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DYNAMICS AND VALENCE OF ACTOR ENGAGEMENT

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A thesis submitted in fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN
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ABSTRACT

In the increasingly networked service networks, actors continually interact and engage with one another to craft their value propositions, co-create their service experience, and contribute to the formation of system institutions. This thesis is comprised of three papers which study different facets of actor engagement, with the findings of one paper partially informing the next. The first study explores the dynamics of multi-actor engagement. An abductive theorizing approach is used that draws on the contemporary literature on engagement, service-dominant logic and value propositions, and the longitudinal exploratory case study, to enable the process where the theoretical framework and empirical evidence evolve simultaneously. The developed framework shows that engagement conditions, via actors’ appraisals, lead to engagement properties and result in engagement outcomes as the new conditions for the next iteration. Also, it is suggested that the valence of engagement influence both the process of engagement among multiple actors in the network and the network’s evolution, which motivates the second study.

The second study conceptualises engagement valence in actor networks. It defines the conceptual domain, deepens the understanding and provides an agenda for future research into the valence of engagement among actors in networks. The study recognises the institutional influences on actor engagement valence, and contributes to an understanding of the nature of actors’ psychological dispositions and how their valence determines the actors’ behavioural engagement manifestations. The identified conceptual distinction between positive and negative actor engagement points to the need of conceptualisation and operationalisation of negative actor engagement, thus informing the third study.

Finally, the third study conceptualizes and operationalizes negative actor engagement in the context of knowledge sharing platforms such as student learning service platform.
Negative student engagement is conceptualized as students’ psychological dispositions towards the engagement platform as their negative emotions and cognitions during their interactions on the platform. The study also shows that negative student engagement disposition is a second-order formative construct consisted of four first-order reflective constructs (annoyance, anxiety, failed expectation and futility). Further, the relationship between negative engagement dispositions and its relational, behavioral consequence of negative word of mouth is established.
ACKNOWLEDGEMENTS

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Chapter 1 was published by *Journal of Service Theory and Practice* in 2017. It first appeared as a conference paper in *Australia and New Zealand Marketing Association Conference* in Sydney, 2015. Then the paper went through three rounds of review and the thesis paper represents the published version.


An earlier version of Chapter 3 appeared in *Global Marketing Conference* in Tokyo, 2018. It is now finalised for a journal article submission to *Journal of Interactive Marketing*. The thesis paper represents the most recent version.
INTRODUCTION

1. Motivation

1.1 From customer engagement to actor engagement

In today’s highly networked and interactive business environment, customer engagement has received considerable attention from business practitioners as well as academic scholars in the past decade. Customer engagement plays a pivotal role in generating customer loyalty (Gummerus, Liljander, Weman, & Pihlström, 2012), customers’ lifetime value (Schmitt, Skiera, & Van den Bulte, 2011), the firm’s competitive advantage (Kumar et al., 2010; Kumar & Pansari, 2015) and financial performance (Gupta & Zeithaml, 2006). In Brodie, Hollebeek, Juric and Ilic’s (2011) seminal paper, customer engagement is posited as “a psychological state, which occurs by virtue of interactive customer experiences with a focal agent/object within specific service relationships” (p.258). This seminal work by Brodie et al. (2011) demonstrates that the concept of customer engagement has its conceptual roots in service-dominant (S-D) logic, which resonates with the dynamic and interactive nature of the engagement concept. Engagement defined in this way distinguishes the concept from other similar relational concepts such as ‘participation’ and ‘involvement’. It also captures both the underlying psychological mechanisms of customers’ thoughts and feelings and the observable behavioural manifestations such as WOM (Gebauer et al., 2013) and altruistic behaviours (Hsieh & Chang, 2016).

From 2010, both customer engagement and customer engagement behaviors have been subject to considerable scholarly inquiry, which are demonstrated by a substantial body of research, including studies addressing theoretical refinement of customer engagement concept (Brodie et al., 2013; Vivek et al., 2012; von Doorn et al., 2010) and its measurement (Hollebeek
et al., 2014; Vivek et al., 2014; Dessart et al., 2016). These studies pay attention to specific dimensions of engagement or engagement within a specific context, and thus have led to a number of concepts. These concepts include “customer engagement behaviours” (van Doorn et al. 2010; So et al. 2014; Jaakkola and Alexander, 2014; Verleye et al. 2014; Groeger et al. 2016), “consumer engagement” (Brodie et al., 2013), “consumer brand engagement” (De Vries and Carlson, 2014; Gambetti et al., 2011; Rana and Dwivedi, 2016; Seo et al., 2017; Solem and Pedersen, 2016), “customer brand community engagement” (Gummerus et al., 2012), “service technology engagement” (Bolton & Saxena-Iyer, 2009), “advertising engagement” (Phillips & McQuarrie, 2010) and “brand engagement in self-concept” (Sprott et al., 2009).

However, in the service and marketing literature, academics have recently shifted their focus from dyadic interactions between customers and a focal engagement object such as a brand, firm, product category, or online community (Brodie, Hollebeek, Juric, & Ilic, 2011; van Doorn et al., 2010) to interactions among a network of diverse actors or groups of actors (Jaakkola & Alexander, 2014; Verleye et al., 2014). Technology development and globalization emancipate actors from time and space constraints, and thus it is not only paying customers who continually influence firms and one another in the connected world (Achrol & Kotler, 2012; Chandler & Lusch, 2014).

Emerging thinking on engagement among multiple actors sheds light on the explanations of the abstract and general concept of value co-creation, and hence bridges the theory and practice (Storbacka, Brodie, Böhmann, Maglio, & Nenonen, 2016b). For example, Jaakkola and Alexander (2014) examine the role of customer engagement behaviors in value co-creation within a broader service system of multiple actors. In another study, Verleye, Gemmel and Rangarajan (2014) uses multi-stakeholder perspective to investigate how to manage customer engagement behaviors that are embedded in a network. These studies
indicate the research imperative of taking into account multi-actor perspective when investigating the nature of engagement.

Accordingly, S-D logic and service scholars have taken a step further, and questioned the usefulness of pre-designated roles such as producers and consumers (Finsterwalder, 2016); suggesting the use of the more general term of “actors” (Chandler & Lusch, 2015; Storbacka et al. 2016). This means that the concept of engagement becomes all-inclusive and can be applied to all of the different types of human actors present in a service ecosystem (Jaakkola & Alexander, 2014). Thus, from the system and actor-network perspective, customer engagement is seen as a specific form of actor engagement (Brodie et al., 2016).

The shift from the customer-centric and dyadic perspective to a network and actor perspective emphasises that actors, including employees, community members, online users, social groups and organisations (Chandler & Vargo, 2011), can be engaged in many-to-many service experiences at various points in time and place (Chandler & Lusch, 2015). In their paper, Chandler and Lusch (2015) explain how and why actors, unintentionally or subconsciously, engage or disengage with each other in service systems. In their conceptual paper, Storbacka et al. (2016) explore how actor engagement dispositions lead to observable engagement properties, thereby providing the theoretical foundations for a value co-creation concept. Common to the conceptualisations in this area is the notion that actor engagement is an interactive, co-creative process in which the actor’s internal disposition is a central condition for engagement activities. Dispositions refer to an actor’s “internal proclivities, or psychological states” (Emirbayer & Goodwin, 1994), which correspond to the combination of both the ‘emotions’ and ‘cognitions’ dimensions in Brodie et al.’s (2011) definitions of customer engagement. Actors’ connections are also important properties of actor engagement (Chandler & Lusch, 2015). Connections correspond to the temporal and relational environment
of exchange (Chandler & Lusch, 2015). Actors with a range of possible dispositions, sense, respond to, and draw upon these connections (Hall, 1976; Holloway & Hancock, 1969), which leads to various modes of engagement activities such as giving recommendations and complaining associated with WOM.

Echoing this emergent thinking of engagement among multiple actors in the networks and service eco-system, this thesis aims to refine the conceptualization of actor engagement by investigating the two key underlying dimensions: dynamics and valence of actor engagement. Motivations for studying these two key dimensions are shown in the following two sections.

1.2 Dynamics of actor engagement in evolving service networks

Actors engage with one another at different levels: individual, group, organizational or societal level (Chandler & Lusch, 2015), and influencing one another in today’s connected world (Kleinaltenkamp et al., 2012; Vargo & Lusch, 2016). In line with Storbacka et al. (2016), this research defines multi-actor engagement as the dispositions of actors to engage and the activities of engaging in interactive processes in networks. Actors with various dispositions enter the network, engage with one another in diverse activities of resource integration (Chandler & Lusch, 2015) and service experience co-creation (Jaakkola, Helkkula and Aarikka-Stenroos, 2015), over time and across different platforms (Breidbach, Brodie, & Hollebeek, 2014), and at some point in time disengage and leave the network (Bowden, Luoma-Aho, & Naumann, 2016; Dolan, Conduit, Fahy, & Goodman, 2015; Juric, Smith, & Wilks, 2016). It has been suggested that changes in actors’ resources and dispositions to engage, and the choice of platforms, will lead to the evolution of the network (Li, Juric, & Brodie, 2015; Storbacka et al., 2016b), and thus manifest the dynamics of multi-actor engagement.
However, traditional engagement research in the marketing discipline tends to study the customers and their dyadic interactions with an engagement object (Brodie et al., 2011; van Doorn et al., 2010). Thus they tend to investigate the dynamics of engagement at an individual level. In these studies the relational consequences of engagement (such as customer satisfaction, commitment) can also function as antecedents in the iterative process of engagement (Bowden, 2008; Sashi, 2012; van Doorn et al., 2010; Vivek, Beatty, & Morgan, 2012). Therefore to date, the process underlying the dynamics of how engagement evolves and spreads among multiple actors in the network remains largely unexplored and thus is identified as a priority for research (Brodie et al., 2011; Chandler & Lusch, 2014).

One exceptional case is Storbacka et al.’s (2016) conceptual work. Based on service-dominant logic, Storbacka et al. (2016) conceptualize actor engagement as a microfoundation for value co-creation within the context of a service ecosystem. This extends the focus from customers to market and non-market individuals, groups or organizations. Their theoretical framework outlines the general process where engagement conditions lead to engagement properties among multiple actors embedded in a network setting (Li et al., 2015; Storbacka et al., 2016b). Specifically, they propose that actors, their resources and engagement platforms provide conditions for actors to engage, and actors’ dispositions, through action formation mechanisms, lead to engagement properties for multiple actors in the network. The action formation mechanism involves consideration as to how actors, influenced by their internal dispositions, choose to draw on their external resources (Chandler & Lusch, 2015; Simon, 1996). Such a mechanism merits further exploration and aligns with our research objective as to examine the underlying dynamic process of engagement within networks. Thus the first research objective of the thesis is:

**RO 1:** to explore the dynamics of engagement among multiple actors in service networks.
1.3 Actor engagement valence: positive and negative engagement

With the development of engagement theory, valence emerges as one of the key dimensions underlying the engagement concept, and it is recognised as one of the research imperatives for understanding and refining the concept of actor engagement (Storbacka et al., 2016; Brodie et al., 2016). The term “valence of engagement” was first coined in van Doorn et al.’s (2010) research to reflect the range of positive and negative engagement, and is considered to be a key determinant of engagement behaviours (Brodie et al., 2011; Hollebeek & Chen, 2014) in terms of their behavioural directions (Bowden et al., 2015), properties and forms (Li et al., 2017), and outcomes (Juric et al., 2016).

Positive engagement is associated with pleasant feelings and positive evaluations of the engagement object or actor, during active, interactive service experience (Brodie et al., 2011; Vivek et al., 2012), and can manifest in observable engagement behaviours such as repurchase (Jahn & Kunz, 2012), compliance and cooperation (Verleye et al., 2014), advocacy (Kumar et al., 2010) and altruistic behaviours (Hsieh & Chang, 2016). Thus positive engagement is also posited to represent a strategic imperative for an enhanced value co-creation experience (Prahalad & Ramaswamy, 2004), improved innovation capabilities (Frow et al., 2015), and superior competitive advantage (Kumar & Pansari, 2015).

On the other hand, negative engagement is associated with unpleasant feelings and negative appraisals of the engagement object or actor, during interactive service experience (Juric et al., 2016), and can manifest in complaints (Naumann et al., 2017), negative word of mouth (WOM) (Hollebeek & Chen, 2014), boycotts (Lee et al., 2009) or revenge (Grégoire & Fisher, 2008). Negative engagement can also sometimes attract unexpected, non-traditional actors outside the focal service network to become connected and they may offer the
opportunity to create new networks or join the existing networks (Li et al., 2017). This engagement can lead to value co-destruction or diminishment of the well-being of actors (Smith, 2013), poor financial and non-financial performance (van Doorn et al., 2010), and negative sentiments and turmoil online (Juric et al., 2016).

To date, however, research that studies or refers to the valence of actor engagement lacks comprehensive understanding, and remains fragmented and scant (Li et al., 2017; Naumann et al., 2017). Engagement studies have focused predominantly on the positive side of engagement (Baldus et al., 2015; Dessart et al., 2015; Hollebeek et al., 2014; Leckie et al., 2016; Vivek et al., 2012), and have neglected the ‘dark’ side. Further, studies which have attempted to define positive and negative engagement have been lacking in sufficient theoretical understanding of the valence of actor engagement (Bowden et al., 2015; Hollebeek & Chen, 2014; Juric et al., 2016). The definitions vary regarding the nature of the valence of engagement (both positive and negative), and thus lack a consistent understanding of actor engagement valence. Such limited scholarly attention to the ‘dark’ side of engagement and the multi-actor perspective, and thus the lack of an overall picture, results in an incomplete understanding of the valence of engagement.

Moreover, corresponding to the customer-centric and dyadic perspective in earlier engagement literature, some scholars have discussed positive and negative customer engagement (Bowden et al., 2015; Hollebeek & Chen, 2014; Juric et al., 2016). For example, the pioneering work of van Doorn et al. (2010) on customer engagement behaviours proposes that valence (positive or negative) is one of the key dimensions of engagement, and indicates that the valence of customers’ engagement behaviours closely associates with engagement consequences. If the outcome (financial or nonfinancial, short or long term) of the customer’s engagement behaviour is beneficial to the firm, then it is deemed to be positive engagement
behaviour; otherwise it is negative engagement behaviour (Brady et al., 2006; van Doorn et al., 2010).

