in this research**

Please do not hesitate to contact me or my Head of Department, if you have any questions or concerns regarding this research, our contact details are in the PIS.

**Section One – Basic Sina Weibo Usage**

[Screening questions, please keep all screener data]  
 [Do Not Show Question Number]

Before we start the survey, please answer the following questions to determine if you are qualify for the study.

S1. Are you a current Sina Weibo user?

1	Yes	
2	No	[Terminate with thanks]

S2. What is your age?

	Please enter your age	Open-ended
	Less than 18	[Terminate with thanks]

S3. Which type of Sina Weibo account do you currently hold?

1	Ordinary personal account (no business use at all)	
2	Personal account with V (verified) (no business use at all)	
3	Personal account (Ordinary / V with low level of business use, such as promoting an online store or products)	
4	Business account	[Terminate with thanks]

S4. Do you check or update your Sina Weibo at least once a day?

1	Yes	
2	No	[Terminate with thanks]

S5. How long have you been using Sina Weibo?

1	Less than 6 months	[Terminate with thanks]
2	6-12 months	
3	1-3 years	
4	More than 3 year	

S6. How do you evaluate your level of expertise in using Weibo? Please rate on a 1-10 points scale, which 1=novice and 10=expert.

	1 Novice	2	3	4	5	6	7	8	9	10 Expert
Level of expertise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Demographic information is shifted to the beginning of the survey to efficiently manage the quota]

S7. Gender

1	Male	
2	Female	

Profile. Please launch your Weibo application (on your phone or computer). What is the current status of your social profile on Sina Weibo?

Profile 1	Number of Followers	[Enter numerical number only]
Profile 2	Number of Followings	[Enter numerical number only]
Profile 3	Number of Weibo postings	[Enter numerical number only]
Profile 4	Visible location to others [Please enter the ‘province’ you reside in if you are in China, or ‘Country of resident’ if from overseas]	[Chinese characters only, show reminder if in other language]

VF. Being followed by strangers is a common phenomenon on Weibo; it could show the growth of your social influence or social capital. Please indicate to what extent do you agree with each of the statements below when you are being followed on Weibo, where 1=strongly disagree, and 10= strongly agree.

Please ignore your followers’ social status in Weibo, and focus only on your feelings when being followed by strangers.

**Being “followed” by “Strangers” on Weibo...**

VF1	...means being recognised by others
VF2	...means being respected by others
VF3	...means being honoured by others with added face value
VF4	...means I am valuable to others
VF5	...makes me feel like I am receiving a gift from others
VF6	...makes me feel like I am receiving a favour from others
VF7	...is a valuable thing to me
VF8	...increases my social capital (e.g., social influence)

[Section two and three are scenario testing, every participant needs to be allocated into one sub-scenario in each of the main experiments]

[Experiment One Random Allocation]

[Instruction: Please randomly allocate participants in 1 out of 4 scenarios below]

	Scenarios	Sample Size	Gender Split
1	Scenario 1	200	50/50%
2	Scenario 2	200	50/50%
3	Scenario 3	200	50/50%
4	Scenario 4	200	50/50%
	Total sample size	800	50/50%

## Section Two – Experiment One

### Scenario 1

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please providing answers as realistic as you experience them in your real life Sina Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is A's. Please read A and yours social profile carefully. 'A' and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. A is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that my contribution to Weibo is greater than A's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than A's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

Please ignore the unknown information such as the content of Weibo posting, but focusing on the existing profile information.

RPT1. When A "followed" you, how likely would you be to follow A back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Section Two – Experiment One

### Scenario 2

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is B's. Please read B and yours social profile carefully. 'B' and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. B is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

Please ignore the unknown information such as the content of Weibo posting, but focusing on the existing profile information.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that my contribution to Weibo is greater than B's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than B's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When B "followed" you, how likely would you be to follow B back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section Two – Experiment One**

**Scenario 3**

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is C’s. Please read C and yours social profile carefully. ‘C’ and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. C is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

Please ignore the unknown information such as the content of Weibo posting, but focusing on the existing profile information.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that my contribution to Weibo is greater than C’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than C’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When C “followed” you, how likely would you be to follow C back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section Two – Experiment One**

**Scenario 4**

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is D’s. Please read D and yours social profile carefully. ‘D’ and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. C is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

Please ignore the unknown information such as the content of Weibo posting, but focusing on the existing profile information.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that my contribution to Weibo is greater than D’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than D’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When D “followed” you, how likely would you be to follow D back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



### Section Four (E1) – Emotions Triggered towards Followers (when being followed)

EMO. The following statements are about your “feelings/perceptions” when you were “followed” by A/B/C/D [Substitute Scenarios into here, e.g., A, who has fewer followers and postings than me/B, who has more followers than me but fewer postings than me/C, who has more followers and postings than me /D, who has fewer followers than me but higher postings than me]. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

When I was “followed” by [Substitute Scenarios]...

EMO1	... his/her “following” makes me like him/her
EMO2	... his/her “following” makes me form a positive attitude towards him/her
EMO3	... his/her “following” makes me want to express my gratitude
EMO4	... his/her “following” makes me want to thank him/her
EMO5	... his/her “following” makes me want to express my sympathy
EMO6	... his/her “following” makes me want to express my empathy
EMO7	... his/her “following” makes me feel indebted to him/her
EMO8	... his/her “following” makes me feel obligated to him/her

### Section Five – Influence of Social Capital (Bridging) [Insert scenario profile above the question]

BrSC. The following statements are about your perception towards [Substitute Scenarios] social capital and its influence on you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

BrSC1	Establishing connection with [Substitute Scenarios] on Weibo makes me interested in things that happen outside of my personal life
BrSC2	Establishing connection with [Substitute Scenarios] on Weibo makes me want to try new things
BrSC3	Establishing connection with [Substitute Scenarios] on Weibo makes me interested in what people unlike me are thinking
BRSC4	Talking to [Substitute Scenarios] on Weibo makes me curious about other places in the world
BRSC5	Establishing connection with [Substitute Scenarios] on Weibo makes me feel like part of a larger community
BRSC6	Establishing connection with [Substitute Scenarios] on Weibo makes me feel connected to the bigger picture
BRSC7	Establishing connection with [Substitute Scenarios] on Weibo makes me reminds me that everyone in the world is connected
BRSC8	I am willing to spend time to support [Substitute Scenarios] on Weibo community activities
BRSC9	Establishing connection with [Substitute Scenarios] on Weibo gives me new people to talk to

### Section Six (E1) – Influence of Bonding with Community [Insert scenario profile]

BoSC. The following statements are about your perception towards [Substitute Scenarios] engagement with community and its influence on you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

[Substitute Scenarios]’s level of bonding with community on Weibo...

BoSC1	... helps build my trust in him/her
BoSC2	... encourages my participation
BoSC3	... helps create a sustainable social network
BoSC4	... results in shared resources
BoSC5	... helps with outreach
BoSC6	... helps seeking for emotional supports
BoSC7	... makes him an opinion leader

**Section Seven– Perceive Reciprocal Value**

RV. The following statements are about your perception towards [Substitute Scenarios] potential reciprocal value to you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

RV1	[Substitute Scenarios] is highly likely to share my postings with other Weibo users
RV2	[Substitute Scenarios] is highly likely to make constructive comments on my postings
RV3	[Substitute Scenarios] is highly likely to expose me to more users if I interact with him/her
RV4	[Substitute Scenarios] is highly likely to attract more followers for me if I interact with him/her
RV5	[Substitute Scenarios] is highly likely to put his/her reputation on the line for me
RV6	[Substitute Scenarios] is highly likely to help me fight an injustice
RV7	[Substitute Scenarios] is highly likely to enhance my social well-being
RV8	[Substitute Scenarios] is highly likely to offer me emotional supports when I need it

**Section Eight– Social Norm [Insert scenario profile above the question]**

SN. The following questions explore your perceptions towards the social norm of reciprocity on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

**If I followed back on [Substitute Scenarios]...**

SN1	... it is due to politeness/courtesy, because a kind action needs to be returned
SN2	... it is because that is a form of reciprocity in the Chinese culture
SN3	... it is because that is an expression of mutual respect
SN4	... it is because that is an equal value exchange
SN5	... it is because we each receive mutual benefits
SN6	... it is because it can cancel out my feeling of indebtedness
SN7	... I can avoid being perceived as anti-social

[Thanks participants for their help and contribution, and let them know there is one more scenario to go, remind them the importance of their contribution]

**[Experiment Two Random Allocation]**

[Instruction: Please randomly allocate participants in 1 out of 4 scenario below]

	Scenario	Sample Size	Gender Split
1	Scenario 1	200	50/50%
2	Scenario 2	200	50/50%
3	Scenario 3	200	50/50%
4	Scenario 4	200	50/50%
	Total sample size	800	50/50%

## Section Three – Experiment Two

### Scenario 1

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please providing answers as realistic as you experience them in your real life Sina Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is A's. Please read A and yours social profile carefully. 'A' and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. A is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that A is highly engaged with my posting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than A's	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When A "followed" you, how likely would you be to follow A back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section Three – Experiment Two**

**Scenario 2**

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is B’s. Please read B and yours social profile carefully. ‘B’ and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. B is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that B is highly engaged with my posting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than B’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When B “followed” you, how likely would you be to follow B back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section Three – Experiment Two**

**Scenario 3**

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is C’s. Please read C and yours social profile carefully. ‘C’ and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. C is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that C is highly engaged with my posting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than C’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When C “followed” you, how likely would you be to follow C back? Please indicate your likelihood of following back on a 1-10 points scale.

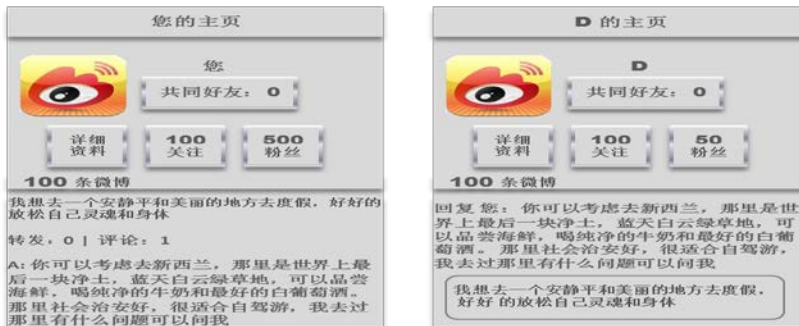
	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section Three – Experiment Two**

**Scenario 4**

The following questions are based a scenario, please read the information presented to you and answer a series of questions. There is no right or wrong answers in your responses, please proving answers as realistic as you experience them in your real life Weibo usage.

Imagine the Weibo social profile below, the one on the left is yours and the other one on the right is D’s. Please read D and yours social profile carefully. ‘D’ and you are total strangers, you have no previous interactions either in real life or social network sites, and you have no mutual friends in Weibo. C is just an ordinary Weibo user, not a public figure.



Please answer the following questions once you finish accessing the social profiles above.

MC. Based on your assessment of the social profiles above, please indicate on a 1-10 points scale to what extent you agree or disagree with the following statement.

	1 Strongly Disagree	2	3	4	5	6	7	8	9	10 Strongly Agree
MC1. I perceive that D is highly engaged with my posting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MC2. I perceive that my social influence on Weibo is greater than D’s	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please continue use the Weibo social profile information as a reference and answer the following questions.

RPT1. When D “followed” you, how likely would you be to follow D back? Please indicate your likelihood of following back on a 1-10 points scale.

	1 Extremely Unlikely	2	3	4	5	6	7	8	9	10 Extremely Likely
Likelihood of follow back	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Section Four (E2) – Emotions Triggered towards Followers (when being followed)

E2EMO. The following statements are about your “feelings/perceptions” when you were “followed” by A/B/C/D [Substitute Scenarios into here, e.g., A, who has fewer followers than me/B, who has more followers than me/C, who has more followers than me /D, who has fewer followers than me]. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

When I was “followed” by [Substitute Scenarios]...

E2EMO1	... his/her “following” makes me like him/her
E2EMO2	... his/her “following” makes me form a positive attitude towards him/her
E2EMO3	... his/her “following” makes me want to express my gratitude
E2EMO4	... his/her “following” makes me want to thank him/her
E2EMO5	... his/her “following” makes me want to express my sympathy
E2EMO6	... his/her “following” makes me want to express my empathy
E2EMO7	... his/her “following” makes me feel indebted to him/her
E2EMO8	... his/her “following” makes me feel obligated to him/her

### Section Five – Influence of Social Capital (Bridging) [Insert scenario profile above the question]

SC. The following statements are about your perception towards [Substitute Scenarios] social capital and its influence on you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

E2BrSC1	Establishing connection with [Substitute Scenarios] on Weibo makes me interested in things that happen outside of my personal life
E2BRSC2	Establishing connection with [Substitute Scenarios] on Weibo makes me want to try new things
E2BRSC3	Establishing connection with [Substitute Scenarios] on Weibo makes me interested in what people unlike me are thinking
E2BRSC4	Talking to [Substitute Scenarios] on Weibo makes me curious about other places in the world
E2BRSC5	Establishing connection with [Substitute Scenarios] on Weibo makes me feel like part of a larger community
E2BRSC6	Establishing connection with [Substitute Scenarios] on Weibo makes me feel connected to the bigger picture
E2BRSC7	Interacting with [Substitute Scenarios] on Weibo makes me reminds me that everyone in the world is connected
E2BRSC8	I am willing to spend time to support [Substitute Scenarios] on Weibo community activities
E2BRSC9	Establishing connection with [Substitute Scenarios] on Weibo gives me new people to talk to

### Section Six (E2) – Influence of Personal Bonding [Insert profile above the question]

E2BoSC. The following statements are about your perception towards [Substitute Scenarios] **engagement with you** and its influence on you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

[Substitute Scenarios]’s comment on my posting

E2BoSC1	... helps build my trust in him/her
E2BoSC2	... encourages my future participation on Weibo
E2BoSC3	... helps create a sustainable social network on Weibo
E2BoSC4	... results in shared resources for other Weibo users
E2BoSC5	... helps me with outreach on Weibo
E2BoSC6	... provides me with emotional supports on Weibo
E2BoSC7	... indicates his/her potential to be an opinion leader on Weibo
E2BoSC8	... shows his/her great concern and caring about me
E2BoSC9	... shows his/her interest in my Weibo content

**Section Seven– Perceive Reciprocal Value** [Insert scenario profile above the question]

RV. The following statements are about your perception towards [Substitute Scenarios] potential reciprocal value to you on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

RV1	[Substitute Scenarios] is highly likely to share my postings with other Weibo users
RV2	[Substitute Scenarios] is highly likely to make constructive comments on my postings
RV3	Interacting with [Substitute Scenarios] is highly likely to expose me to more users
RV4	Interacting with [Substitute Scenarios] is highly likely to attract more followers for me
RV5	[Substitute Scenarios] is highly likely to put his/her reputation on the line for me
RV6	[Substitute Scenarios] is highly likely to help me fight an injustice
RV7	[Substitute Scenarios] is highly likely to enhance my social well-being
RV8	[Substitute Scenarios] is highly likely to offer me emotional supports when I need it

**Section Eight– Social Norm** [Insert scenario profile above the question]

SN. The following statements are about your perception towards the implication of social norm – reciprocity on Weibo. Please indicate to what extent do you agree with each of them, where 1=strongly disagree, and 10= strongly agree.

SN1	... it is due to politeness/courtesy, kind action needs to be returned
SN2	... it is because that is a form of reciprocity in the Chinese culture
SN3	... it is because that is an expression of mutual respect
SN4	... it is because that is an equal value exchange
SN5	... it is because we both receive mutual benefits
SN6	... it is because it can cancel out my feeling of indebtedness
SN7	... I can avoid being perceived as anti-social

**Section Nine–Implication of Reciprocity**

NR1. Think about your life experience when using Weibo, to what extent you agree that “following back” on someone who is a stranger to you is one way to express the Chinese norm of reciprocity?

	1 Strongly Agree	2	3	4	5	6	7	8	9	10 Strongly Disagree
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NR2. Think about your real life experience and virtual life when using Weibo, please indicate to what extent do you agree with the statement below, where 1=strongly disagree, and 10= strongly agree.

	1 Strongly Agree	2	3	4	5	6	7	8	9	10 Strongly Disagree
I reciprocate more on Weibo than in real life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Demographics

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In order to better understand your responses, please provide the following formation. All your information will be kept confidential and none of them will be used in commercial related purposes.

System. What is the operating system of your smartphone that you run Weibo on?

1	Apple iOS (e.g., iPhone)	
2	Android (e.g., Samsung, HTC, Motorola, Sony etc.)	
3	Symbian (e.g., Nokia)	
4	RIM (e.g., Blackberry)	
5	Windows (e.g., Windows Phone 8)	
6	Other	

Education. What is the highest qualification you have achieved?

1	Primary	
2	Secondary school	
3	High school	
4	Polytechnics	
5	Bachelor	
6	Masters or above	

WE. How many years of working experience have you got after you completed your highest qualification?

1	Still study, no working experience	
2	Still looking for jobs	
3	Less than a year	
4	More than a year but less than 3 years	
5	More than 3 years but less than 10 years	
6	Over 10 years	

**Thank you very much for your support.**

## Appendix VI: Exploratory Factor Analysis Key Outputs for Model One

### EFA Output for Model One Scale Items

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.980
Approx. Chi-square	21157.824
Bartlett's Test of Sphericity	df
	276
	Sig.
	.000

#### Communalities

	Initial	Extraction
BRSC_1 ... makes me interested in things that happen outside of my personal life	.755	.749
BRSC_2 ... makes me want to try new things	.766	.776
BRSC_3 ... me interested in what people unlike me are thinking	.758	.770
BRSC_4 ... makes me curious about other places in the world	.697	.689
BRSC_5 ... makes me feel like part of a larger community	.756	.750
BRSC_6 ... makes me feel connected to the bigger picture	.762	.779
BRSC_7 ... makes me reminds me that everyone in the world is connected	.699	.703
BRSC_8 I am willing to spend time to support ... on Weibo community activities	.764	.755
BRSC_9 ... gives me new people to talk to	.787	.800
BOSC_1 ... helps build my trust in him/her	.775	.765
BOSC_2 ... encourages my participation	.740	.762
BOSC_3 ... helps create a sustainable social network	.751	.761
BOSC_4 ... resulting in shared resources	.742	.778
BOSC_5 ... helps with outreach	.757	.771
BOSC_6 ... helps with seeking for emotional supports	.718	.740
BOSC_7 ... makes him an opinion leader	.691	.650
EMO_1 ... his/her "following" makes me like him/her	.753	.727
EMO_2 ... his/her "following" makes me form positive attitude towards him/her	.730	.705
EMO_3 ... his/her "following" makes me want to express my gratitude	.789	.816
EMO_4 ... his/her "following" makes me want to thank him/her	.774	.777
EMO_5 ... his/her "following" makes me want to express my sympathy	.620	.622
EMO_6 ... his/her "following" makes me want to express my empathy	.734	.728
EMO_7 ... his/her "following" makes me feel indebted to him/her	.748	.781
EMO_8 ... his/her "following" makes me feel obligated to him/her	.742	.756

Extraction Method: PAF.