However, the application of the system perspective contributes to demonstrating that a certain actor’s engagement behaviour can result in a change in value as experienced by other stakeholders in the ecosystem (Jaakkola & Alexander, 2014), and can sometimes be beneficial for one actor but detrimental for another (Smith, 2013; Brodie et al., 2013). The valence of actor engagement may be influenced by multiple actors in the system. In particular, the system perspective helps to clarify how actors’ value propositions – invitations by others to engage in actor-networks – and the valence of engagement influence both the process of engagement among multiple actors in the network and the network’s evolution (Li et al., 2017).

Actors joining such interconnected networks can be expected to share standards and institutional norms within the network. These standards and institutions may influence the way they engage with one another regarding the valence of engagement. Actors’ engagement may also, through the normalisation processes, shape the routines embedded in existing, socially patterned, knowledge and practices (May & Finch, 2009), and thus reformulate the standards or norms in the system (Vargo & Lusch, 2016). Thus, by providing a means to consider the network or system in a more nuanced way, the network or system perspective contributes to understanding the nature of actor engagement valence.

The complexity of the valence of actor engagement also involves the relationship between positive engagement and negative engagement. Some studies indicate that actors may be both positively and negatively engaged at the same time. For example, a study of online consumer behaviours shows that trust (positive attitude) and distrust (negative attitude) may coexist (Moody et al., 2014), thereby resulting in what Kaplan (1972) refers to as ‘ambivalence’ of engagement. Another study in the context of social networking websites found that
technology-related addictions may reinforce users’ enjoyment; however, addicted users may also find it devastating to live with their ‘bad habit’ (Turel & Serenko, 2012). Studies on service recovery also indicate that the valence of an actor’s engagement may change over time. For example, a satisfied, positively engaged customer voices his or her disappointment (negative engagement) because of a service failure, but may become more positively engaged than before as a result of experiencing an excellent service recovery (de Matos et al., 2007).

Thus despite the importance of actor engagement valence, prior research takes a dyadic, customer-centric perspective and focuses predominantly on positive engagement. This leaves negative engagement largely overlooked, resulting in a partial understanding of the nature of actor engagement valence. Furthermore, due to the narrowed view on positive engagement only, the measurement scale for engagement are predominantly derived from positive engagement practices and phenomena. Therefore the second and third research objectives of the thesis are:

**RO 2:** to conceptualise actor engagement valence in service networks.

**RO 3:** to operationalise negative actor engagement.

### 2. Thesis organization

The overarching research objectives of the thesis are embedded in a larger context of marketing and service research dealing with the nature and underlying mechanism of value creation among multiple actors in the service networks (Vargo & Lusch, 2016; Storbacka et al., 2016; Brodie et al., 2016). The three research projects included in this thesis are positioned to extend existing research towards two vectors: first, broadening the dyadic, customer-centric
perspective of engagement towards a network, multi-actor perspective; and second, refining the conceptualisation of actor engagement and operationalising actor engagement.

The thesis consists of three studies, each of which is presented in a thesis Chapter as a standalone paper. In addition, a conclusion is provided at the end of the thesis, followed by the reference list for all three studies. Figure 1 below shows the evolutionary phases of engagement studies and where the three research projects belong to. Figure 2 (on page 15) depicts the research framework and provides an overview of the key research questions and how they are linked within this thesis.

The first study, presented in Chapter 1, adopts the narrative-based theorizing style (Cornelissen, 2017). It explores the dynamics of multi-actor engagement by examining the process of how engagement evolves and spreads among multiple actors and/or groups of actors in networks. An abductive theorizing approach is used that draws on the contemporary literature on engagement, service-dominant logic and value propositions, and the longitudinal

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<th>Network/Service System Perspective</th>
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<td>Broadening of conceptualization customer engagement to actor engagement</td>
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**Chapter 1: Dynamic multi-actor engagement in networks**

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<td>Identification &amp; conceptualization of customer engagement and customer engagement behaviours</td>
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**Chapter 2: Actor engagement valence**

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**Chapter 3: Conceptualization and operationalization of negative actor engagement**

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<th>Phase 2 (2012 onwards)</th>
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<td>Empirical refinement in the conceptualizations &amp; operationalization of customer engagement and customer engagement behaviours</td>
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**Conceptual Focus**

**Empirical/Managerial Focus**

Figure 1. Evolutionary phase of engagement studies summarized from Fehrer (2017)
exploratory case study, to enable the process where the theoretical framework and empirical evidence evolve simultaneously. The exploratory case study is based on Dave Carrol’s service experience with United Airlines, which has attracted extensive attention via social media platforms. As the case evolves, multiple actors and/or groups of actors become engaged in the network. Hence it offers rich, longitudinal data and allows us to investigate the dynamic process of how engagement evolves and spreads in the network.

Expanding on Storbacka et al.’s (2016) conceptual work, our framework shows that engagement conditions, via actors’ appraisals, lead to engagement properties and result in engagement outcomes as the new conditions for the next iteration. This dynamic process leads to the evolution of the network as a whole. In this process actors’ dispositions influence the perceived valence of engagement outcomes, which consequently influences the evolution of networks.

Overall, the practical implications of this study include highlighting the need to understand and measure the process of engagement among groups of actors within a network. This involves measures of actors’ engagement properties (duration, actor-activity intensity, actor-network intensity, actors’ interaction intensity). The research implications of this study is that our developed framework clarifies the constituent components of the multi-actor engagement process and demonstrates the dynamic, iterative nature of multi-actor engagement in the networks. Such framework also provides an extensive agenda for future research. The multi-actor perspective also offers a broader understanding of valence of actor engagement. Accordingly, Chapter 1 responds to the research question:

**RQ 1:** How does engagement spread and evolve among multiple actors in service networks?
**RQ 2: What is the process of actor engagement underlying the action-formation mechanism in service networks?**

The second study, as presented in Chapter 2, employs the proposition-based theorizing style and addresses the valence of actor engagement. With the development of engagement theory, valence emerges as one of the key dimensions underlying the engagement concept, and it is recognised as one of the research imperatives for understanding and refining the concept of actor engagement (Storbacka et al., 2016; Brodie et al., 2016). In addition, the findings from Chapter 1 indicate that the dynamic process of engagement among multiple actors can be influenced by engagement valence. However, prior studies tend to have a predominantly positive view on engagement and the negative engagement is largely neglected. Among the few who studied the negative engagement, they tend to have a customer-centric and dyadic perspective towards the valence of engagement (Hollebeek & Chen, 2014; van Doorn et al., 2010; Dolan et al., 2016; Naumann et al., 2017; Juric et al., 2016). Thus, the purpose of this paper is to conceptualise engagement valence in actor networks and develop an agenda for future research. This is the first study to conceptualise actor engagement valence, which contributes to the refinement of the actor engagement concept.

Specifically, the exploration of the psychological foundations of the concept of valence and a systematic literature review from a multiple database search contributes to four sets of propositions defining the domain of the concept of actor engagement valence. The propositions posit that valence resides in the engaging actor’s past, current and future psychological dispositions, which can shift between positive, negative and ambivalence. Actor engagement valence is triggered by the engagement objects and value propositions of other actors in the network. The antecedents of actor engagement valence comprise individual factors such as cognitive evaluations and hedonic feelings, as well as network-related factors such as social
norms and shared beliefs, and the network structure. The net balance of actors’ positive and negative engagement determines the actor’s engagement behaviours, and this relationship is moderated by individual and network factors.

Overall, this research defines the conceptual domain, deepens the understanding and provides an agenda for future research into the valence of engagement among actors in networks. The study recognises the institutional influences on actor engagement valence, and contributes to an understanding of the nature of actors’ psychological dispositions and how their valence determines the actors’ behavioural engagement manifestations. Thus, Chapter 2 responds to the research questions:

**RQ3:** What is conceptual domain of actor engagement valence?

**RQ4:** Where does valence reside in actor engagement?

**RQ5:** What is the relationship between positive and negative engagement?

The third study, as presented in Chapter 3, is a scale development paper for negative actor engagement. Valence resides in the psychological dispositions of actor engagement (Li, Juric, & Brodie, 2018). Negative engagement is conceptually distinct from positive engagement (Bowden, Gabbott, & Naumann, 2015; Li, Juric, & Brodie, 2017; Smith, Juric, & Niu, 2013). However, whereas current studies predominantly focus on positive engagement, negative engagement studies remain scant and largely exploratory in nature. The purpose of this paper is to conceptualize and operationalize negative actor engagement in the context of knowledge sharing platform such as student learning service platform. Specifically, the thesis aims to conceptualize and develop scales for the focal actor’s, students’ negative engagement dispositions towards other actors (classmates and lecturers) during their interactions on the online learning service platform – Piazza.
Literature review and qualitative interviews on negative student engagement is conducted to derive the dimensions and item pool of negative engagement dispositions. According to the scale development approach of Churchill (1979) and Diamantopoulos and Winklhofer (2001), the study conducted 17 interviews, and then employed three survey studies to assess the reliability and validity of the measurement model and full model including a consequential construct in the nomological network.

Qualitative interviews and questionnaire surveys are employed in the research process. Procedures to ensure ethical standards within the research were planned, submitted to The University of Auckland Human Participants Ethics Committee for review and approval gained on 27th August, 2017 (Ref 019873). Respondents were sent a Participant Information Sheet (PIS) prior to interview and survey. Interviewees were asked to sign a consent form indicating they understood the research objectives and their options. The respondent PIS and consent form are in Appendix I.

This study conceptualises negative student engagement dispositions towards the engagement platform as their negative emotions and cognitions during their interactions on the platform. Negative student engagement disposition is a second-order formative construct consisted of four first-order reflective constructs (annoyance, anxiety, failed expectation and futility). Further, the relationship between negative engagement dispositions and its relational, behavioural consequence of negative word of mouth is established. This study marks the first research to conceptualise and operationalise negative actor engagement. Accordingly, Chapter 3 responds to the research questions:

**RQ 6:** How can negative actor engagement occur with a service platform?

**RQ7:** How can negative actor engagement be measured in a learning service context?
<table>
<thead>
<tr>
<th>Research Objective</th>
<th>Research Question</th>
<th>Research type and approach</th>
</tr>
</thead>
</table>
| **RO 1:** to explore the dynamics of engagement among multiple actors in service networks. | **RQ1:** How does engagement spread and evolve among multiple actors in service networks? | **Chapter 1**  
- Exploratory case study.  
- Narrative-based theorizing style (Cornelissen, 2017).  
Single case theorizing approach (Siggelkow, 2007) drawing on adductive reasoning (Dubois & Gadde, 2002, 2014) |
| **RO 2:** to conceptualise actor engagement valence in service networks. | **RQ3:** What is the conceptual domain of actor engagement valence?  
**RQ4:** Where does valence reside in actor engagement?  
**RQ5:** What is the relationship between positive and negative engagement? | **Chapter 2**  
- Conceptual study.  
- Proposition-based theorizing style (Cornelissen, 2017).  
Systematic literature review and proposition development. |
| **RO 3:** to operationalise negative actor engagement. | **RQ 6:** How can negative actor engagement occur with a service platform?  
**RQ 7:** How can negative actor engagement be measured in a learning service context? | **Chapter 3**  
- Scale development study.  
Churchill’s (1979) and Diamantopoulos and Winklhofer’s (2001) approach. |

Figure 2. Research framework of the dissertation
CHAPTER 1: DYNAMIC MULTI-ACTOR ENGAGEMENT IN NETWORKS: THE CASE OF UNITED BREAKS GUITARS

1. Introduction

In today’s highly interactive and dynamic business environment, customer engagement is seen as a key to customer loyalty (Gummerus et al., 2012), customers’ lifetime value (Schmitt et al., 2011), the firm’s competitive advantage (Kumar et al., 2010; Kumar & Pansari, 2015) and financial performance (Gupta & Zeithaml, 2006). However, in the service and marketing literature, academics have recently shifted their focus from dyadic interactions between customers and a focal engagement object such as a brand, firm, product category, or online community (Brodie, Hollebeek, Juric, & Ilic, 2011; van Doorn et al., 2010) to interactions among a network of diverse actors or groups of actors (Jaakkola & Alexander, 2014; Verleye et al., 2014). Technology development and globalization emancipate actors from time and space constraints, and thus it is not only paying customers who continually influence firms and one another in the connected world (Achrol & Kotler, 2012; Chandler & Lusch, 2014). Emerging thinking on multi-actor engagement sheds light on the explanations of the abstract and general concept of value co-creation, and hence bridges the theory and practice (Storbacka et al., 2016b).

In line with Storbacka et al. (2016), this study defines multi-actor engagement as the dispositions of actors to engage and the activities of engaging in interactive processes in networks. Actors with various dispositions enter the network, engage with one another in diverse activities of resource integration (Chandler & Lusch, 2015) and service experience co-creation (Jaakkola, Helkkula & Aarikka-Stenroos, 2015), over time and across different platforms (Breidbach et al., 2014), and at some point in time disengage and leave the network.
(Bowden, Luoma-Aho, & Naumann, 2016; Dolan, Conduit, Fahy, & Goodman, 2015; Juric, Smith, & Wilks, 2016). It has been suggested that changes in actors’ resources and dispositions to engage, and platforms, will lead to the evolution of the network (Li et al., 2015; Storbacka et al., 2016b), and thus manifest the dynamics of multi-actor engagement. However, to date, the process underlying the dynamics of how engagement evolves and spreads among multiple actors in the network remains largely unexplored and thus is identified as a priority for research (Brodie et al., 2011; Chandler & Lusch, 2014; Storbacka et al., 2016).

The purpose of this paper is to respond to this need by exploring the process of engagement among multiple actors in the network. The network enables a multi-actor perspective of the interactions between multiple actors (Mickelsson, 2013). Also, due to the dynamic and evolving nature of engagement, longitudinal and empirical investigations are needed to untangle the complex process of multi-actor engagement in the network. To accomplish this, Storbacka et al.’s (2016) propositions about actor engagement are employed to build an initial framework that guides our research. In addition, a popular online event, United Breaks Guitars, is investigated as an exploratory case study. The case is based on Dave Carrol’s service experience with United Airlines, which has attracted extensive attention via social media platforms. As the case evolves, multiple actors and/or groups of actors become engaged in the network. Hence it offers rich, longitudinal data and allows us to investigate the dynamic process of how engagement evolves and spreads in the network. An abductive approach is employed, where a theoretical framework for multi-actor engagement in networks is developed, by interfacing engagement theory and empirical case evidence. The emerging framework identifies the underlying dynamic and iterative process of multi-actor engagement. Furthermore, this study reveals the complexity of positive and negative engagement outcomes, thus contributing to the discussion on the valence of engagement (Hollebeek & Chen, 2014; Juric et al., 2016; van Doorn et al., 2010).
The paper proceeds as follows. In the next section, we explore the theoretical background and present the initial conceptual framework. Following the theoretical discussions, we draw on the exploratory case study using an abductive approach. In the subsequent section, we present the theoretical framework of the dynamic process of multi-actor engagement based on our analysis. Finally, we present implications and future research directions.

2. Theoretical background and initial framework

2.1 Dynamics of engagement: towards a multi-actor network perspective

Traditional engagement research in the marketing discipline tend to study the customers and their dyadic interactions with an engagement object (Brodie et al., 2011; van Doorn et al., 2010). Thus they tend to investigate the dynamics of engagement at an individual level. In these studies the relational consequences of engagement (such as customer satisfaction, commitment) can also function as antecedents in the iterative process of engagement (Bowden, 2008; Sashi, 2012; van Doorn et al., 2010; Vivek, Beatty, & Morgan, 2012).

Recently, this conceptualisation of engagement has been challenged by the view that extends beyond dyads, instead focusing on engagement in networks of diverse actors and groups of actors (Chandler & Lusch, 2015). For example, Jaakkola and Alexander (2014) examine the role of customer engagement behaviours in value co-creation within a broader service system of multiple actors. In another study Jaakkola et al. (2015) identify different dimensions of interactions and service experience co-creation among various actors. While our study focuses on the generic role of actors in the network, we also acknowledge the importance of identifying groups of actors as stakeholders when operationalizing the frameworks. For example, a recent empirical study by Verleye, Gemmel and Rangarajan (2014) uses multi-
stakeholders to investigate how to manage customer engagement behaviours that are embedded in a network. These studies indicate the research imperative of taking into account multi-actor perspective when investigating the nature of engagement.

The broader network and multi-actor perspective considers actors engaging in many-to-many service experience (Gummesson, 2008) at different levels: individual, group, organizational or societal level (Chandler & Lusch, 2015), and influencing one another in today’s connected world (Kleinaltenkamp et al., 2012; Vargo & Lusch, 2016). As actors enter a network, engage at the same or different levels, and at some point of time disengage and leave the network (Chandler & Lusch, 2015; Juric et al., 2016), the network evolves over time, which manifests the dynamics of engagement among multiple actors in the network. However, these studies have not investigated the process of engagement from a multi-actor network perspective. The recent conceptual work by Storbacka et al. (2016), develops theoretical propositions in relation to the dynamic process of multi-actor engagement. In the next section, we apply Storbacka et al.’s (2016) conceptual work to build our initial framework.

2.2 Process of multi-actor engagement: initial framework

Based on service-dominant logic, Storbacka et al. (2016) conceptualise actor engagement as a microfoundation for value co-creation within the context of a service ecosystem. This extends the focus from customers to market and non-market individuals, groups or organizations. They propose that actors, their resources and engagement platforms provide conditions for actors to engage, and actors’ dispositions, through action formation mechanisms, lead to engagement properties for multiple actors in the network. This provides the initial framework to guide our investigation of the dynamic multi-actor engagement (Figure 1). We now describe the components.
2.2.1 Engagement conditions

Engaging actors. Service-dominant logic sees all social and economic actors as resource integrators (Vargo & Lusch, 2008). These generic actors can be individuals, or groups of individuals, such as organizations (Vargo & Lusch, 2008). Similarly, Chandler and Lusch (2015) show that by engaging at varying levels – individual, group, organizational, or societal levels – these actors or groups of actors can form different sets of actor combinations. For example, such sets of combinations can be made up of individuals and either formal or informal groups. These actors can be viewed as open systems who effectively depend on the resources of other actors to survive (Vargo, Maglio, & Akaka, 2008) or advance. They all interact with one another in resource integration processes and service-for-service exchange in order to co-create value (Lusch & Vargo, 2014).

Actor dispositions. Common to all of the conceptualisations of engagement in service and marketing is the recognition of the essential role of each actor’s internal dispositions in the process of actor engagement (Storbacka et al., 2016b). In previous engagement studies, actor’s disposition has been regarded as an actor-specific characteristic (Bowden, 2008; Brodie et al., 2011). However, building on Chandler and Lusch (2015), Storbacka et al. (2016) define actor disposition as a capacity of an actor to appropriate, reproduce, or potentially innovate upon...
the actor’s connections in the current time and place, in response to a specific past and/or toward a specific future.

**Engagement platforms.** Effective resource integration depends on platforms that facilitate actors’ engagement (Frow et al., 2015). Engagement platforms are physical or virtual touch points designed to provide structural support for the exchange and integration of resources, and thereby co-creation of value between actors in a service system (Breidbach et al., 2014). Frow et al. (2015) identified five types of engagement platforms both virtual (ICT enabled) or physical: digital applications; tools or products; physical resources, spaces or events; joint processes; and personnel groups. These different types of platforms can be used individually or in various combinations over time (Storbacka et al., 2016b).

2.2.2 Action formation

The action formation mechanism refers to the way in which engagement conditions lead to engagement properties (Storbacka et al., 2016b). It involves consideration as to how actors, influenced by their internal dispositions, choose to draw on their external resources (Chandler & Lusch, 2015; Simon, 1996). Such a mechanism merits further exploration and aligns with our research objective as to examine the underlying dynamic process of engagement within networks.

2.2.3 Engagement properties

Engagement conditions, through action formation mechanisms, lead to engagement activities. Chandler and Lusch (2015) and Storbacka et al.’s (2016) definition of engagement properties capture the observable engagement activities. To be specific, in Storbacka et al.’s (2016b) work, temporal property refers to the duration, regularity and frequency of engagement; relational property refers to the present-day connections in the service eco-system; informational property refers to information embedded in the engagement. While these
properties characterize the variations of engagement activities, they are described in rather
general terms and need to be explored further and refined to be able to apply them directly to
empirical analysis.

This initial theoretical framework outlines the general process where engagement
conditions lead to engagement properties among multiple actors embedded in a network setting
(Li et al., 2015; Storbacka et al., 2016b). Overall, this conceptualisation of engagement among
multiple actors is employed as an initial framework to guide our exploratory research on
engagement dynamics within a broadened, network perspective. The processes as to how
engagement conditions lead to engagement properties is expected to shed light on the process
as to how engagement evolves and spreads and evolves in the network of multiple. We now
elaborate on the methodology.

3. Methodology

3.1 Research approach

In order to empirically investigate the dynamic process of how engagement evolves and
spreads among multiple actors in the network and to refine the existing theory on actor
engagement with foundational explanations, we use an exploratory case study drawing on
abductive reasoning (Dubois & Gadde, 2002, 2014). The exploratory case study offers in-depth
and comprehensive understanding of the specific phenomenon, especially in new situations
where little is known and where existing theories seem inadequate (Easton, 1995; Eisenhardt,
1989; Yin, 2014). This is especially important for understanding the dynamics present within
single settings (Eisenhardt, 1989), as it allows the study of contextual factors and process
elements in the same real-life situations (Halinen & Törnroos, 2005).
More specifically, we adopt single case theorizing approach (Siggelkow, 2007), which allows us to go deeper into one case, rather than a number of surface cases based on replication logic (W. G. Dyer & Wilkins, 1991). Also, the abductive approach enables the process where theoretical framework, empirical fieldwork, and case analysis evolve simultaneously (Dubois & Gadde, 2014). By following the process, researchers aiming to develop theory are able to go back and forth between theories and case evidence; constantly modify the theoretical framework with empirical findings (e.g. other elements and other relationships) and at the same time employ the refined theory frame to guide the ongoing process of case analysis (Dubois & Gadde, 2002).

3.2 Case description

This study is based on the case of Dave Carroll’s service experience with United Airlines (UA). The incident where Dave Carroll observed UA baggage handlers mistreating his beloved guitar was the start of the case. Initial engagement occurred between Dave Carroll and UA. His experience with UA led him to create three YouTube video songs with his band, which went viral through social media platforms. As the case developed over time, the number and types of engaging actors expanded, and through their interactions they influenced each other. In order to capture the dynamic process of engagement among multiple actors, we divide the case into six sequential phases. The delineation of the phases is based on the dispositions (goals) of the focal engagement actor in the case – Dave Carroll.

The case evolves through time and provides longitudinal data for us to explore the dynamic process of how engagement spreads and evolves in the network. The fact that various actors and/or groups of actors engage in the network allows us to examine the dynamics of multi-actor engagement from a multi-actor perspective. Because of the popularity across a wide range of audiences, the case offers rich and valuable data that is easy to access. For example,
since the release of Dave Carroll’s video song on YouTube, it has received over 15 million hits and 21 thousand comments on YouTube (Sonsofmaxwell, 2009). Table 1 presents each phase of the case and the descriptions of the dynamics of multi actor engagement as the network evolves.
### Table 1. Phases in the case study

<table>
<thead>
<tr>
<th>Case phases &amp; Time frame</th>
<th>Explanation</th>
<th>Engagement network</th>
</tr>
</thead>
</table>
| **Phase 1: Communicating for explanation**  
March 31, 2008 | During the departure of his flight, Dave Carroll saw his beloved and expensive guitar being mistreated by UA handlers. He was concerned about his luggage and asked UA flight attendants for explanations. After communications with three inattentive staff, he was told that a waiver he had signed restrained him from making a claim, and that UA could do nothing until the plane landed. Dave Carroll was not satisfied with the explanation because he did not think that he had signed a waiver and that no waiver could excuse such terrible service. He decided to follow up if his guitars were damaged. | UA → Dave Carroll |
| **Phase 2: Negotiating for compensation**  
The first week of April – November 2008 | The guitars were indeed damaged and cost SUS1200 to repair. After a year’s negotiations and communications with UA, Dave Carroll’s final compensation claim was declined and UA terminated the communication by replying that they would not take any responsibility for what had happened. Dave Carroll’s blog expresses his belief at this point that his year-long effort was in vain and that UA’s system was designed to frustrate its customers. Feeling angry and frustrated, he developed a revenge goal that he would create three songs about UA and his experience in the whole matter. He would then make videos for these songs and offer them for free download on YouTube and his own website, inviting viewers to vote on their favorite United song. His goal was to get one million hits in one year. | UA → Dave Carroll |
| **Phase 3: Inviting wider audience**  
January – July 2009 | Dave Carroll and his band Sons of Maxwell cooperated to create a song video and uploaded it to YouTube for viewers to watch for free. | UA → Dave Carroll → Band |
| **Phase 4: Network expanding**  
July, 2009 – March 2010 | The song received a huge number of hits. UA’s stock price fell by 10% in the following week. UA offered Dave Carroll compensation on the condition of removing the YouTube video; he refused. Other airlines approached him with free tickets to experience their service; Taylor Guitar offered him two expensive guitars to be used in his next two songs; UA grudge-holders supported Dave Carroll; UA loyal customers supported UA and criticized Dave Carroll and grudge-holders. A month later Dave Carroll created and uploaded the second song video on YouTube, and half a year later the third one. | UA loyal customers → UA grudge-holders  
UA → Dave Carroll → Other Airlines  
UA stockholders → Taylor Guitar |
| **Phase 5: Cooling down**  
2011 – 2012 | The event subsided. Not as many people discussed this event as after the first video was released. | UA → Dave Carroll |
| **Phase 6: Reviving**  
May 2012 – now | Four years after the incident, Dave Carroll’s book *United Breaks Guitars: the power of one voice in the age of social media* was published. Dave Carroll became a social media expert in customer service, and was invited by firms to give speeches and to share his experience and insights. | UA → Dave Carroll → Book Reviewers  
Firms that invite Dave Carroll to give speeches |
3.3 Data collection and analysis

Consistent with a case study research strategy, we incorporated a range of data related to this incident (Dubois & Gadde, 2002; Yin, 2014). Table 2 shows the data sources for each actor and/or group of actors. By investigating Dave Carroll’s YouTube video page (Sonsofmaxwell, 2009), we collected data on YouTube viewers’ perspectives towards Dave Carroll’s engagement in the whole matter, and how these viewers interacted with one another. In total, three hundred YouTube “top” comments (English only) were collected on the date 17th June, 2015. These comments were made during the period from June, 2014 to June 2015. We also analyzed three of Dave Carroll’s blogs on his personal website, where he shared his experience with UA in the matter of his guitar (Carroll, 2008).

Another data source is Dave Carroll’s book (Carroll, 2012), which was published four years after the initial event and provides more elaborations and details of the case. These narratives by Dave Carroll enabled the understanding of how he interacted with other actors and how this developed over time. Forty three book reviews from 2012 to 2016 were also captured on Amazon.com (Amazon, 2012), which informed us of the opinions of the reviewers of Dave Carroll’s book, and how they have engaged in the case. In addition, two articles from business magazines and newspapers were also used as our data source to understand how UA shareholders, UA competitors and other companies became engaged in the case (Bernoff & Schadler, 2010; Tran, 2009).
Table 2. Data source for each actor or group of actors in the case

<table>
<thead>
<tr>
<th>Actor or group of actors</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YouTube</td>
</tr>
<tr>
<td>Dave Carroll</td>
<td>✓</td>
</tr>
<tr>
<td>UA</td>
<td>✓</td>
</tr>
<tr>
<td>Band</td>
<td>✓</td>
</tr>
<tr>
<td>UA loyal customers</td>
<td>✓</td>
</tr>
<tr>
<td>UA grudge-holders</td>
<td>✓</td>
</tr>
<tr>
<td>UA stockholders</td>
<td></td>
</tr>
<tr>
<td>Other airlines</td>
<td>✓</td>
</tr>
<tr>
<td>Taylor Guitars</td>
<td>✓</td>
</tr>
<tr>
<td>Book reviewers</td>
<td></td>
</tr>
<tr>
<td>Firms that invite Dave Carroll to give speeches</td>
<td>✓</td>
</tr>
</tbody>
</table>

These different sources of data enables triangulation and enhances the quality of the research (Dubois & Gadde, 2002; Yin, 2014). In addition, various perspectives outlined by different actors or groups of actors in these diverse data sources facilitate our research objective of exploring engagement from a multi-actor perspective. The concern regarding such a method is the time lag between collection and publication (Malhotra, 2014), but our case focuses on the process of the case development rather than on identifying emerging problems.