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	16.069	66.953	66.953	15.816	65.902	65.902	13.331
2	1.458	6.075	73.028	1.219	5.081	70.983	13.916
3	1.129	4.705	77.732	.877	3.653	74.636	12.943
4	.517	2.154	79.886				
5	.421	1.755	81.641				
6	.377	1.571	83.212				
7	.350	1.459	84.671				
8	.314	1.310	85.980				
9	.308	1.284	87.264				
10	.280	1.167	88.431				
11	.263	1.096	89.527				
12	.249	1.036	90.563				
13	.241	1.005	91.568				
14	.230	.957	92.524				
15	.212	.883	93.407				
16	.206	.857	94.264				
17	.197	.822	95.086				
18	.194	.809	95.895				
19	.189	.789	96.684				
20	.177	.737	97.421				
21	.174	.725	98.146				
22	.158	.657	98.803				
23	.154	.640	99.443				
24	.134	.557	100.000				

Extraction Method: PAF.

**Pattern Matrix**

	Factor		
	1	2	3
BRSC_1 ... makes me interested in things that happen outside of my personal life		.706	
BRSC_2 ... makes me want to try new things		.812	
BRSC_3 ... me interested in what people unlike me are thinking		.819	
BRSC_4 ... makes me curious about other places in the world		.579	
BRSC_5 ... makes me feel like part of a larger community		.675	
BRSC_6 ... makes me feel connected to the bigger picture		.891	
BRSC_7 ... makes me reminds me that everyone in the world is connected		.853	
BRSC_8 I am willing to spend time to support ... on Weibo community activities		.563	
BRSC_9 ... gives me new people to talk to		.838	
BOSC_1 ... helps build my trust in him/her			.651
BOSC_2 ... encourages my participation			.734
BOSC_3 ... helps create a sustainable social network			.767
BOSC_4 ... resulting in shared resources			.916
BOSC_5 ... helps with outreach			.786
BOSC_6 ... provides me with seeking for emotional supports on Weibo			.834
BOSC_7 ... makes him an opinion leader	.368		.620
EMO_1 ... his/her "following" makes me like him/her	.682		
EMO_2 ... his/her "following" makes me form positive attitude towards him/her	.586		
EMO_3 ... his/her "following" makes me want to express my gratitude	.969		
EMO_4 ... his/her "following" makes me want to thank him/her	.779		
EMO_5 ... his/her "following" makes me want to express my sympathy	.649		
EMO_6 ... his/her "following" makes me want to express my empathy	.664		
EMO_7 ... his/her "following" makes me feel indebted to him/her	.938		
EMO_8 ... his/her "following" makes me feel obligated to him/her	.898		

## Appendix VII: Exploratory Factor Analysis Key Outputs for Model Two

### EFA Output for Model Two Scale Items

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.985
	Approx. Chi-square	24004.168
Bartlett's Test of Sphericity	df	325
	Sig.	.000

#### Communalities

	Initial	Extraction
E2BrSC_1 ...makes me interested in things that happen outside of my personal life	.759	.758
E2BrSC_2 ... makes me want to try new things	.755	.771
E2BrSC_3 ... makes me interested in what people unlike me are thinking	.750	.763
E2BrSC_4 ... makes me curious about other places in the world	.770	.764
E2BrSC_5 ... makes me feel like part of a larger community	.741	.739
E2BrSC_6 ... makes me feel connected to the bigger picture	.761	.777
E2BrSC_7 ... makes me reminds me that everyone in the world is connected	.736	.741
E2BrSC_8 I am willing to spend time to support.... on Weibo community activities	.734	.719
E2BrSC_9 ... on Weibo gives me new people to talk to	.792	.804
E2BoSC_1 ... helps build my trust in him/her	.762	.774
E2BoSC_2 ... encourages my future participation on Weibo	.783	.789
E2BoSC_3 ... helps create a sustainable social network on Weibo	.776	.779
E2BoSC_4 ... resulting in shared resources for other Weibo users	.757	.761
E2BoSC_5 ... helps me with outreach on Weibo	.757	.772
E2BoSC_6 ... provides me with emotional supports on Weibo	.759	.768
E2BoSC_7 ... indicates his/her potential to be an opinion leader on Weibo	.663	.614
E2BoSC_8 ... shows his/her great concern and caring about me	.744	.745
E2BoSC_9 ... shows his/her interest in my Weibo content	.722	.741
E2EMO_1 ... his/her "following" makes me like him/her	.762	.714
E2EMO_2 ... his/her "following" makes me form positive attitude towards him/her	.781	.741
E2EMO_3 ... his/her "following" makes me want to express my gratitude	.777	.799
E2EMO_4 ... his/her "following" makes me want to thank him/her	.773	.776
E2EMO_5 ... his/her "following" makes me want to express my sympathy	.654	.644
E2EMO_6 ... his/her "following" makes me want to express my empathy	.756	.744
E2EMO_7 ... his/her "following" makes me feel indebted to him/her	.774	.805
E2EMO_8 ... his/her "following" makes me feel obligated to him/her	.747	.761

Extraction Method: PAF

**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	17.958	69.068	69.068	17.712	68.122	68.122	14.417
2	1.459	5.613	74.681	1.221	4.697	72.819	15.541
3	.872	3.354	78.035	.631	2.428	75.247	15.754
4	.606	2.331	80.365				
5	.410	1.575	81.941				
6	.356	1.370	83.311				
7	.328	1.260	84.571				
8	.302	1.161	85.732				
9	.290	1.115	86.847				
10	.257	.988	87.835				
11	.256	.983	88.818				
12	.244	.939	89.758				
13	.239	.919	90.677				
14	.234	.899	91.575				
15	.226	.869	92.444				
16	.219	.841	93.285				
17	.205	.787	94.072				
18	.200	.770	94.843				
19	.194	.747	95.590				
20	.192	.739	96.329				
21	.174	.668	96.997				
22	.170	.654	97.652				
23	.166	.640	98.292				
24	.156	.599	98.891				
25	.146	.561	99.452				
26	.143	.548	100.000				

Extraction Method: PAF

**Pattern Matrix**

	Factor		
	1	2	3
E2BrSC_1 ...makes me interested in things that happen outside of my personal life			.702
E2BrSC_2 ... makes me want to try new things			.820
E2BrSC_3 ... makes me interested in what people unlike me are thinking			.731
E2BrSC_4 ... makes me curious about other places in the world			.609
E2BrSC_5 ... makes me feel like part of a larger community			.752
E2BrSC_6 ... makes me feel connected to the bigger picture			.835
E2BrSC_7 ... makes me reminds me that everyone in the world is connected			.744
E2BrSC_8 I am willing to spend time to support.... on Weibo community activities			.556
E2BrSC_9 ... on Weibo gives me new people to talk to			.769
E2BoSC_1 ... helps build my trust in him/her		.762	
E2BoSC_2 ... encourages my future participation on Weibo		.752	
E2BoSC_3 ... helps create a sustainable social network on Weibo		.730	
E2BoSC_4 ... resulting in shared resources for other Weibo users		.792	
E2BoSC_5 ... helps me with outreach on Weibo		.748	
E2BoSC_6 ... provides me with emotional supports on Weibo		.792	
E2BoSC_7 ... indicates his/her potential to be an opinion leader on Weibo		.445	
E2BoSC_8 ... shows his/her great concern and caring about me		.733	
E2BoSC_9 ... shows his/her interest in my Weibo content		.799	
E2EMO_1 ... his/her "following" makes me like him/her	.625		
E2EMO_2 ... his/her "following" makes me form positive attitude towards him/her	.451		
E2EMO_3 ... his/her "following" makes me want to express my gratitude	.898		
E2EMO_4 ... his/her "following" makes me want to thank him/her	.752		
E2EMO_5 ... his/her "following" makes me want to express my sympathy	.747		
E2EMO_6 ... his/her "following" makes me want to express my empathy	.639		
E2EMO_7 ... his/her "following" makes me feel indebted to him/her	.961		
E2EMO_8 ... his/her "following" makes me feel obligated to him/her	.897		

## Appendix VIII: Confirmatory Factor Analysis Key Outputs for Model One

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### Final CFA Solution for Model One

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#### Computation of degrees of freedom

Number of distinct sample moments:	45
Number of distinct parameters to be estimated:	21
Degrees of freedom (45 - 21):	24

#### Result

Minimum was achieved  
 Chi-square = 44.786  
 Degrees of freedom = 24  
 Probability level = .006

---

### Model Fit Summary

---

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	21	44.786	24	0.006	1.866
Saturated model	45	0	0		
Independence model	9	6229.363	36	0	173.038

Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	0.993	0.989	0.997	0.995	0.997
Saturated model	1		1		1
Independence model	0	0	0	0	0

RMSEA				
Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.033	0.017	0.048	0.973
Independence model	0.464	0.454	0.474	0

---

### Covariances

---

			Estimate	S.E.	C.R.	P
Bridging_Social_Capital	<-->	Bonding_Social_Capital	2.12	0.134	15.85	***
Bonding_Social_Capital	<-->	Emotion	2	0.139	14.387	***
Bridging_Social_Capital	<-->	Emotion	2.211	0.149	14.84	***

---



### Correlations

			Estimate
Bridging_Social_Capital	<-->	Bonding_Social_Capital	.839
Bonding_Social_Capital	<-->	Emotion	.703
Bridging_Social_Capital	<-->	Emotion	.731

### Standardised Regression Weights

			Estimate
BrSC_6	<---	Bridging_Social_Capital	.864
BrSC_3	<---	Bridging_Social_Capital	.883
BrSC_2	<---	Bridging_Social_Capital	.887
BoSC_6	<---	Bonding_Social_Capital	.863
BoSC_5	<---	Bonding_Social_Capital	.900
BoSC_3	<---	Bonding_Social_Capital	.870
EMO_8	<---	Emotion	.878
EMO_7	<---	Emotion	.887
EMO_3	<---	Emotion	.898

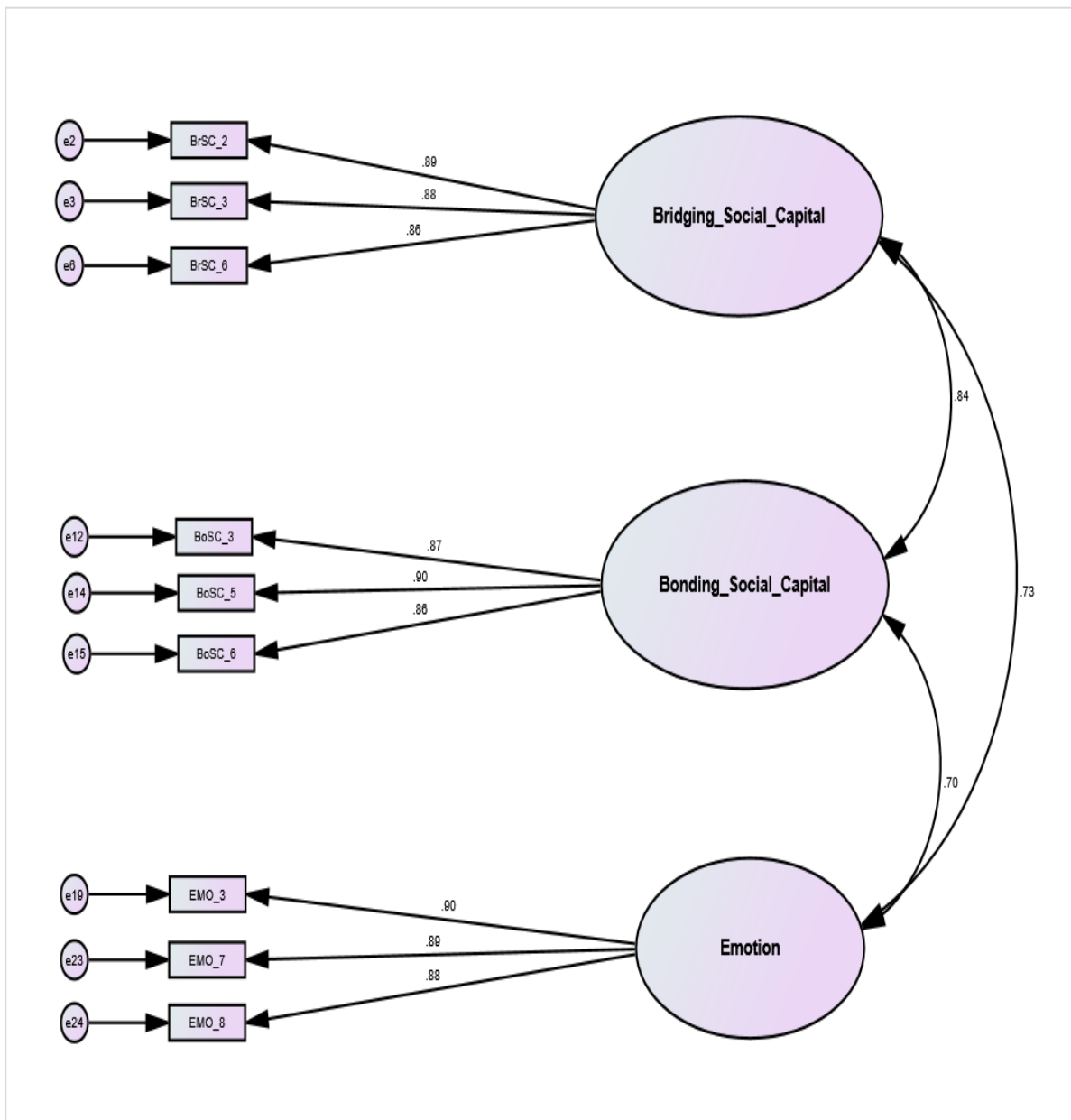
### Variances

	Estimate	S.E.	C.R.	P
Bridging_Social_Capital	2.688	0.171	15.679	***
Bonding_Social_Capital	2.376	0.156	15.205	***
Emotion	3.402	0.213	15.993	***
e6	0.926	0.062	15.05	***
e3	0.674	0.048	14.029	***
e2	0.731	0.053	13.777	***
e15	0.816	0.054	15.031	***
e14	0.601	0.047	12.702	***
e12	0.76	0.052	14.648	***
e24	0.956	0.067	14.181	***
e23	0.908	0.067	13.578	***
e19	0.814	0.064	12.74	***

### Standardised Residual Covariances

	EMO_3	EMO_7	EMO_8	BoSC_3	BoSC_5	BoSC_6	BrSC_2	BrSC_3	BrSC_6
EMO_3	.000								
EMO_7	.008	.000							
EMO_8	.003	-.013	.000						
BoSC_3	-.003	.777	.378	.000					
BoSC_5	-.395	.036	-.473	-.114	.000				
BoSC_6	.129	.058	-.223	-.111	.205	.000			
BrSC_2	.054	-.425	-.173	.003	.133	-.078	.000		
BrSC_3	-.263	-.438	-.284	.323	.069	-.160	.069	.000	
BrSC_6	.402	.399	1.052	.707	-.365	-.708	-.049	-.034	.000

### Standardised Estimates



## Appendix IX: Confirmatory Factor Analysis Key Outputs for Model Two

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### Final CFA Solution for Model Two

---

#### Computation of degrees of freedom

Number of distinct sample moments:	66
Number of distinct parameters to be estimated:	25
Degrees of freedom (66 - 25):	41

#### Result

Minimum was achieved  
 Chi-square = 72.784  
 Degrees of freedom = 41  
 Probability level = .002

---

### Model Fit Summary

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CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	25	72.784	41	.002	1.775
Saturated model	66	.000	0		
Independence model	11	8212.330	55	.000	149.315

Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.991	.988	.996	.995	.996
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA				
Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.031	0.019	0.043	0.997
Independence model	0.431	0.423	0.439	0

---

### Covariances

---

			Estimate	S.E.	C.R.	P
Bridging_Social_Capital	<-->	Bonding_Social_Capital	2.251	0.142	15.884	***
Bonding_Social_Capital	<-->	Emotion	2.127	0.140	15.216	***
Bridging_Social_Capital	<-->	Emotion	1.966	0.123	16.030	***

---

**Correlations**

			Estimate
Bridging_Social_Capital	<-->	Bonding_Social_Capital	.863
Bonding_Social_Capital	<-->	Emotion	.787
Bridging_Social_Capital	<-->	Emotion	.846

**Standardised Regression Weights**

			Estimate
E2BrSC_3	<---	Bridging_Social_Capital	.878
E2BrSC_2	<---	Bridging_Social_Capital	.871
E2BoSC_5	<---	Bonding_Social_Capital	.858
E2BoSC_3	<---	Bonding_Social_Capital	.848
E2EMO_1	<---	Emotion	.891
E2BrSC_7	<---	Bridging_Social_Capital	.854
E2BrSC_9	<---	Bridging_Social_Capital	.899
E2BoSC_4	<---	Bonding_Social_Capital	.874
E2EMO_3	<---	Emotion	.837
E2EMO_6	<---	Emotion	.895
E2BoSC_6	<---	Bonding_Social_Capital	.885