Figure 2 outlines the abductive research process of a case analysis and outcomes (Aarikka-Stenroos & Jaakkola, 2012; Dubois & Gadde, 2002). This iterative abductive process that confronts empirical evidence and theories provide explanations of the process of engagement among multiple actors and/or groups of actors. This enables us to develop a new, refined framework.
The data are analyzed based on changes in the components of the engagement and the mechanism underpinning these changes. In this case, Dave Carroll was the focal actor who engaged with multiple actors over time and space. Other engaging actors in this case included UA, UA shareholders, UA competitors, UA loyal customers, UA grudge-holders, Taylor Guitar Company, Dave Carroll’s band, reviewers of Dave Carroll’s book, and organizations which invited Dave Carroll to give speeches. By adopting a multi-actor perspective, our analyses were conducted on not only the interactions between the focal engaged customer – Dave Carroll – and other actors, but also the interactions among other actors in the network.

Following the guidance of the initial theoretical framework and the case phases shown in Table 1, data coding is done to generate the components of a multi-actor engagement process. We follow the qualitative data analysis method of data coding: open coding and axial coding (Charmaz, 2006). We analyzed and categorized the data, created tentative labels for data with similarities and then we identified relationships...
among the open codes. The additional concepts and categories emerged from the material, such as two actor-related elements, actors’ connections and value propositions.

4. Framework development

4.1 New framework

The abductive theorizing process drawing on the contemporary literature on engagement and United Breaks Guitars case leads to a new framework for the dynamic process of multi-actor engagement in the network. As with the initial framework, the new framework (see Figure. 3) has the components of engagement conditions and engagement properties, but the elements within the two components have been refined. The action formation mechanism in the initial framework is now referred to as ‘actors’ appraisals’. Table 3 displays the explanations of each component in the new framework. Finally engagement outcomes are treated explicitly, which leads to new engagement conditions for the next iteration.

Figure 3. The dynamic process of multi-actor engagement in the network
Table 3. Components of engagement among multiple actors in the network

<table>
<thead>
<tr>
<th>Components</th>
<th>Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engagement conditions</strong></td>
<td></td>
</tr>
<tr>
<td>Multiple actors</td>
<td></td>
</tr>
<tr>
<td>Actors’ connections</td>
<td>Actors’ temporal connections – connections that have emerged in the past, and which continue to influence the actors’ engagement at the current time. Actors’ relational connections – connections associated with actors’ social roles and positions.</td>
</tr>
<tr>
<td>Actors’ dispositions</td>
<td>Actors’ capacity to utilize their connections regarding their personal or collective interest (or both).</td>
</tr>
<tr>
<td>Value propositions</td>
<td>Value propositions reflect the resources that are available for others to draw upon.</td>
</tr>
<tr>
<td>Engagement platforms</td>
<td>Physical or virtual touch points designed to provide structural support for the exchange and integration of resources.</td>
</tr>
<tr>
<td><strong>Actors’ appraisals of …</strong></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>Intensity and valence of value propositions.</td>
</tr>
<tr>
<td>Actor-activity intensity</td>
<td>Connection-disposition alignment.</td>
</tr>
<tr>
<td>Actor-network intensity</td>
<td>Alternative engagement platforms.</td>
</tr>
<tr>
<td>Interaction intensity</td>
<td>Alternative engagement activities.</td>
</tr>
<tr>
<td><strong>Engagement dispositions</strong></td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>How long a specific engagement activity lasts and how long a phase lasts.</td>
</tr>
<tr>
<td>Actor-activity intensity</td>
<td>The number of actors or different groups of actors engaging in a certain activity.</td>
</tr>
<tr>
<td>Actor-network intensity</td>
<td>The number of actors or groups of actors engaging in the network during certain phases.</td>
</tr>
<tr>
<td>Interaction intensity</td>
<td>How active and intense the interactions in a certain engagement activity and in a certain phase are.</td>
</tr>
<tr>
<td>Modes and forms</td>
<td>Diverse multi-actor engagement behavioural expressions.</td>
</tr>
</tbody>
</table>

4.1.1 Engagement conditions

In line with Storbacka et al. (2016), our data indicate that engaging actors, actors’ dispositions, platforms, and engagement properties are the constituent components of the process of multi-actor engagement. Besides actors’ dispositions, two additional actor-related elements are identified to provide a more elaborated explanation of the process: actors’ connections and value propositions.

Engaging actors. In each phase a specific set or combination of engaging actors form the network. As Table 1 indicates, these actors encompass a variety of individuals and/or groups of actors. They include the consuming customer (Dave Carroll), non-consuming customers (YouTube viewers), employees (UA staff), a group of actors (the band, UA loyal customers and grudge-holders), and organizations (UA, its competitors...
and Taylor Guitar Company). Although interactions always occur among individuals, actors enter the network and engage at different levels – individual, group, organizational and societal level (Chandler & Lusch, 2015). For example, Dave Carroll engaged at the individual level; UA loyal customers engaged at the group level; and UA flight attendants engaged at the organizational level.

Among these groups of actors, some groups already existed before the case, such as UA, Taylor Guitar Company and UA competitors. On the other hand, some groups were spontaneous and become visible because of Dave Carroll’s case: informal groups such as UA grudge-holders and UA loyal customers. These previously scattered individual actors formed a group because they shared a common interest, or they had similar goals when engaging. For example, UA grudge-holders shared the same intention to ‘get back at UA’ and supported Dave Carroll for his deeds, as the following comments found on the YouTube video page demonstrate “... don't fly united airlines...”, “United deserves everything that this act gets them. I love this song and its message...” (Sonsofmaxwell, 2009). Unlike organizations, which are stable groups of actors that engage in the network, these temporarily built groups can be fleeting. For example, although UA grudge-holders supported each other in criticizing UA in phase 4, this actor group collapsed and can hardly be identified by phase 5 after the case had gradually slipped from view.

**Actors’ connections.** Connections between actors influence the ways those actors engage with one another in the network. Similarly to findings by Chandler and Lusch (2015), our data indicate that multi-actor engagement in the network is based on two types of external connections, actors’ temporal and relational connections. Actors’ temporal connections refer to connections that have emerged in the past, and which
continue to influence the actors’ engagement at the current time (Chandler & Lusch, 2015; Etgar, 2008), as the following demonstrates: “Beginning to see a pattern (after getting rejected by two flight attendants), I (Dave Carroll) immediately sought out a United employee in the terminal at tour arrival gate (Carroll, 2012, p. 7).”

In addition, when engaging in the network, actors take on different social roles by performing sets of practices that connect actors with one another (Akaka & Chandler, 2011). Social roles guide expectations for service exchange (Solomon, Surprenant, Czepiel, & Gutman, 1985) and thus result in social positions (i.e. a set of value-creating relationships or links connected to a particular actor) (Baker & Faulkner, 1991). Solomon et al. (1985) refer to such connections associated with actors’ social roles and positions as actors’ relational connections. The roles that the actors take influence the way the actors integrate resources and how they engage with one another in the network. In phase 4 when a wide range of audiences engaged online, some of the audiences interacted with one another in a way that are hostile to UA, and thus these actors took on the role of UA grudge-holders. For example, one viewer posted “I just need to say thank you, from the bottom of my heart, for this song... I have never in my life met a more heartless and indifferent group of people (UA)... That was the first and last time I will ever fly United Airlines...it still made me feel so much better. I needed this...” (Sonsofmaxwell, 2009). In response to this post, another viewer was supportive and posted “That's awful!! What did they do ...”(Sonsofmaxwell, 2009). In this way, online posters created their social positions, which depict the relational connection with Dave Carroll, other UA grudge-holders, and with UA itself.

These two types of connections can sometimes be intertwined because relationship among actors also carries a temporal dimension. Take the instance of
connections between UA grudge-holders and UA. The connections among the grudge-holders emerge by way of the roles they took as revenger-seekers against UA, because of previous frustrating experiences with the airline. However, the main distinction lies in that actors’ temporal connections require a prior experience whereas actors’ relational connections are emergent at the current time. For example, after Taylor Guitar Company entered the network, they took on the role of Dave Carroll’s guitar provider and supporter. Taylor Guitar and UA had no previous interactive experience and were in very different industries – guitar manufacturing company and transportation service provider. This case formed the relational connections between Taylor Guitar and UA.

*Actors’ dispositions.* As described in the initial framework, actors’ dispositions are defined as actors’ capacity to utilize their connections regarding their personal or collective interest (or both) (Emirbayer & Goodwin, 1994). Building on this definition, our findings suggest that actors’ dispositions primarily associate with actors’ goals, desires, and needs. The goals can be personal as well as collective. As explained earlier, actors form a group when they share the same interests or goals in terms of engaging in the network. Actors’ dispositions influence how actors choose to draw on their individual or group members’ connections as resources (Akaka & Chandler, 2011), and choose when and how to engage. Therefore, actors with different engagement dispositions will choose to engage with other actors differently. In phase 2, Dave Carroll had the goal of asking UA for a compensation claim, and he thus interacted with UA. He chose to engage with UA in a dyadic way rather than to involve other actors. By phase 3, Dave Carroll had the goal of sharing his UA customer service experience with a wide audience on YouTube. As he states in his book, his goal “was to reach one million hits with all three videos combined in the next year (Carroll, 2008).” He spent resources of time, energy and money to engage with his band in order to create the
revenge video. He chose different engagement platforms and engaged in activities that were hostile to UA.

**Value propositions.** Actors possess different resources (time, effort, skills, knowledge, relationship/connections with others etc.). Once they are motivated to attain value by serving one another in the network, they engage in service-for-service exchange and integrate their resources. However, actors’ resources are not always explicit to others. Actors exhibit their resources by expressing their value propositions, usually through activities (Payne, Storbacka, & Frow, 2008). Value propositions reflect the resources that are available for others to draw upon, which helps to coalesce various actors of individuals, groups, organizations and society (Webster and Lusch, 2013). Thus value propositions are defined as an actor’s invitations for other actors to engage (Chandler & Lusch, 2015).

Moreover, actors’ value propositions could be explicit invitations to others (Chandler & Lusch, 2015). For example, Taylor Guitar Company expressed their value proposition by offering support to Dave Carroll with two free guitars. Also, actors’ value propositions could be implicit, perceived invitations by others to engage in order to attain value, whether economic, financial or social value, or some combination of those (Emerson, 2003). In phase three of our case, Dave Carroll uploaded video songs onto YouTube and exposed his experience to the public. UA grudge-holders, who needed to vent their negative emotions (perceived psychological value) and get support (perceived social value), understood Dave Carroll’s video as explicit value propositions. By contrast, in phase 4 Taylor Guitar Company, not one of Dave Carroll’s anticipated actors, perceived the video as implicit invitations to engage in the network as the company saw potential benefits in the engagement.
**Engagement platforms.** Over the sequential case phases, actors engaged with one another on different platforms. For example, in phase 1, engagement occurred during face-to-face communication between Dave Carroll and UA attendants in an airport. In phase 2, engagement occurred through phone calls and emails between Dave Carroll and UA baggage centers. Engagement then moved online to YouTube in phases 3 and 4, during which the engagement network expanded to its most extensive stage with the largest number of groups of actors in the network.

4.1.2 Actors’ appraisals

The process that leads from engagement conditions to properties is the appraisal that actors undertake. The data indicate that the appraisals includes four aspects: the appraisals of the intensity and valence of value propositions, the appraisals of the alignment between actors’ connections and dispositions, the appraisals of alternative engagement platforms, and the appraisals of the alternative engagement activities.

**Appraisals of the intensity and valence of value propositions.** Value propositions serve as the invitation for actors to engage. After receiving such an invitation, actors evaluate whether a value proposition from another actor is attractive, acceptable or practical for them. Actors are embedded in a pool of value propositions, and must choose the most suitable ones. “...instead of going to New York City, Julian and I (Dave Carroll) flew to California at the invitation of Taylor Guitar to tour their factory in El Cajon...”(Carroll, 2012, p. 59)

Similarly to value, value proposition is always uniquely and phenomenologically determined by each actor (Vargo & Lusch, 2008). The more relevant the invitation is perceived to be, the higher the intensity of the value proposition is (Chandler & Lusch, 2015), and the more likely actors will accept this invitation and
engage in the network. The case of *United Breaks Guitars* indicates that the relevance and intensity of the value propositions are associated with actors’ evaluation of how much value can be created or attained. In phase 4, for example, Taylor Guitar Company, chose to give generous offers to and engage with Dave Carroll, rather than with any other person amongst their massive customer base, because that value proposition was perceived as the most appealing and the company could expect to attain the most value. On the other hand, if an actor’s value proposition is perceived as of low intensity, other actors will not accept the invitation; they may either choose not to engage with this actor or cease their current engagement in the network. For example, UA did not respond to Dave Carroll’s final claim in phase 2 because they perceived his value proposition as being of low value. In a more extreme case, if the value propositions from all other actors in the network are perceived as not relevant, the actor may decide not to enter the network or to leave the current network. For example, as the actor engagement in phase 5 faded in, not as many actors engaged in the network because some of them may have lost interest.

Value propositions are not always perceived as beneficial; they could also be perceived as destructive. For example, when Dave Carroll uploaded the first YouTube video song in phase 3, UA perceived his value proposition as a threat that could harm UA’s brand and offered compensation with the intention of mitigating the online turmoil. Rather than creating value for UA, Dave Carroll crafted his value proposition as to destruct value of UA. In this sense, his value proposition was not perceived as a typical invitation, but more like a challenge for UA. UA chose to engage with Dave Carroll by offering compensation. The intended outcome of this engagement was not to (co-)create value; rather, it aimed to prevent further destruction of value.
Appraisals of the alignment between actors’ connections and dispositions.

Actors accept and evaluate the value propositions from the other actors, and decide whether the other actors’ connections align with their own dispositions. Connections are largely neutral on their own and they only become meaningful once they are utilized based on actors’ dispositions (needs, desires and goals) (Chandler & Lusch, 2015). If they are aligned, then actors will get engaged; whereas if they are misaligned, actors will choose not to engage, but to give up on the value proposition of the other actors. For example, Taylor Guitar Company had the goal of gaining more customers and spreading positive word-of-mouth to a wide audience. Dave Carroll was a loyal customer of Taylor and thus the relational connections between the two actors aligned with Taylor’s dispositions, and the engagement between them could emerge. “Taylor had certainly enjoyed some positive attention thanks to the video… and show[ed] their gratitude with not one but two incredible gifts (Carroll, 2012, p. 59).”

Appraisals of alternative engagement platforms. Embedded in a pool of alternative engagement platforms, actors choose to engage on certain platforms rather than others for various reasons. First, a certain engagement platform is designated by other actors. In the United Breaks Guitars case, UA designed its communication channels with customers to be by means of phone calls and emails, rather than through face-to-face communication or instant online chat with UA staff; and customers making compensation claims were limited to those platforms.

Second, actors may have only a limited platform choice because they lack the ability to access other platforms. In the United Breaks Guitars case, people without access to YouTube could not engage with Dave Carroll or other online viewers through that platform, and were limited to other platforms – telephone or letters – to engage.
Third, a particular platform will have attributes more compatible with the engaging actors, their dispositions and associated engagement properties. Based on the configuration theory (Meyer, Tsui, & Hinings, 1993; Miller, 1996; Vorhies & Morgan, 2003), elements (engaging actors, engagement platforms and engagement properties) will reinforce one another if the value of one element depends upon the presence of another element. For example, compared with physical interactions or emails, YouTube is more compatible with such a large number of viewers and engaging actors. The increase in numbers of actors who are engaged will increase the value of a platform and thus generate engagement network effect (Storbacka et al., 2016b). Even a giant corporation like UA could suffer from public embarrassment and ensuing stock price falls because of the power of this platform and its engagement network effect.

*Appraisals of the alternative engagement activities.* Different engagement activities generate different outcomes for the engaging actors (as will be discussed in the next sub-section titled engagement properties). These outcomes differ in terms of attained value and the scope of their influence. Actors with various dispositions will evaluate which activity is possible for them, which one can be used to derive the most value for them, and which can best serve their engagement goals. “If I were a lawyer, I might sue United (UA), but as a songwriter, I had other tools at my disposal (Carroll, 2012, p. 20).” Among all of the possible activities that Dave Carroll could have taken on to fulfill his goals, he chose to create songs and make entertaining YouTube videos, which he was skilled at and which had the potential to reach the most people.

4.1.3 Engagement properties

The data indicate various engagement activities and properties that can be observed in the exploratory case. Different to Storbacka et al.’s (2016) conceptualisation of engagement properties as three general engagement properties –
temporal, relational and informational characteristics – our empirical findings aim to provide more grounded conceptualisations. Our findings on engagement properties do not conflict with theirs; rather, we supplement the previous literature by providing more concrete and practical understandings of engagement properties. These include the duration of an activity and of a phase, actor-activity and actor-network intensity, the intensity of interactions in an activity and in a phase, and modes and forms.

‘Duration’ refers to two aspects: how long a specific engagement activity lasts and how long a phase lasts, and both may vary in length. Duration may generate different effects on the process of engagement. An engagement activity with a longer time frame will increase the possibility for more actors to become engaged in the network, for the activity to intensify and strengthen, and for building more relational connections with engaging actors. A longer period also indicates a continuous input from the engaging actors. For example, the creation and uploading of the United Breaks Guitars video song trilogy on YouTube over the eight months from July, 2009 to March, 2010 required a large resource commitment from Dave Carroll and his band, and attracted millions of hits, and hundreds of letters and phone calls (Carroll, 2012).

Actor-activity intensity refers to the number of actors or different groups of actors engaging in a certain activity. The actor-activity is high when the number of actors or groups of actors is high, and vice versa. For example, in the activity of firms inviting Dave Carroll to give speeches in phase 6, the engaging actors are Dave Carroll and firms offering invitations. In contrast, through circulating the video online, millions of viewers as well as UA competitors became engaged. Another engagement property is actor-network intensity, which refers to the number of actors or different groups of actors engaging in the network during certain phases. Some actors may be in the network at certain phases, but may not engage in the particular activities. For example,
in phase 4, UA shareholders engaged only in the activity with UA when UA’s stock price plunged, but not in other activities such as those where Taylor Guitar Company and UA’s competitors made attractive offers to Dave Carroll.

Interaction intensity refers to how active and intense the interactions are in a certain engagement activity and in a certain phase. When engaging in certain engagement activities or in a phase, actors may exhibit different levels of intensity of interactions. Actors are more likely to become active and interact with one another more frequently when particular triggers occur, but after a time may lose the interest and the interactions may plunge or even cease. This is seen especially when an online backlash peaks following an event perceived as negative and fades some time later. Different interactions may generate intensities of engagement within the network (Brodie et al., 2011). The higher the interactional intensity is, the stronger the influences of the engagement that may be generated.

Similarly to the findings about the behavioural manifestations of engagement (Jaakkola & Alexander, 2014; van Doorn et al., 2010; Verleye et al., 2014), our data analysis reveals the diverse modes and forms of actors’ behavioural expressions. These include face-to-face communications, blogging, writing letters, making phone calls, writing comments on YouTube, and posting book reviews on Amazon. Of particular interest are the modes and forms of engagement properties when the engaging actors conform or contradict the institutions and institutional arrangements that exist within the network. Such institutions and institutional arrangements reflect symbols, rules, and norms (Vargo & Lusch, 2016). In engagement activities, where all actors follow the institutions and institutional arrangements, the engagement outcome will more likely match their expectations because they know what they can gain from the engagement that is under certain agreed rules and norms. All actors will more likely gain value out
of the engagement. By contrast, when not all actors conform to the institutional arrangement of a current system, their interactions will be more intense due to their conflicted expectations (e.g. in UA case in phase 1). Actors may spend more resources on appraisals. The forms of such activities would more possibly be chaotic and aggressive, with actors more likely to become negatively engaged and cause value loss or value (co-) destruction (Juric et al., 2016).

4.1.4 Engagement outcomes

The outcomes of engagement provide different stakeholders in the network with different values (Jaakkola & Alexander, 2014). How an engagement outcome is perceived depends upon actors’ dispositions. A multi-actor perspective reveals the complexity of engagement valence. For example, in phase 4, Dave Carroll took revenge against UA by uploading critical songs to YouTube. The engagement between Dave and UA aligned with his revenge goal, and thus he would see this engagement as positive engagement. Taylor Guitar Company had the goal (disposition) of leveraging this incident to promote their products, UA grudge-holders had the goal (disposition) of ‘getting back’ at UA and UA competitors had the goal (disposition) of promoting their services and increasing market share. For these actors, Dave Carroll’s engagement with UA was aligned with their goals, and thus they would also see Dave Carroll’s engagement as positive engagement.

In contrast, taking the perspective of UA and UA’s loyal customers, who had the goal (disposition) of maintaining a positive brand image and UA’s reputation, Dave Carroll’s engagement with UA would be regarded as negative engagement. It violated the dispositions of the actors. For these actors, Dave Carroll’s engagement with UA misaligned with their goals, and thus would be perceived negatively. For multiple actors
with diverse dispositions, this particular engagement could be interpreted differently, revealing ambiguity of the valence of actor engagement.

4.2 Iterative process of multi-actor engagement

The previous sub-section demonstrates the components embedded and interlocked in the process of multi-actor engagement: engaging actors with various connections, dispositions and value propositions, and engagement platforms. All of them form the engagement conditions, which through any of four kinds of actors’ appraisals, lead to diverse engagement properties. Further data analysis using a process perspective identifies the engagement dynamics by revealing its iterative process where engagement outcomes of previous phases become the new conditions for the next phase that is outlined in Figure 3. We will demonstrate this iterative process using data related to the phases 1 and 2 of our case, discussing engagement components and how the iterative process occurs.

**Engagement conditions.** The actors involved at this stage of the case studied were UA flight attendants and Dave Carroll. Dave Carroll had satisfactory flight experiences before (temporal connection), and as a UA customer (relational connection), and he perceived UA’s service promise as delivering safe and pleasant service to customers (value proposition). UA failed to deliver on their promise by mishandling Dave Carroll’s beloved guitar (value proposition). Having seen this behaviour, Dave Carroll was concerned and decided to ask UA for an explanation as to why his luggage was damaged (actor disposition).

**Actors’ appraisals.** Dave Carroll associated deeply with his guitar and now perceived UA’s value proposition as negative and destructive (high intensity and negative valence of the perceived value proposition). Dave Carroll’s disposition of
asking for explanations aligns with his connection as UA’s customer and his previous consumption experience. He could have waited until arrival and made the compensation claim with luggage center, yet Dave Carroll chose to talk (engagement activity) to the UA staff face-to-face on the plane (engagement platform).

**Engagement properties.** Dave Carroll engaged with UA by communicating with three flight attendants (actor-activity and actor-network intensity, interaction intensity, duration). This communication (modes and forms) continued during the flight. UA’s poor performance with passengers’ luggage and their inattentive attitude failed to meet Dave Carroll’s expectations (violation of institutions and institutional arrangements).

**Engagement outcomes (new engagement conditions for the next phase).** Dave Carroll built new relational and created temporal connections with UA during this engagement. His goal changed from asking for explanations to claiming for compensation (actor disposition). His engagement activity of asking for an explanation shows his value proposition changing from his being a silent, obedient customer to being a customer actively seeking explanations and service recovery. The engagement platforms also changed, since he knew from this engagement that communication with flight attendants was not helping. He would wait to talk to UA airport staff upon landing.

Through the illustration of phase 1 and phase 2, the components of the engagement process and the dynamic and iterative nature of engagement can be seen. Actors’ appraisals lead to various engagement activities and outcomes. By means of such a process, the engagement conditions in the prior phase will be changed and will become the new conditions in the next phase, thereby forming an iterative process.
4.3 Evolution of engagement components and network evolution

The case data analysis indicates that over six phases detailed in Table 1, the number of engaging actors or groups of actors varies. Their associated value propositions, connections and dispositions also evolve, the engagement platforms differ, and the engagement properties change as well. Therefore the engagement components and the network evolve over time.

Over the phases we identify that actors’ engagement activities change over time. For example, UA was not attentive to Dave Carroll’s compensation claim in phase 2 and then became active in offering Dave Carroll compensation later. Since value proposition can be expressed through engagement activities, the explicit or perceived value propositions will change accordingly. UA’s value proposition, as perceived by Dave Carroll, changed from delivering safe and satisfying service in phase 1 to frustration with UA in phase 2 due to the company’s failure to take responsibility for mistakes.

The actors’ connections evolved over time. Actors took on particular social roles, and associated social positions when entering the network and engaging with certain actors. Once they leave the network and engagement ceases. In phase 4, some viewers on YouTube start to take on the roles of UA grudge-holders once they enter the network, by supporting Dave Carroll and criticizing UA. In addition, actors’ experience will accumulate as they engage; current engagement will become part of the experience in the past, and will influence the way actors engage in the future. They may remain silent for a certain period of time, yet they may be activated by another event and influence engagement as in a case of grudge-holders.
In addition, actor dispositions change over phases. Actors possess different engagement dispositions. However, their dispositions can vary over time as their perceived value propositions, their connections and the outcome of engagement change over phases. Consider Dave Carroll as an example. In phase 2 of our case example, he had the aim of asking UA for compensation; in phase 3, he wanted to seek revenge against UA by letting a large number of people know about his experience; in phase 4, his refusal of UA’s compensation offer showed explicitly that he no longer had the goal of compensation. In phases 5 and 6, Dave Carroll wrote a book, engaged with firms who wanted to share his expertise in customer service, and his goal had become gaining fame and reputation.

The other element that changed over time is the choice of engagement platform. For example, in phase 1, UA and Dave Carroll communicated face-to-face during his flight; in phase 2, the negotiation between UA and Dave Carroll occurred through phone calls and emails; in phases 3 and 4, Dave Carroll chose YouTube as the engagement platform.

Along with these changes in actors and engagement platforms, engagement properties also varied in the case studied because of the changes in engagement activities over time. For example, the intensity of interactions increases from phase 1 to phase 4, and then decreases in the following phase, and then increases again in the last phase.

Changes in each individual component lead to the overall evolution of the network as a whole. The underlying mechanism as to how changes in components of an engagement process relate to the overall evolution of the network is summarized as following.
First, actors outside the network may perceive the new value proposition being of high intensity so that they start engaging in the network. In our example, Taylor Guitar Company and UA competitors became aware of Dave Carroll’s value proposition in phase 4, so that these two groups of actors saw the opportunity and entered the network.

Second, existing actors in a network will reassess the changed value proposition to decide whether to continue their engagement. If the intensity of the perceived value proposition is no longer high, which means the invitation from the focal actor is no longer appealing; actors may choose to cease their engagement. For example, Dave Carroll’s invitation to engage was no longer as strong and appealing in phase 5, as the case waned and fewer people were active, and thus Taylor Guitar Company disengaged with Dave Carroll after phase 4 and left the network.

Third, the changed value proposition of focal actors will also affect the way other actors engage. If the perceived value proposition changes from positive or beneficial to negative and destructive, other actors may change their engagement dispositions or engagement activities in order to adapt to the change. Over the two phases, Dave Carroll’s engagement disposition changed from asking for compensation to seeking revenge against UA.