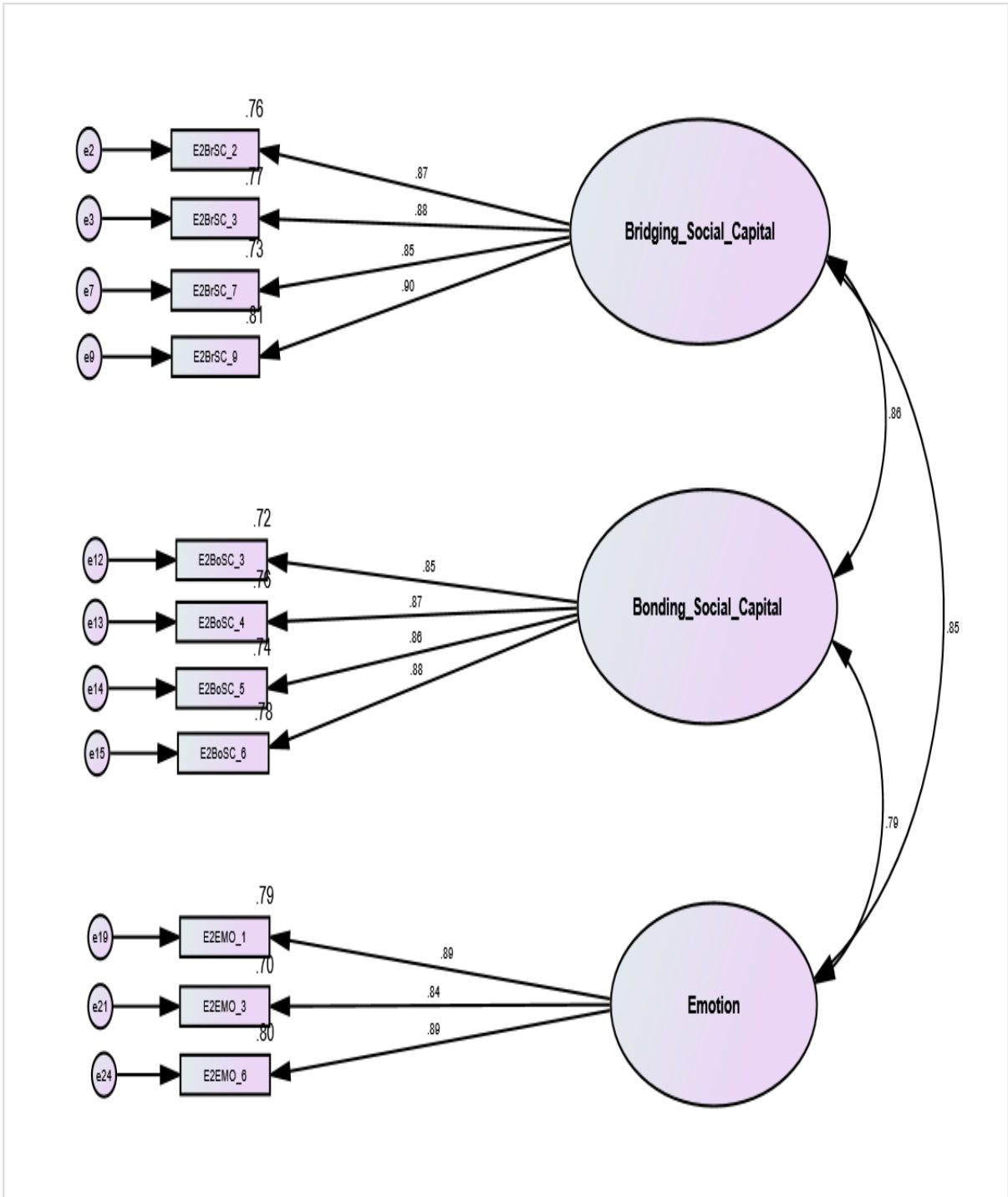
**Variances**

	Estimate	S.E.	C.R.	P
Bridging_Social_Capital	2.243	0.146	15.381	***
Bonding_Social_Capital	3.032	0.206	14.691	***
Emotion	2.408	0.152	15.801	***
e3	0.629	0.04	15.911	***
e2	0.713	0.044	16.172	***
e14	0.794	0.049	16.101	***
e12	1.18	0.072	16.424	***
e19	0.624	0.047	13.42	***
e7	0.798	0.048	16.746	***
e9	0.543	0.037	14.86	***
e13	0.643	0.041	15.491	***
e21	1.039	0.065	16.069	***

**Standardised Residual Covariances**

	E2BoSC _6	E2EMO _6	E2EMO _3	E2BoSC _4	E2BrSC _9	E2BrSC _7	E2EMO _1	E2BoSC _3	E2BoSC _5	E2BrSC _2	E2BrSC _3
E2BoSC _6	0										
E2EMO _6	-0.142	0									
E2EMO _3	-0.35	-0.068	0								
E2BoSC _4	0.134	0.486	-0.594	0							
E2BrSC _9	-0.745	0.151	-0.038	0.212	0						
E2BrSC _7	-0.724	-0.166	0.079	0.368	-0.011	0					
E2EMO _1	-0.437	-0.092	0.222	-0.215	0.445	-0.03	0				
E2BoSC _3	0.123	0.624	0.281	-0.091	-0.27	0.558	0.458	0			
E2BoSC _5	0.249	0.33	-0.459	-0.302	0.514	0.457	-0.118	-0.228	0		
E2BrSC _2	-0.571	0.393	-0.323	0.122	0.103	-0.037	-0.503	-0.206	-0.089	0	
E2BrSC _3	-0.303	0.188	-0.435	0.563	-0.138	0.006	-0.222	0.273	0.441	0.09	0

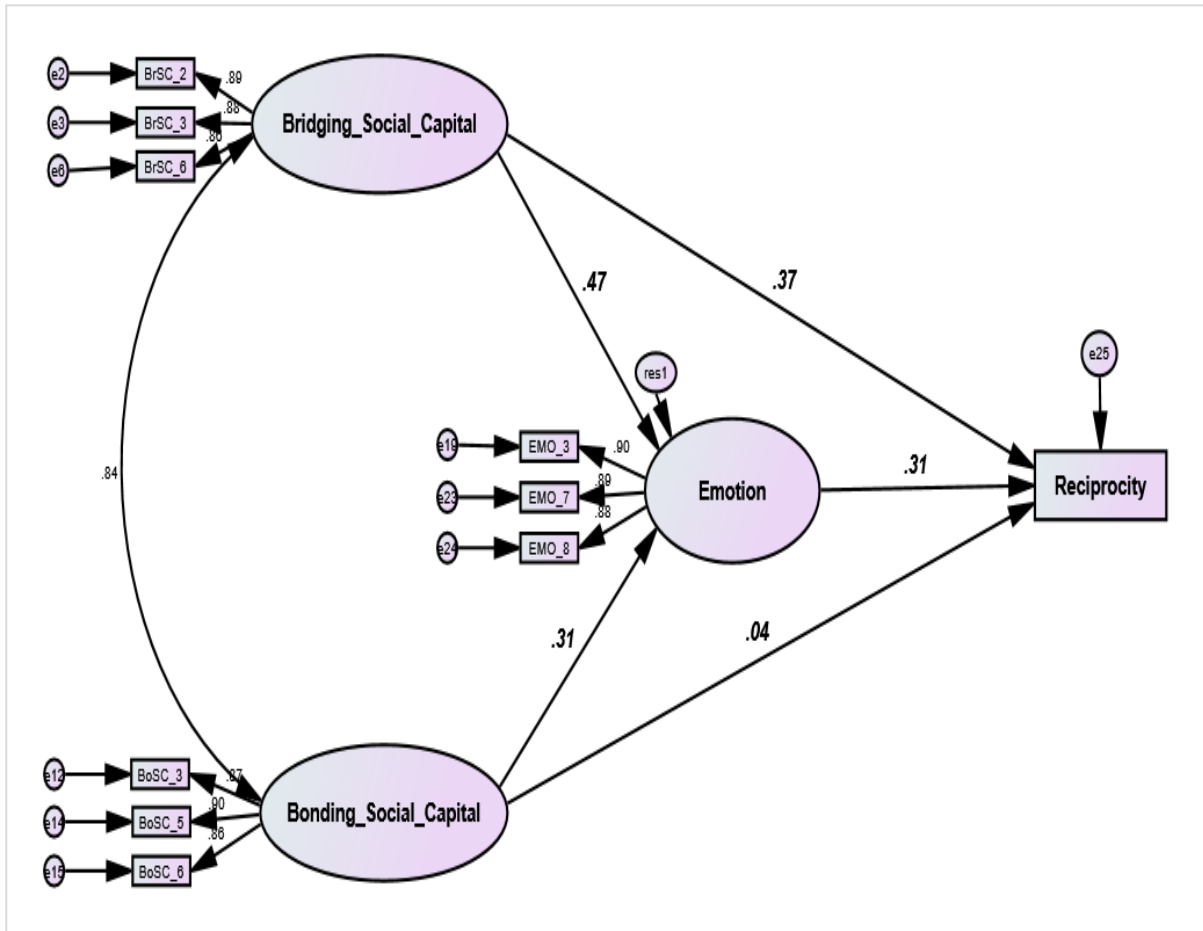
**Standardised Estimates**



## Appendix X: Structural Equation Modelling Key Outputs for Model One

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### Path Diagram of the Proposed Model 1




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Computation of degrees of freedom	
Number of distinct sample moments:	55
Number of distinct parameters to be estimated:	25
Degrees of freedom (55 - 25):	30