Fourth, actors take on certain social roles and associated social positions when entering the network and engaging with particular actors. They also bring in their connections into the current network. For example, when the first grudge-holder or the first UA competitor initiated actions, they will have acted as the conduit that linked with other grudge-holders and other competitors so that these actors also entered the network.
Fifth, when dispositions change over phases, actors will choose to engage with different actors or groups of actors, or they will engage in different activities, possibly on different platforms. As different platforms can reach different actors or groups of actors, change of platforms can thus connect with new actors or can exclude some existing actors. For example, when Dave Carroll’s disposition changed from asking for compensation in phase 2 to taking revenge against UA in phase 3, Dave Carroll changed his engagement platform from dyadic communication with UA to invite a wide range of actors or groups of actors on an online platform – YouTube. In this way, a wide range actors could be reached on the new platform and therefore result in the strong influence upon UA and on the network. These changes in platforms also affect the network evolution.

5. Discussions

5.1 Theoretical implications

Our contribution comes from being one of the first empirical studies to adopt a multi-actor perspective to examine how engagement evolves and spreads in a network. The abductive approach is used to refine an initial conceptual model to arrive at the final framework. Our research refines the current understanding of the process of action formation (Storbacka et al., 2016), and the behavioural and activity manifestation of actor engagement by providing more grounded explanations. We identified two additional actor-related elements (actors’ connections and value propositions) and engagement outcomes which become new conditions for the next iteration.
The findings from the study lead to five key contributions. First, we challenge customer-centric approach to examine the dynamic nature of engagement. This is consistent with recent research by Jaakkola and Alexander (2014) and Verleye et al., (2014). The multi-actor engagement perspective emphasizes the notion that engagement is not merely an individual, customer-only and isolated concept; rather engagement is continuous and interrelated with other actors in the network. Thus our study offers empirical support for the theoretical propositions on the understanding of various dimensions of actors’ interactions and service experience co-creation (Jaakkola et al., 2015). Actor groups can be fleeting. Some groups of actors exist before the engagement occurs (United Airlines), whereas others are newly formed due to the engagement process (UA grudge-holders) and can no longer be identified when the process fades from interest. Similarly to what is shown in business network studies (Coviello, 2005), actors constantly enter and leave the network, thereby driving network development and evolution.

Second, we identify four constituent components of the engagement process: engagement conditions, actors’ appraisals, engagement properties and engagement outcomes. Compared to Storbacka et al. (2016), the study revealed that within engagement conditions two new elements –actors’ connections and actors’ value propositions. For example we found that actors’ value propositions, as invitations to engage with one another in a network, vary in terms of intensity and valence. If the value propositions are perceived as highly relevant and positive to other actors, they will more likely engage in the network. Otherwise they may disengage or leave the network.
Third, our research finds the actors’ action formation process can be broken down into four types of appraisals that actors undertake during the process. These include the appraisals of: the intensity and valence of value proposition, the alignment of actors’ connections and dispositions, and alternative engagement platforms and properties. This process of actors’ appraisals leads elements in the engagement conditions to be integrated and transformed into engagement properties. Such a process resonates with the concept of ‘resourceness’ (Koskela-Huotari & Vargo, 2016), which reflects the potential of resources to enable goal achievement.

Fourth, the study highlights the iterative process where engagement outcomes from previous phases become new engagement conditions in the next phase. Through the mechanism of actors’ appraisals and engagement properties, the elements in the engagement conditions change and evolve into new sets of elements. Such new sets of elements then function as starting points for the next phase of engagement. These findings increase our understanding of the dynamic and iterative nature of engagement concepts indicated in the engagement literature (Bowden, 2008; Brodie et al., 2011; Brodie, Ilic, Juric, & Hollebeek, 2013).

Fifth, by taking a holistic network view, our study offers a multi-actor perspective to examine the engagement phenomena. This multi-actor perspective offers a new lens to facilitate the understanding of engagement valence at a network level. Our study highlights the complexity identified in the valence of engagement outcomes: the combination of both positive and negative engagement. The valence of actor engagement is not simply dichotomous as either positive or negative (Bowden, Luoma-Aho, & Naumann, 2016; Dolan, Conduit, & Fahy, 2016; Hollebeek & Chen, 2014). Rather, engagement valence can be ambiguous or paradoxical (Juric et al., 2016). Our
study thus contributes to conceptualizing the valence of actor engagement by demonstrating the complexity from a multi-actor perspective.

5.2 Practical implications

The findings of our study demonstrate the deconstructed and refined components of engagement, and the dynamic, iterative nature of engagement processes. This multi-actor engagement perspective emphasizes the notion that engagement is not merely an individual, customer-only and isolated concept; rather engagement is continuous and interrelated with other actors in the network. Our study highlights the need to understand and measure the process of engagement among groups of actors within a network. This includes measures of actors’ engagement properties (duration, actor-activity intensity, actor-network intensity and actors’ interaction intensity).

Networks are partly designed and partly emergent (Storbacka et al., 2016), and hence they cannot be completely planned by a focal actor. Various actors and groups of actors generate mutual influences on each other through engagement within the network. Our findings show that some of them are not typical actors in the service network, and some form a temporal actor group based on similar interests. Consider actors and actor groups that United Airlines engage in the case. During their interaction with Dave Carroll (customer), other actors such as other airlines (UA competitors), the group of UA grudge-holders (non-typical customers and temporarily-built actor group) and Taylor Guitar Company (non-typical actor in UA’s service network), generate substantial influence upon UA’s engagement in the network and the company’s value. This influence can be mirrored through UA’s stock price fall (by 10%) and their subsequent ‘proactive’ compensation offers to Dave Carroll. In this era of high
connectedness, firms, especially customer engagement managers, should take into consideration non-traditional stakeholders when it comes to customer engagement management and strategy development.

As suggested in the title of Dave Carroll’s book, *United Breaks Guitars: the power of one voice in the age of social media*, actors nowadays are able to empower themselves through social media in the networked world. Consider the customers as an example. They were traditionally considered as an actor with weak power when compared to a business organization. However, customers are no longer restricted into the roles of passive buyers of products and services, but engage with firms and other stakeholders to co-create products and service, craft value propositions, and make their voices heard through social media platforms. An angry customer could fight effectively against a giant corporate with a market value of a thousand million dollars. Therefore we suggest that firms should pay more attention to the management of engagement platforms, and be attentive to service failures and respond in a constructively and timely manner.

Attention needs to be paid to the engaging actors’ dispositions. As our findings suggest, actors’ dispositions associate closely with the way how they act and influence firms’ performance, and how they perceive the valence of the value propositions and engagement outcomes. Understanding the dispositions of actors will enable the planning for engagement properties that support actors’ goals (Storbacka et al., 2016). The multi-actor perspective yields the complexity of the valence of engagement at the network level: the combination of both positive and negative engagement. Hence, we suggest the need for an in-depth understanding of the dispositions (the needs, desires and goals) of the actors.
The combination of network actors’ interactions in a certain phase are the aggregated accumulated results of all previous network development. Every connection that occurred in the past, and every relationship that was built and developed over the previous phases, make a difference to the actors and their engagement in the network, thereby generating influence through a dynamic and iterative process. Accordingly, the study suggests the need to avoid the myopia of focusing on short-term events or context. Instead attention needs to be given to actors’ broader experience and resources, and investigate engagement phenomena from an eco-system perspective.

Actors choose to engage in certain activities based on their appraisals of engagement conditions, which generate a multitude of positive and negative engagement. Given the complexity of these engagement outcomes, this may incur a strategic risk. Hence, we suggest that when making strategic decisions, focal actors should incorporate the potential outcome of both positive and negative engagement in their trade-off evaluations.

5.3 Further research

The dynamic nature of engagement is a fundamental aspect of the conceptualisation of engagement (Brodie et al., 2011), and is essential in the networked business environment (Chandler & Lusch, 2015) hence further research focus needs to shift to the dynamics of engagement in the network setting.

Our exploratory case study is within the context of an online event associated with Dave Carroll’s service experience. We acknowledge this context may limit the generalizability of the findings. In the case of United Breaks Guitars, we identified various actors and actor groups, and different engagement platforms. In other contexts, the actors, their associated resources and the engagement platforms can be more
diversified. However, our exploratory case focuses on the dynamics and process per se. We see no reasons why the framework should not apply to any network of multiple engaging actors and actor groups. Thus future research is needed to explore dynamic process in a range of contexts.

We identified that engagement dispositions such as actors’ needs, desires and goals, which determines the outcome in terms of valence labelling (positive or negative engagement). However, as one of the constituent elements of actors’ dispositions, actors’ psychological states also influence the way actors’ appraise their engagement conditions. For example, an angry and frustrated customer who experiences a second failure in service recovery, is more likely to engage in activities that generate destructive effects to the service provider. Hence, future research could further explore the nature engagement dispositions and role in the engagement process.

This study shows that groups of actors could generate substantial influence on the engagement process. While some groups exist prior to an engagement, some others are formed due to their similar or shared interests. The case data did not allow investigation into how such groups build during the process of engagement. Thus future research could explore what factors influence such a group formation process and whether such a process can be influenced by actors in the network.

We have revealed that institutions and institutional arrangements influence the mode and forms of engagement activities to the extent that they may determine whether value could be generated or destroyed by the engaging actors. We suggest that this area, guided by S-D logic theoretical framing of institutions and institutional arrangements (Vargo & Lusch, 2016), merits more investigation. Future research issues include: the ways in which institutions and institutional arrangements guide and influence the
interplay between engaging actors and external contexts, and vice versa, how such interplay changes the existing institutions and institutional arrangements.

An important challenge for academics and practitioners is to operationalize engagement concepts. The new framework offer multiple challenges for this avenue of research. This includes the examination of relationships between the components of the process (e.g. type of appraisals and properties or outcomes) and within components (e.g. between actors’ dispositions and value propositions). The role of valence in engagement theorizing also merits more attention and needs to be considered when developing scales and measurement for engagement concepts.
CHAPTER 2: ACTOR ENGAGEMENT VALENCE: CONCEPTUAL FOUNDATIONS, PROPOSITIONS AND RESEARCH DIRECTIONS

1. Introduction

Within an interactive, dynamic and increasingly networked business environment, customers, as well as other actors – employees, suppliers, community members, firms or social groups – continually interact and engage with one another in the network. Accordingly, the concept of engagement has attracted wide interest from both business practitioners and academics in the past decade (Bowden, 2009; Brodie et al., 2011; Chandler & Lusch, 2015; Jaakkola & Alexander, 2014; van Doorn et al., 2010). While traditional engagement studies focus on the dyadic and customer-centric perspective, recent engagement studies extend to a system perspective, where the concept of actor engagement emerges (Brodie et al., 2016; Storbacka et al., 2016). Actor engagement is defined as “both the actor’s disposition to engage, and the activity of engaging in an interactive process of resource integration within a service ecosystem” (Storbacka et al., 2016, p. 3009). It reflects the interconnections within service systems (Brodie et al., 2016), and provides a multi-actor perspective of the dynamic, iterative processes of engagement among diverse networks of actors (Li et al., 2017).

With the development of engagement theory, valence emerges as one of the key dimensions underlying the engagement concept, and it is recognised as one of the research imperatives for understanding and refining the concept of actor engagement (Storbacka et al., 2016; Brodie et al., 2016). The term “valence of engagement” was first coined in van Doorn et al.’s (2010) research to reflect the range of positive and negative...
engagement, and is considered to be a key determinant of engagement behaviours (Brodie et al., 2011; Hollebeek & Chen, 2014) in terms of their behavioural directions (Bowden et al., 2015), properties and forms (Li et al., 2017), and outcomes (Juric et al., 2016).

Positive engagement is associated with pleasant feelings and positive evaluations of the engagement object or actor, during active, interactive service experience (Brodie et al., 2011; Vivek et al., 2012), and can manifest in observable engagement behaviours such as repurchase (Jahn & Kunz, 2012), compliance and cooperation (Verleye et al., 2014), advocacy (Kumar et al., 2010) and altruistic behaviours (Hsieh & Chang, 2016). Thus positive engagement is also posited to represent a strategic imperative for an enhanced value co-creation experience (Prahalad & Ramaswamy, 2004), improved innovation capabilities (Frow et al., 2015), and superior competitive advantage (Kumar & Pansari, 2015).

On the other hand, negative engagement is associated with unpleasant feelings and negative appraisals of the engagement object or actor, during interactive service experience (Juric et al., 2016), and can manifest in complaints (Naumann et al., 2017), negative word of mouth (WOM) (Hollebeek & Chen, 2014), boycotts (Lee et al., 2009) or revenge (Grégoire & Fisher, 2008). Negative engagement can also sometimes attract unexpected, non-traditional actors outside the focal service network to become connected and they may offer the opportunity to create new networks or join the existing networks (Li et al., 2017). This engagement can lead to value co-destruction or diminishment of the well-being of actors (Smith, 2013), poor financial and non-financial performance (van Doorn et al., 2010), and negative sentiments and turmoil online (Juric et al., 2016).
To date, however, research that studies or refers to the valence of actor engagement lacks comprehensive understanding, and remains fragmented and scant (Li et al., 2017; Naumann et al., 2017). Engagement studies have focused predominantly on the positive side of engagement (Baldus et al., 2015; Dessart et al., 2015; Hollebeek et al., 2014; Leckie et al., 2016; Vivek et al., 2012), and have neglected the ‘dark’ side. Further, studies which have attempted to define positive and negative engagement have been lacking in sufficient theoretical understanding of the valence of actor engagement and consistency in conceptualising it (Bowden et al., 2015; Hollebeek & Chen, 2014; Juric et al., 2016). The definitions vary regarding the nature of the valence of engagement (both positive and negative), and thus lack a consistent understanding of actor engagement valence.

In addition, research about the valence of engagement has focused on customer engagement, which is a specific form of actor engagement (Brodie et al., 2016). The studies that focus on the interactions between the engaging customer and an engagement object (brand, service, product, etc.), inform us of the understanding of customer engagement valence, but fall short of understanding how engagement valence is influenced and spread among multiple actors in a network. Therefore, the purpose of this study is to conceptualise actor engagement valence in networks.

Drawing from the extant conceptualisations of actor engagement (Storbacka et al., 2016; Brodie et al., 2016), this research applies the theoretical lens of service-dominant logic (S-D logic; Vargo & Lusch, 2008, 2016) to explore actors’ engagement within networks. This study goes beyond the customer-centric and dyadic perspective to take into account actor-network factors such as actors’ connections (Chandler & Lusch, 2015), value propositions (Frow et al., 2014) and institutions within systems
(Vargo and Lusch, 2016). This research also analyses the relationship between the valence of actors’ engagement dispositions and their engagement behaviours, and how this relationship interacts with the institutions within networks.