#### Result

Minimum was achieved

Chi-square = 55.879

Degrees of freedom = 30

Probability level = .003

---

## SEM Key Outputs for Proposed Model 1

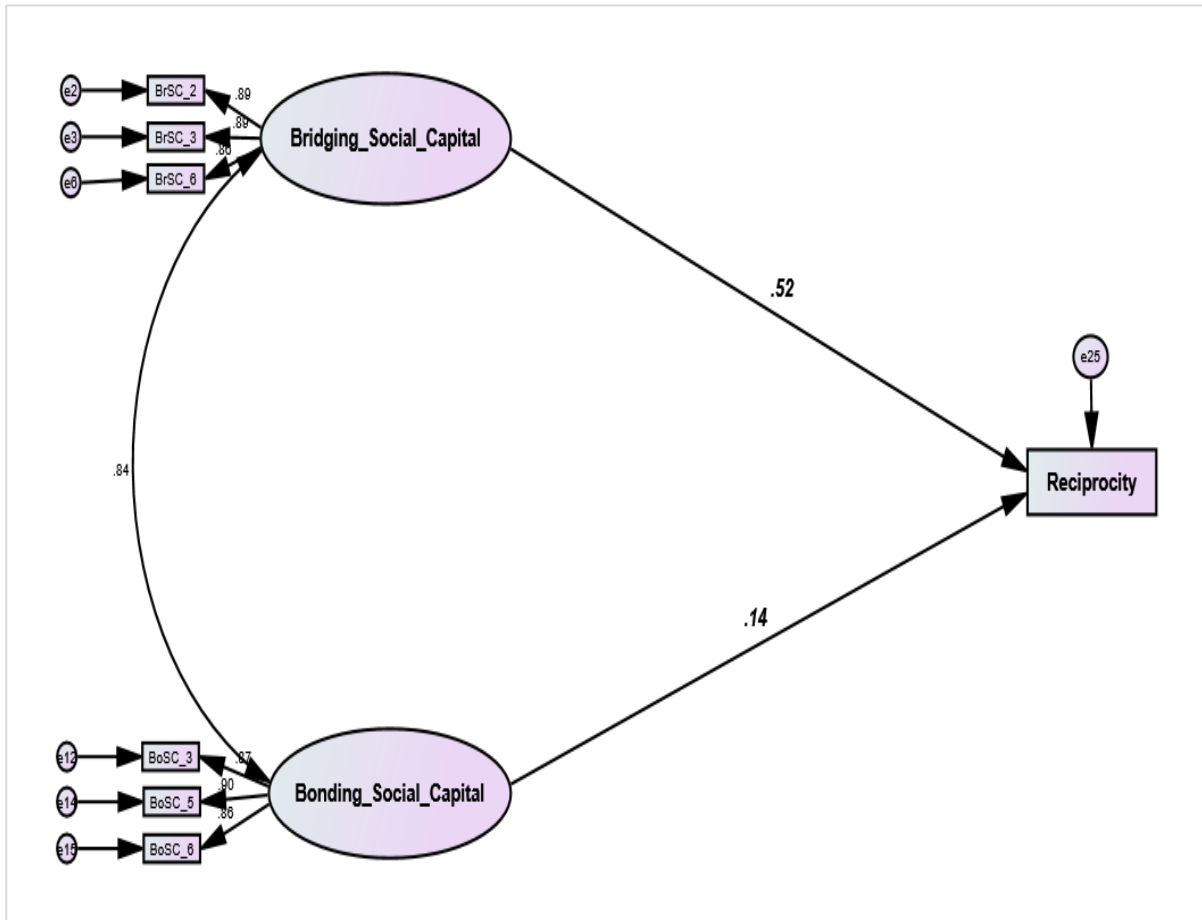
### Model Fit Summary

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	25	55.879	30	0.003	1.863
Saturated model	55	0	0		
Independence model	10	6690.104	45	0	148.669
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	0.992	0.987	0.996	0.994	0.996
Saturated model	1		1		1
Independence model	0	0	0	0	0
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	0.033	0.019	0.046	0.985	
Independence model	0.43	0.421	0.439	0	

### Standardised Regression Weights

				Estimate
Emotion	<---	Bonding_Social_Capital		.306
Emotion	<---	Bridging_Social_Capital		.473
BrSC_6	<---	Bridging_Social_Capital		.862
BrSC_3	<---	Bridging_Social_Capital		.885
BrSC_2	<---	Bridging_Social_Capital		.887
BoSC_6	<---	Bonding_Social_Capital		.862
BoSC_5	<---	Bonding_Social_Capital		.901
BoSC_3	<---	Bonding_Social_Capital		.870
EMO_8	<---	Emotion		.878
EMO_7	<---	Emotion		.890
EMO_3	<---	Emotion		.895
RPT1	<---	Emotion		.308
RPT1	<---	Bridging_Social_Capital		.373
RPT1	<---	Bonding_Social_Capital		.043

**Direct Effect – The Impact of Social Capitals on Reciprocity (Model 1)**




---

Computation of degrees of freedom

Number of distinct sample moments: 28

Number of distinct parameters to be estimated: 16

Degrees of freedom (28 - 16): 12

Result

Minimum was achieved

Chi-square = 20.805

Degrees of freedom = 12

Probability level = .053

---



## Direct Effect – The Impact of Social Capitals on Reciprocity (Model 1) SEM Key Outputs

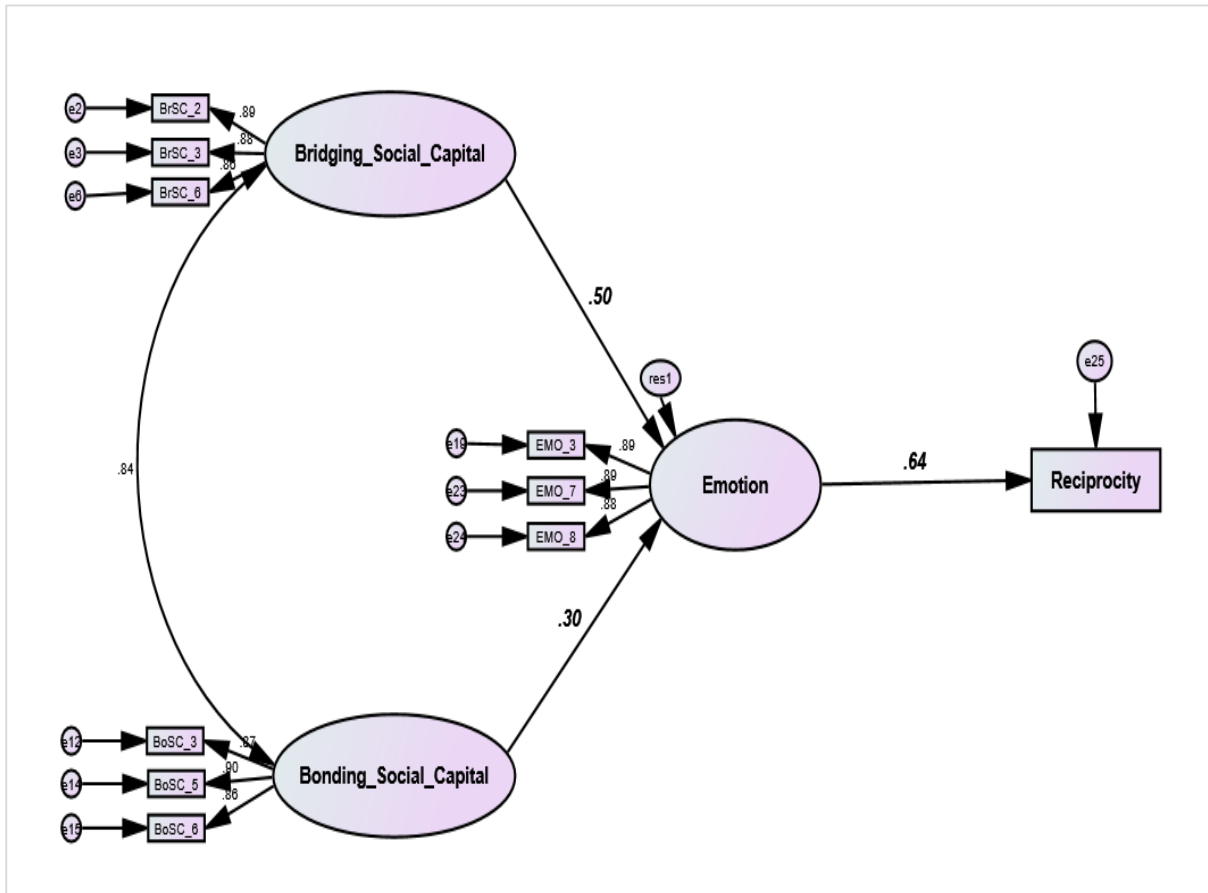
### Model Fit Summary

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	16	20.805	12	.053	1.734
Saturated model	28	.000	0		
Independence model	7	4330.876	21	.000	206.232
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.995	.992	.998	.996	.998
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	.030	.000	.052	.934	
Independence model	.507	.494	.520	.000	

### Standardised Regression Weights

			Estimate
BrSC_6	<---	Bridging_Social_Capital	.857
BrSC_3	<---	Bridging_Social_Capital	.887
BrSC_2	<---	Bridging_Social_Capital	.888
BoSC_6	<---	Bonding_Social_Capital	.862
BoSC_5	<---	Bonding_Social_Capital	.903
BoSC_3	<---	Bonding_Social_Capital	.869
RPT1	<---	Bridging_Social_Capital	.519
RPT1	<---	Bonding_Social_Capital	.138