To develop propositions that lay the theoretical foundations for actor engagement valence, literature reviews of studies in the psychology, marketing and service disciplines have been conducted. The study adopts a propositional conceptual approach, and provides four sets of propositions, clarifying that valence resides in actors’ psychological dispositions; identifying the individual and network antecedents of actors’ dispositions; addressing the relationship between actors’ dispositions and engagement behaviours; and demonstrating the dynamic nature of actor engagement valence. Finally, the study outlines an agenda for future research, establishing that further investigation into the nature of actor engagement in networks or systems is merited.

The paper proceeds as follows. Section 2 outlines the background of research into engagement and the valence of engagement in actor networks. Section 3 explores the conceptual foundations of valence and then reviews studies of the valence of engagement in the marketing and service disciplines. In section 4, a set of propositions is developed, which contributes to scoping the conceptual domain of actor engagement valence. Section 5 arrives at a set of implications and an agenda for future research.
2. Theoretical background

2.1 Evolving engagement theory: from customer to actor engagement

In the fields of marketing and service, engagement studies have focused initially on customer engagement (Brodie et al., 2011; Kumar et al., 2010; Patterson et al., 2006; Verhoef et al., 2010; Vivek et al., 2012). The seminal work by Brodie et al. (2011) demonstrates that the concept of customer engagement has its conceptual roots in service-dominant (S-D) logic, which resonates with the dynamic and interactive nature of the engagement concept. These authors define engagement as a multi-dimensional construct (emotional, cognitive and behavioural) (Brodie et al., 2011). Engagement defined in this way distinguishes the concept from other similar relational concepts such as ‘participation’ and ‘involvement’. It also captures both the underlying psychological mechanisms of customers’ thoughts and feelings and the observable behavioural manifestations such as WOM (Gebauer et al., 2013) and altruistic behaviours (Hsieh & Chang, 2016).

Other studies of customer engagement pay attention to specific dimensions of engagement or engagement within a specific context. These studies have led to a number of concepts, which include “customer engagement behaviours” (van Doorn et al. 2010; So et al. 2014; Jaakkola and Alexander, 2014; Verleye et al. 2014; Groeger et al. 2016), “consumer engagement” (Brodie et al., 2013), “consumer brand engagement” (De Vries and Carlson, 2014; Gambetti et al., 2011; Rana and Dwivedi, 2016; Seo et al., 2017; Solem and Pedersen, 2016), “customer brand community engagement” (Gummerus et al., 2012), “service technology engagement” (Bolton & Saxena-Iyer, 2009), “advertising engagement” (Phillips & McQuarrie, 2010) and “brand engagement in self-concept” (Sprott et al., 2009).
While their study focuses on customer engagement, Brodie et al. (2011) also suggest that customer engagement occurs within a broader network of different actors, and indicate the mutual influences among the customers and other network actors. By taking such a system perspective, the stream of research of customer engagement is able to broaden and take into account the influence of others in a network of multiple stakeholders or actors (Jaakkola et al., 2015). For example, Verleye et al. (2014) demonstrate – in the nursing home sector – how customer engagement influences the engagement of other stakeholders.

Recently, S-D logic and service scholars have taken a step further, and questioned the usefulness of pre-designated roles such as producers and consumers (Finsterwalder, 2016); suggesting the use of the more general term of “actors” (Chandler & Lusch, 2015; Storbacka et al. 2016). This means that the concept of engagement becomes all-inclusive and can be applied to all of the different types of human actors present in a service ecosystem (Jaakkola & Alexander, 2014). Thus, from the system and actor-network perspective, customer engagement is seen as a specific form of actor engagement (Brodie et al., 2016). Therefore, insights from dyad-focused customer engagement literature remain relevant for our understanding of the nature and process of actor engagement (Brodie et al., 2016).

The shift from the customer-centric and dyadic perspective to a network and actor perspective emphasises that actors, including employees, community members, online users, social groups and organisations (Chandler & Vargo, 2011), can be engaged in many-to-many service experiences at various points in time and place (Chandler & Lusch, 2015). In their paper, Chandler and Lusch (2015) explain how and why actors, unintentionally or subconsciously, engage or disengage with each other in service
systems. Storbacka et al. (2016) explore how actor engagement dispositions lead to observable engagement properties, thereby providing the theoretical foundations for a value co-creation concept. Building on Chandler and Lusch (2015) and Storbacka et al. (2016), Li et al. (2017) develop a framework of multi-actor engagement where they propose that multiple actors’ dispositions, connections and value propositions, as well as the engagement platforms themselves, form the conditions for engagement, and through actors’ appraisals, lead to various observable engagement activities.

Common to all of the conceptualisations in this area is the notion that actor engagement is an interactive, co-creative process in which the actor’s internal disposition is a central condition for engagement activities. Dispositions refer to an actor’s “internal proclivities, or psychological states” (Emirbayer & Goodwin, 1994), which correspond to the combination of both the ‘emotions’ and ‘cognitions’ dimensions in Brodie et al.’s (2011) definitions of customer engagement. Connections correspond to the temporal and relational environment of exchange (Chandler & Lusch, 2015). Actors with a range of possible dispositions, sense, respond to, and draw upon these connections (Hall, 1976; Holloway & Hancock, 1969), which leads to various modes of engagement activities such as giving recommendations and complaining associated with WOM.

Drawing on S-D logic, actors can be described as engaging with one another in resource integration activities to co-create value. Underlying this interactivity is the pivotal role of value propositions as explicit and implicit invitations from actors to engage (Polaine, 2010; Li et al., 2017). Seen from an ecosystem perspective, the role of value propositions goes beyond the offering of resources to the shaping of how the resource integration among different actors occurs (Vargo & Lusch, 2016). Actors are
seeking to fill resource gaps, and respond to value propositions that provide valuable resources (Frow et al., 2014). In this way, value propositions play an important role in determining which actors will engage within the ecosystem and how resources are shared between them (Payne et al., 2008).

2.2 Valence of engagement in actor-networks

As discussed in the introduction, the focus of current engagement studies is on the ‘bright’ side of customer engagement (Baldus et al., 2015; Dessart et al., 2015; Hollebeek et al., 2014; Leckie et al., 2016; Vivek et al., 2012). In contrast, the topics of negative engagement and the complexity of the valence of engagement tend to be listed as areas for future research (Dessart et al., 2015; Hollebeek et al., 2014; Jaakkola and Alexander, 2014; Verleye et al., 2014). The limited scholarly attention to the ‘dark’ side of engagement and the multi-actor perspective, and thus the lack of an overall picture, results in an incomplete understanding of the valence of engagement.

Corresponding to the customer-centric and dyadic perspective in earlier engagement literature, some scholars have discussed positive and negative customer engagement (Bowden et al., 2015; Hollebeek & Chen, 2014; Juric et al., 2016). For example, the pioneering work of van Doorn et al. (2010) on customer engagement behaviours proposes that valence (positive or negative) is one of the key dimensions of engagement, and indicates that the valence of customers’ engagement behaviours closely associates with engagement consequences. If the outcome (financial or nonfinancial, short or long term) of the customer’ engagement behaviour is beneficial to the firm, then it is deemed to be positive engagement behaviour; otherwise it is negative engagement behaviour (Brady et al., 2006; van Doorn et al., 2010).
However, the application of the system perspective contributes to demonstrating that a certain actor’s engagement behaviour can result in a change in value as experienced by other stakeholders in the ecosystem (Jaakkola & Alexander, 2014), and can sometimes be beneficial for one actor but detrimental for another (Smith, 2013; Brodie et al., 2013). The valence of actor engagement may be influenced by multiple actors in the system. In particular, the system perspective helps to clarify how actors’ value propositions – invitations by others to engage in actor-networks – and the valence of engagement influence both the process of engagement among multiple actors in the network and the network’s evolution (Li et al., 2017).

Moreover, actors joining such interconnected networks can be expected to share standards and institutional norms within the network. These standards and institutions may influence the way they engage with one another regarding the valence of engagement. Actors’ engagement may also, through the normalisation processes, shape the routines embedded in existing, socially patterned, knowledge and practices (May & Finch, 2009), and thus reformulate the standards or norms in the system (Vargo & Lusch, 2016). Thus, by providing a means to consider the network or system in a more nuanced way, the network or system perspective contributes to understanding the nature of actor engagement valence.

The complexity of the valence of actor engagement also involves the relationship between positive engagement and negative engagement. Some studies indicate that actors may be both positively and negatively engaged at the same time. For example, a study of online consumer behaviours shows that trust (positive attitude) and distrust (negative attitude) may coexist (Moody et al., 2014), thereby resulting in what Kaplan (1972) refers to as ‘ambivalence’ of engagement. Another study in the context of social
networking websites found that technology-related addictions may reinforce users’ enjoyment; however, addicted users may also find it devastating to live with their ‘bad habit’ (Turel & Serenko, 2012). Studies on service recovery also indicate that the valence of an actor’s engagement may change over time. For example, a satisfied, positively engaged customer voices his or her disappointment (negative engagement) because of a service failure, but may become more positively engaged than before as a result of experiencing an excellent service recovery (de Matos et al., 2007).

The next section explores the conceptual roots of actor engagement valence. In particular, this section examines the etymology of the word ‘valence’ and explores its psychological roots. The differing psychological conceptualisations of the valence of engagement are expected to supplement and inform this analysis of the valence of engagement in the marketing and service fields.

3. Foundations of actor engagement valence

3.1 Psychological foundations of valence

The etymology of ‘valence’ shows that it derives from the Latin noun *valentia*, which refers to ‘strength, capacity’. The English word ‘valence’ (or ‘valency’), as well as its equivalent in other languages (*valence, valenza, valentia*, etc.), is used in various disciplines including chemistry, linguistics, pharmacology and psychology (Colombetti, 2009). Valence in chemistry refers to the power of atoms; in linguistics, valence refers to the number of arguments controlled by a verbal predicate. By contrast, in psychology, valence refers to the positivity and negativity associated with an object, expressed as individuals’ emotions, cognitions, and evaluations of behavioural directions.
(Colombetti, 2009). Hence, the nature of psychological valence is always related to the individual, psychological level.

Research about valence in psychology can be traced back to Tolman (1932) and Lewin (1935). These authors define valence as ‘invitation-characters’ of objects regarding their ‘attracting or repelling forces’, which determine the direction of the behaviour. They propose that valence resides within objects and that objects have intrinsic positive (attractive) or negative (aversive) forces. Of note is that, in the psychology domain, the term ‘objects’ is used in a broad sense, to include environmental contingencies, stimuli, pictures, words (Cacioppo & Berntson, 1994), film clips (Davidson, 1998), perceptions (Lang et al., 2000), events (Bradley & Lang, 2000) and situations (Frijda, 1986).

After Tolman (1932) and Lewin’s (1935) introduction of object valence, valence has been conceptualised in various ways. One of the key changes in conceptualising valence is that the focus of subsequent studies is given to individuals’ emotions, cognitions and more particularly evaluations (Colombetti, 2009). Studies show that positive or negative valence depends on the individual’s hedonic responses regarding experiencing pleasant or unpleasant emotions (Wundt, 1907; Titchener, 1908). For example, happiness, joy and fulfilment are seen as positive; whereas anger, fear and sadness are seen as negative (Cacioppo & Berntson, 1994; Davidson, 1998; Frijda, 1986).

Valence is also defined as the individual’s evaluation of what is good or bad (Ben-Ze’ev, 2000). The evaluation or appraisal can be made on multi-faced aspects (Shuman et al., 2013) such as: 1) the evaluation of whether the consequences of one’s action are desirable or undesirable (Izard, 1991); 2) the evaluations of whether an event
is morally and ethically good or bad (Shuman et al., 2013; Picard, 1997; Dreyfus, 2002); 3) the evaluation of whether the outcome aligns with the goal (Dyer, 1987); and 4) the evaluation of whether the consequences are relevant for the self or for other people (Ortony et al., 1998).

Studies in behavioural valence also suggest that valence resides in an individual’s behaviours in terms of the direction of responses. For example, Schneirla (1959) proposes that positive valence refers to approaching, retaining, tolerance and acquisition and that negative valence refers to withdrawal, escape and refusal. However, Lewin (1935) suggested that the behavioural directions should be interpreted in a subjective sense rather than by the ‘physical’ directions – that is, it is the individual’s evaluations of the behaviours that determine their valence. Lewin’s (1935) perspective of behavioural valence aligns with the studies of evaluation valence.