**Proposed Competing Model for Model 1**



Computation of degrees of freedom

Number of distinct sample moments:	55
Number of distinct parameters to be estimated:	23
Degrees of freedom (55 - 23):	32

Result

Minimum was achieved

Chi-square = 133.897

Degrees of freedom = 32

Probability level = .000

## SEM Key Outputs for Proposed Competing Model for Model 1

### Model Fit Summary

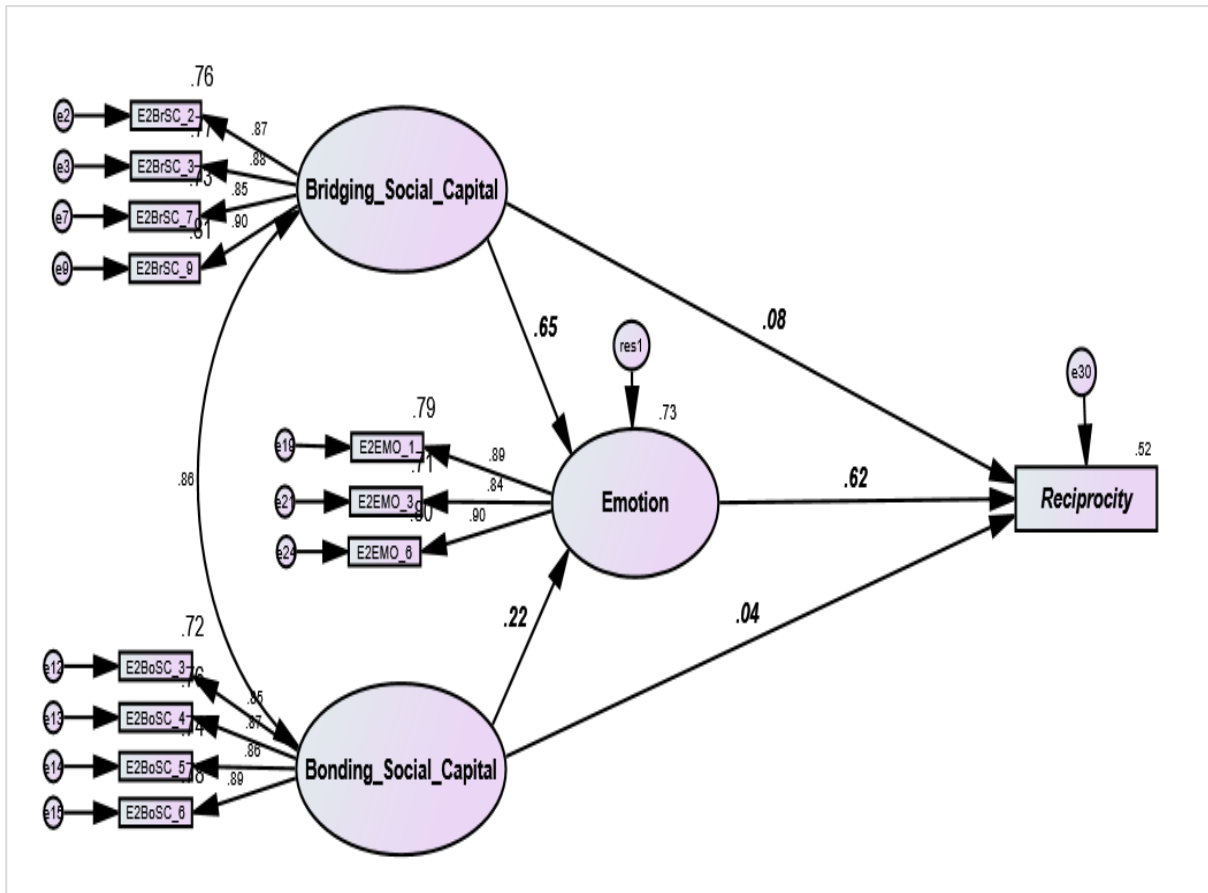
CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	23	133.897	32	.000	4.184
Saturated model	55	.000	0		
Independence model	10	6690.104	45	.000	148.669
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.980	.972	.985	.978	.985
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	.063	.052	.074	.024	
Independence model	.430	.421	.439	.000	

### Standardised Regression Weights

			Estimate
Emotion	<---	Bonding_Social_Capital	.302
Emotion	<---	Bridging_Social_Capital	.496
BrSC_6	<---	Bridging_Social_Capital	.864
BrSC_3	<---	Bridging_Social_Capital	.883
BrSC_2	<---	Bridging_Social_Capital	.887
BoSC_6	<---	Bonding_Social_Capital	.863
BoSC_5	<---	Bonding_Social_Capital	.900
BoSC_3	<---	Bonding_Social_Capital	.870
EMO_8	<---	Emotion	.876
EMO_7	<---	Emotion	.888
EMO_3	<---	Emotion	.891
RPT1	<---	Emotion	.636

**Appendix XI: Structural Equation Modelling Key Outputs for Model Two**

**Path Diagram of the Proposed Model Two**



Computation of degrees of freedom

Number of distinct sample moments: 78

Number of distinct parameters to be estimated: 29

Degrees of freedom (78-29): 49

Result

Minimum was achieved

Chi-square = 93.470

Degrees of freedom = 49

Probability level = .000

## SEM Key Outputs Proposed Model 2

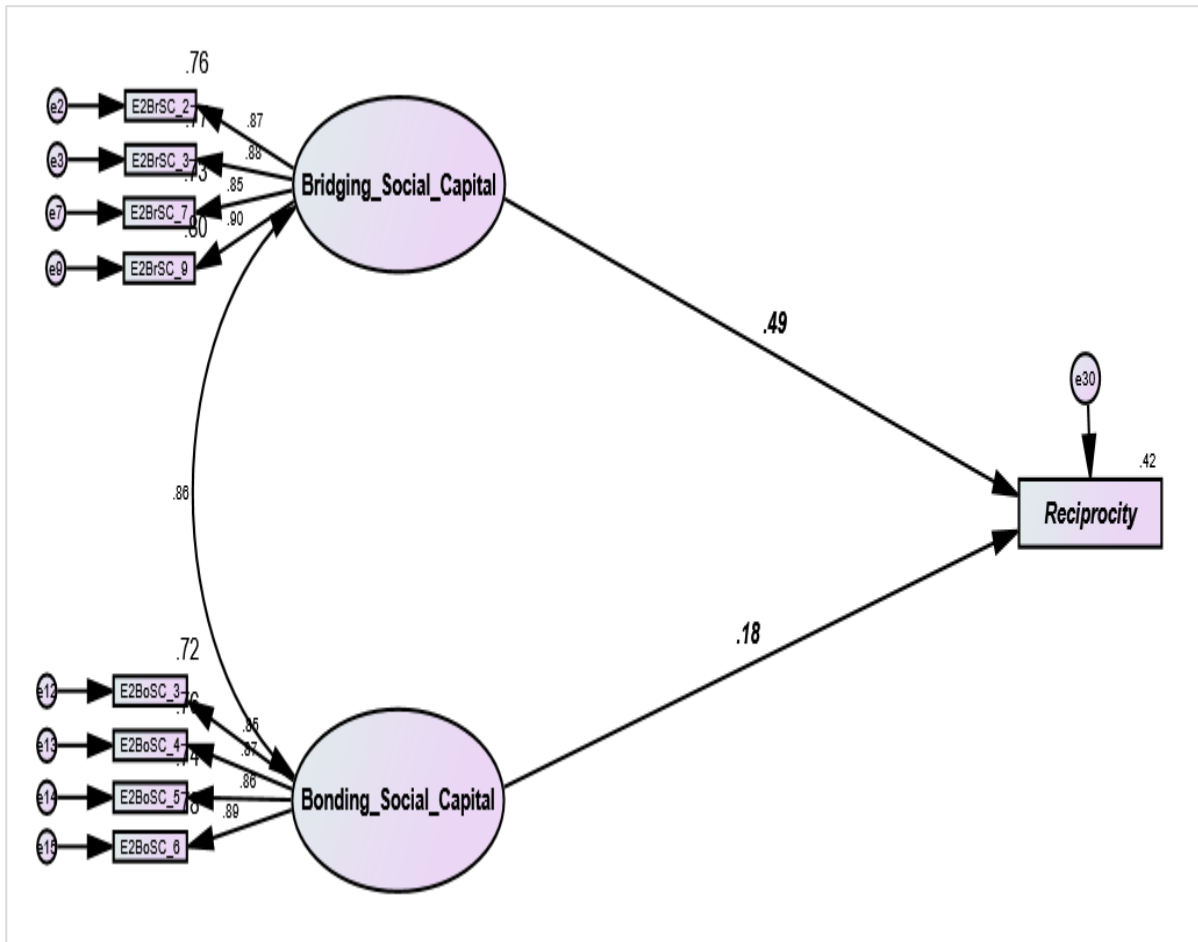
### Model Fit Summary

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	29	93.470	49	.000	1.908
Saturated model	78	.000	0		
Independence model	12	8776.975	66	.000	132.984
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.989	.986	.995	.993	.995
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	0.034	0.023	0.044	0.996	
Independence model	0.406	0.399	0.414	0	

### Standardised Regression Weights

			Estimate
Emotion	<---	Bridging_Social_Capital	.653
Emotion	<---	Bonding_Social_Capital	.224
E2BrSC_3	<---	Bridging_Social_Capital	.878
E2BrSC_2	<---	Bridging_Social_Capital	.871
E2BoSC_6	<---	Bonding_Social_Capital	.885
E2BoSC_5	<---	Bonding_Social_Capital	.859
E2EMO_1	<---	Emotion	.887
E2BrSC_7	<---	Bridging_Social_Capital	.854
E2BrSC_9	<---	Bridging_Social_Capital	.899
E2BoSC_4	<---	Bonding_Social_Capital	.873
E2EMO_3	<---	Emotion	.841
E2EMO_6	<---	Emotion	.896
E2RTP1	<---	Bridging_Social_Capital	.085
E2RTP1	<---	Bonding_Social_Capital	.037
E2RTP1	<---	Emotion	.621
E2BoSC_3	<---	Bonding_Social_Capital	.849

**Direct Effect – The Impact of Social Capitals on Reciprocity (Model 2)**



Computation of degrees of freedom

Number of distinct sample moments:	45
Number of distinct parameters to be estimated:	20
Degrees of freedom (45 - 20):	25

Result

Minimum was achieved

Chi-square = 55.527

Degrees of freedom = 25

Probability level = .000

## Direct Effect – The Impact of Social Capitals on Reciprocity (Model 2) SEM Key Outputs

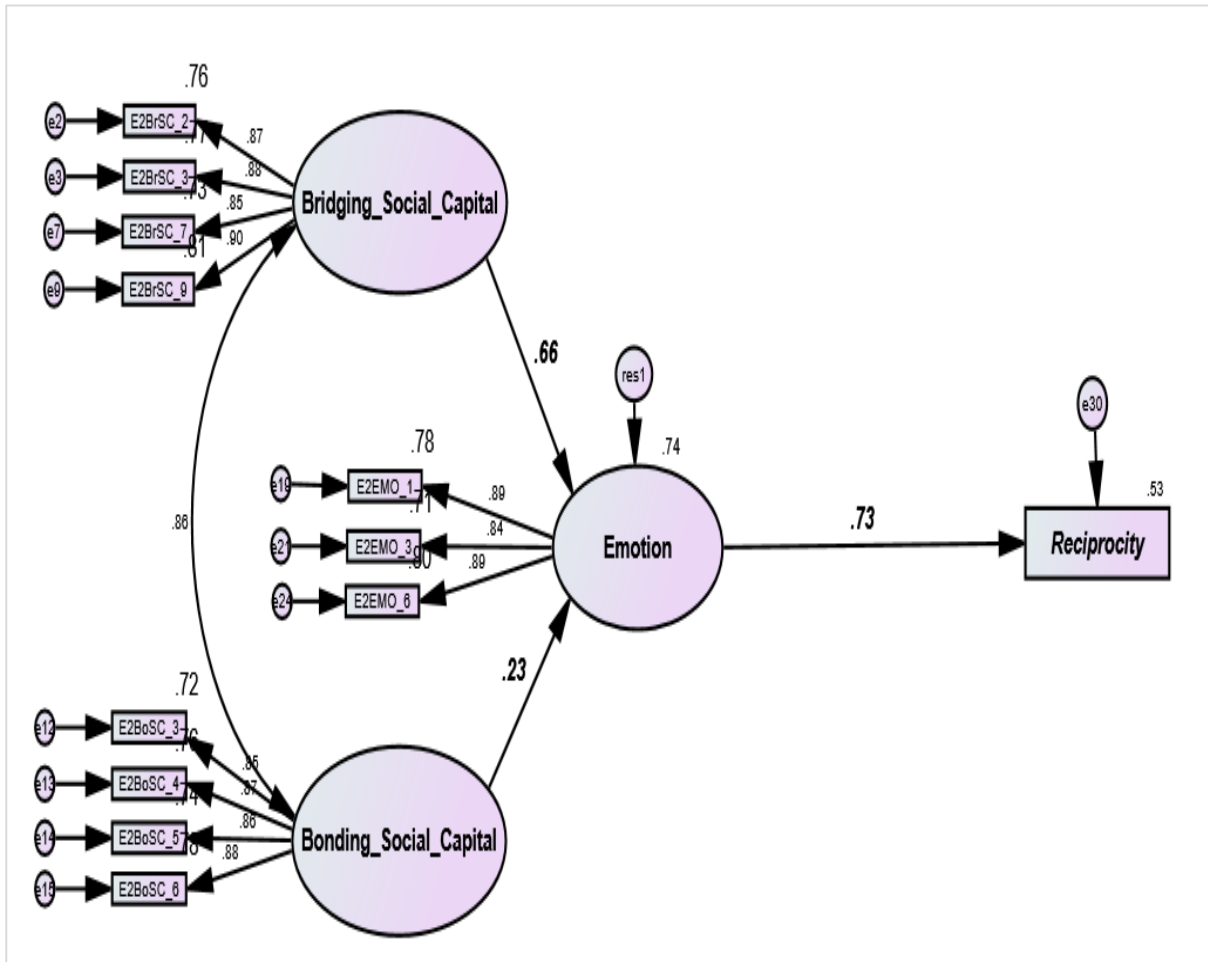
### Model Fit Summary

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	20	55.527	25	.000	2.221
Saturated model	45	.000	0		
Independence model	9	6218.557	36	.000	172.738
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.991	.987	.995	.993	.995
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	.039	.025	.053	.898	
Independence model	.464	.454	.473	.000	

### Standardised Regression Weight

			Estimate
E2BrSC_3	<---	Bridging_Social_Capital	.879
E2BrSC_2	<---	Bridging_Social_Capital	.872
E2BoSC_6	<---	Bonding_Social_Capital	.885
E2BoSC_5	<---	Bonding_Social_Capital	.860
E2BrSC_7	<---	Bridging_Social_Capital	.854
E2BrSC_9	<---	Bridging_Social_Capital	.897
E2BoSC_4	<---	Bonding_Social_Capital	.872
E2BoSC_3	<---	Bonding_Social_Capital	.848
E2RTP1	<---	Bridging_Social_Capital	.490
E2RTP1	<---	Bonding_Social_Capital	.176

**Proposed Competing Model for Model 2**



Computation of degrees of freedom

Number of distinct sample moments:	78
Number of distinct parameters to be estimated:	27
Degrees of freedom (78 - 27):	51

Result

Minimum was achieved

Chi-square = 97.376

Degrees of freedom = 51

Probability level = .000



## SEM Key Outputs for Proposed Competing Model for Model 2

### Model Fit Summary

CMIN					
Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	27	97.376	51	.000	1.909
Saturated model	78	.000	0		
Independence model	12	8776.975	66	.000	132.984
Baseline Comparisons					
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	.989	.986	.995	.993	.995
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000
RMSEA					
Model	RMSEA	LO 90	HI 90	PCLOSE	
Default model	.034	.023	.004	.997	
Independence model	.406	.399	.414	.000	

### Standardised Regression Weights

			Estimate
Emotion	<---	Bridging_Social_Capital	.655
Emotion	<---	Bonding_Social_Capital	.226
E2BrSC_3	<---	Bridging_Social_Capital	.878
E2BrSC_2	<---	Bridging_Social_Capital	.871
E2BoSC_6	<---	Bonding_Social_Capital	.885
E2BoSC_5	<---	Bonding_Social_Capital	.858
E2EMO_1	<---	Emotion	.885
E2BrSC_7	<---	Bridging_Social_Capital	.854
E2BrSC_9	<---	Bridging_Social_Capital	.899
E2BoSC_4	<---	Bonding_Social_Capital	.873
E2EMO_3	<---	Emotion	.840
E2EMO_6	<---	Emotion	.895
E2RTP1	<---	Emotion	.729
E2BoSC_3	<---	Bonding_Social_Capital	.849

## Appendix XII: List of Publications

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Zhu, A. Q., Starr, R., & Brodie, R. (2015). Effects of Perceived Social Capital on Reciprocity among Chinese Social Media Users. Competitive paper accepted at 24<sup>th</sup> Annual Frontiers in Service Conference, California, USA.

Zhu, A. Q., Starr, R., & Brodie, R. (2014). The Influence of Perceived Social Capital on Reciprocity in Chinese Social Media. Competitive paper presented at the Australian and New Zealand Marketing Academy Conference, Brisbane, Australia.

Zhu, A. Q., & Brodie, R. (2013). Engagement, Reciprocal Behaviour and Value Co-creation in Social Media. Competitive paper presented at the 21<sup>st</sup> Frontiers in Service Conference, Taipei, Taiwan.

Zhu, A. Q., & Brodie, R. (2012). "Following Back" in Social Media: Reciprocity as a Norm? Competitive paper presented at the Australian and New Zealand Marketing Academy Conference, Adelaide, Australia.

Zhu, A. Q. (2012). The Influence of Reciprocity in Chinese Social Media. Paper presented at the Australian and New Zealand Marketing Academy Conference Doctorial Colloquium, Adelaide, Australia.

Zhu, A. Q. (2012). Exploring the Power of Reciprocity in Social Media. Paper presented at the 5<sup>th</sup> University of Auckland Business School PhD Conference, Auckland, New Zealand.

### ***Media Release***

Newzealandinc.com (2013). An Interview with Andrew Zhu: Bo Xilai Trial Insight into Weibo and the Changing Face of Chinese Media.  
Article available on <http://newzealandinc.com/chinese-social-media/>