3.2 Valence of engagement in marketing and service literature

The objective of this section is to gain more insights into the ways current literature has discussed the valence of engagement. This study synthesises the literature, and, together with the findings from the psychology domain, identifies themes that help to formulate the propositions and build the conceptual foundations for the valence of engagement. To identify the most relevant articles in the marketing and service discipline that centre on the discussion of the valence of engagement, a search was done on several interdisciplinary databases: ProQuest, EBSCOhost and Scopus. Details of the database search and the article selection criteria for this systematic literature review are summarised in Table 1.
Two sets of keywords were used: 1) *engag* and *valenc*; or 2) *disposition* and *valenc*, and the distance between the two terms was set to be ten words or less. The range of ten words was chosen in order to exclude articles that were less relevant. The searches performed in the three databases returned 509, 32 and 276 articles respectively. All of these articles were then assessed to select those that were peer-reviewed, academic journal articles that were within the subject areas of marketing and service (criterion 1), and relevant to a discussion of the valence of engagement or valence of dispositions (criterion 2). The final count of the number of relevant articles was seven. Three book chapters and two forthcoming journal articles associated with the discussion on the valence of engagement were also identified. Thus, twelve studies have been analysed to help to provide insights into the nature of the valence of engagement. Table 2 presents the summary of the definitions and discussions of these studies.
Table 2: The valence of engagement from marketing and service literature

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Authors and sources</th>
<th>The valence of engagement</th>
<th>Valence dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual</td>
<td>van Doorn et al. (2010)</td>
<td>• Positive (negative) customer engagement refers to behaviours that have positive (negative) consequences to the firm.</td>
<td>Behaviour valence Outcome valence</td>
</tr>
</tbody>
</table>
| Exploratory | Hollebeek and Chen (2014) | • Positive (negative) customer brand engagement refers to favourable (unfavourable) emotions, cognitions and behaviours within customer-brand interactions, and is triggered by things associated with the focal engagement brand.  
• Customers’ positive (negative) emotional and cognitive engagement, lead to positive (negative) engagement behaviours, and result in favourable (unfavourable) outcomes for the customers. | Trigger valence Emotion valence Cognition valence Behaviour valence Outcome valence |
| Exploratory | Bowden, Gabbott and Naumann (2015) | • When the direction of customer engagement behaviours is withdrawal, it is described as negatively valenced engagement, which is triggered by stimuli such as trauma or disturbance. | Trigger valence Behaviour valence |
| Conceptual  | de Villiers (2015) | • This study follows Hollebeek and Chen’s (2014) definitions of the valence of engagement. | Trigger valence Emotion valence Cognition valence Behaviour valence Outcome valence |
| Exploratory | Bowden, Lumma-Aho and Naumann (2016) | • This study follows Hollebeek and Chen’s (2014) definitions of the valence of engagement. | Trigger valence Emotion valence Cognition valence Behaviour valence Outcome valence |
| Exploratory | Juric, Smith and Wilks (2016) | • Negative customer brand engagement refers to both the psychological states and process (including emotions, cognitions and behaviours), and is triggered by perceived threats to self.  
• Negative customer brand engagement results in an intended negative value for the brand and positive value for the focal customer. | Trigger valence Emotion valence Cognition valence Behaviour valence |
| Exploratory | Dolan, Conduit and Fahy (2016a)  
*Book chapter from Customer Engagement: Contemporary Issues and Challenges* | • Positive social media engagement refers to customers’ engagement behaviours that are customer-initiated, contribute to or simply consume the existing social media content.  
• Negative social media engagement refers to customers’ engagement behaviours that cause negative outcomes for a social media brand, aim to influence other people’s perceptions negatively, or to conclude their membership temporarily or permanently. | Cognition valence  
Behavioural valence |
| Exploratory | Dolan, Conduit, Fahy and Goodman (2016b)  
*Journal of Strategic Marketing* | This study follows Dolan et al. (2016a) definitions of the valence of engagement. | Cognition valence  
Behavioural valence |
| Conceptual | Maslowska, Malthouse and Collinger (2016)  
*Journal of Marketing Management* | This study follows Hollebeek and Chen’s (2014) definitions of the valence of engagement. | Trigger valence  
Emotion valence  
Cognition valence  
Behaviour valence  
Outcome valence |
| Exploratory | Naumann, Bowdem and Gabbott (2017)  
*Journal of Marketing Theory and Practice* | This study follows Hollebeek and Chen’s (2014) definitions of the valence of engagement. | Trigger valence  
Emotion valence  
Cognition valence  
Behavioural valence |
| Exploratory | Bowden, Jodie, Hollebeek, Luoma-aho and Solem (2017)  
*Journal of Service Theory and Practice* (forthcoming) | This study follows Hollebeek and Chen’s (2014) definitions of the valence of engagement. | Trigger valence  
Emotion valence  
Cognition valence  
Behavioural valence |
| Exploratory | Li, Juric and Brodie (2017)  
*Journal of Service Theory and Practice* (forthcoming) | Engagement behavioural outcomes can be positive and negative, and are perceived differently by multiple actors with various dispositions in the networks. | Value proposition valence  
Behavioural valence |
The exploratory and conceptual nature of the selected studies reflects the level of the current understanding of valence of engagement. Of note is that the results from the interdisciplinary database search show that the studies identified as relevant focus predominately on customers as engaging actors, and their dyadic interactions with a focal object; the only exception is the research paper by Li et al. (2017), which discusses the valence of engagement, taking into account multiple types of actors in the networks. Also, while some of these studies refer to engagement valence, they do not define what it is explicitly. Further, the studies that do attempt to define it, focus on different engagement dimensions, thereby resulting in inconsistent conceptualisations of engagement valence.

The analysis shows that, most commonly, the authors relate valence of engagement to the dimension labelled as behavioural. For example, van Doorn et al. (2010) suggest that the valence of an actor’s engagement behaviours depends upon the behavioural outcomes for a firm. They state that “positive customer engagement behaviours include those actions that in the short and long run have positive consequences, both financial and nonfinancial for the firm” (van Doorn et al., 2010, p. 255), and suggest that the opposite would be negative engagement. Dolan et al. (2016a) propose that engagement behaviours such as detachment, negative contribution and co-destruction are negatively valenced, whereas engagement behaviours as consumption, positive contribution and co-creation are categorised as positively valenced. Thus it can be seen that they consider that the valence of engagement lies in actors’ cognitions and direction of behaviours (Lewin, 1935). Specifically, ‘turning away’ from the object, as indicated in detachment, reflects the direction of behaviour and is perceived by the authors as the negatively valenced engagement behaviour. Similarly, Bowden et al. (2015) propose that disengagement is the opposite of engagement and is negatively valenced. They consider that
engagement behaviours differ and can be defined in terms of their directions of approaching or withdrawing (Bowden et al., 2015).

Hollebeek and Chen’s (2014) exploratory work is the first among only very few engagement studies in marketing that cover the conceptualisations of both positive and negative engagement. Their conceptual model proposes that the customer’s positive (negative) brand engagement refers to the customer’s favourable (unfavourable) brand-related emotions, thoughts and behaviours, which are triggered by the presence (lack) of key brand attributes, and that such brand engagement results in positive (negative) brand attitude and WOM (Hollebeek & Chen, 2014). Thus they consider that the valence of engagement lies in the objects as triggers, the actor’s emotions, cognitions and behaviours, and in the behavioural outcomes. Subsequent studies by de Villiers (2014), Bowden et al. (2016), Maslowska et al. (2016), Naumann et al. (2017), and Bowden et al. (2017) take the same position when conceptualising valence.

Juric et al.’s (2016) view is that negative engagement is distinct from positive engagement; one which undergoes a different process and has a different nomological network. These authors define negative engagement as “a series of mental states and an iterative psychological process, which is catalysed by perceived threats” (Juric et al., 2016, p. 279) such as lack of control or impact on well-being. They also state specifically that engagement with the intention of harming the brand is to be seen as negative brand engagement, whereas similar engagement behaviour without such intent is seen as (positive) engagement yet with a negative valence. The authors contend that engagement with negative valence still focuses on the co-creation of value for the brand, and thus is distinct from negative engagement which intends to cause harm (Juric et al., 2016). Thus, they consider that the valence of engagement lies in the triggers, emotions, cognitions, behaviours, intentions and outcomes.
From a multi-actor and system perspective, Li et al. (2017), who investigate the dynamics of multi-actor engagement in the network, indicate that the actor’s positive and negative engagement relates to the psychological dispositions, perceived value propositions of other actors in the network, and the outcomes of the engagement behaviours in the network. Such findings reflect another level of complexity underlying the engagement valence in actor networks. However, since the work of these authors focuses on the process of multi-actor engagement in the network, the authors have not clarified what valence of actor engagement actually means in service networks, and how actor engagement valence relates to the other engagement properties such as dispositions and value propositions.

Overall, it can be seen that significant inconsistency exists in the discussions of the valence of actor engagement in the marketing and service literature. First, the literature review and analysis show that definitions vary in terms of what is positive or negative engagement, and where valence resides in the engagement. The differences in the approaches have occurred because these studies give the main emphasis to the valence of different engagement aspects – the valence of objects as triggers (Bowden et al., 2015; Juric et al., 2016); the valence of the engagement dimensions of emotions, cognitions and behaviours (Hollebeek and Chen, 2014); the valence of behavioural outcomes for the focal actor (van Doorn et al., 2010) as well as for other actors in the service system (Li et al., 2017). For example, Hollebeek and Chen (2014) contend that engagement valence lies in engagement expressions (emotions, cognitions and behaviours). By contrast, van Doorn et al. (2010) propose that the valence of engagement lies in actor-generated content (the outcome of engagement behaviours).

Second, the understanding of the relationship between the valence of actors’ psychological dispositions (emotions and cognitions) and their engagement behaviours is inconsistent over these studies. Hollebeek and Chen (2014) assume that the sign of engagement
expressions is the same, according to each specific dimension of emotion, cognition and behaviour. That is to say, positive engagement dispositions are always associated with positive behaviours. However, that is not necessarily the case because actors can have negative emotions and cognitions (negative psychological dispositions), yet still exhibit positive engagement behaviours. For example, angry anti-Facebook bloggers on the Facebook homepage ‘I hate Facebook’ hold a high degree of grudge against Facebook, but remain actively engaged with the brand and continually post and comment on Facebook (Juric et al., 2016). These authors (Juric et al., 2016) also found that anti-Facebook users, although emotionally, cognitively and behaviourally negatively engaged, report feeling good and justified (favourable outcomes) after their unfavourable engagement (venting negative emotions).

Another point of concern is whether the valence of engagement behaviours depends on their directions (approaching vs. withdrawing) or outcomes (beneficial vs. destructive). Some studies see withdrawing as negative engagement (Bowden et al., 2015; Dolan et al., 2016a, 2016b). On the other hand, an actor can engage closely with others in the network (“approaching” direction), not to co-create the value but to co-destruct (Smith, 2013). Thus some studies see that the outcomes of engagement behaviours, in terms of whether they are beneficial or harmful, determine the valence of engagement (Juric et al., 2016; van Doorn et al., 2010).

The last issue of concern is – by whom should the valence of engagement be determined? Hollebeek and Chen (2014), for example, consider customers’ “negative feelings and thoughts” as “unfavourable” (from a customer’s perspective), whereas they consider the “negative brand attitude” and “negative word-of-mouth” as “unfavourable” for the focal brand” (from a brand’s perspective) (Hollebeek & Chen, 2014, p. 63). In contrast, van Doorn et al. (2010) consider
that the valence of positive or negative customer engagement behaviours must be classified from a firm’s perspective. “Positive customer engagement includes those actions that in the short and long run have positive consequences, both financial and nonfinancial for the firm” (van Doorn et al., 2010, p.255). Li et al., (2017) suggest that the valence of engagement is determined by the focal actor.

To conclude, the literature review and analysis demonstrate that the current understanding of the valence of engagement is associated with various particular aspects of engagement (triggers, emotions, cognitions and behaviours). The system perspective of the valence of engagement in the network highlights the role of actors’ dispositions and value propositions in the network. The preceding analysis also shows that the complex relationship between the valence of dispositions and engagement behaviours, and between positive and negative engagement. The mechanism underlying the formation of positive and negative engagement also emerges as an essential theme about the nature of the actor engagement valence.

4. Conceptual domain of actor engagement valence

4.1 Introduction

The review of the literature across different disciplines of psychology, marketing and service, has revealed the diverse perspectives of engagement valence. This study draws on this literature and seeks to integrate these varying perspectives to define the conceptual domain of valence of actor engagement in networks. Four themes emerged from the analysis of the literature. First, the study proposes that valence resides in the actors’ psychological dispositions, which can shift between positive, negative and ambivalence (Lewin, 1935; Chandler & Lusch, 2015;
Kaplan, 1972). Second, it argues that the valence of actor dispositions is triggered by engagement-associated objects and the value propositions of other engaging actors in the network (Juric et al., 2016; Frow et al., 2014). Actor engagement valence only occurs when actors assign significance or meaning to the objects, and when actors see the relevance of the value propositions. Third, the antecedents of the valence of actors’ psychological dispositions can be the inherent qualities of the individual actors such as the actors’ cognitive evaluations and hedonic feelings about the triggers, and network-related factors such as the social norms, as well as the structures of the networks themselves (Morgeson & Campion, 1997; Hollebeek & Chen, 2014; Scott, 2013; Vargo & Lusch, 2016). Fourth, the net balance of actor engagement valence determines the relationship between engagement behaviours, and this relationship is moderated by the individual and by social factors (Shuman et al., 2013). The paper now adopts a proposition-based style to conceptualisation (Cornelissen, 2017) using the four themes to anchor the theorising.

4.2. Definitional propositions of actor engagement valence

The analysis of the marketing and service literature has shown that the valence of engagement associates closely with actors’ engagement behaviours. For example, whether the direction of engagement behaviours is approaching or withdrawing (Bowden et al., 2015), or whether the outcomes of the engagement behaviours are beneficial or harmful, is seen as determining of whether the engagement is perceived as positive or negative (van Doorn et al., 2010). Lewin (1935) suggested, however, that the behavioural directions should be interpreted in a subjective sense rather than by the ‘physical’ directions, and also that they may not reflect the actors’ goals or objectives. For example, engagement behaviours will be perceived as positive by one actor if the behavioural outcomes are evaluated as beneficial to that actor’s well-being, and yet
will be perceived as negative by another actor in the network if the behavioural outcomes have a negative impact on that actor’s well-being (Smith, 2013).

While Hollebeek and Chen (2014) claim that engagement behaviours themselves have valence; behaviours and their behavioural outcomes can be perceived differently in terms of positive or negative by different actors in the network (Li et al., 2017; van Doorn et al., 2010). This study contends that engagement behaviours per se do not have valence; it is the experience and subjective interpretation by a focal actor that determines whether the focal behavioural engagement is positive or negative (Lewin, 1935; Li et al., 2017; van Doorn et al., 2010). In other words, the engagement behaviour or the activities of engaging in interactive processes of resource integration within the network do not have valence; it is the actors’ psychological dispositions towards these behaviours that vary in terms of valence.

The focal actor’s positive or negative dispositions occur in response to past service experiences or service-for-service exchange among multiple actors in different points of time, and the actor may engage positively or negatively with other actors accordingly. The focal actor’s positive or negative dispositions depend upon whether the previous service experience has been satisfying. Also, the valence of actors’ dispositions can be positive or negative based on the experience during an act of engagement with or related to a brand or service in the current time (Juric et al., 2016). Moreover, actors become positively or negatively engaged through their appraisals of the intensity and attractiveness of value propositions or the desired or anticipated outcomes of their engagement with particular actors (Li et al., 2017). Similarly, Chandler and Lusch’s (2015) paper portrays engagement dispositions as an actor’s appropriation, renovation, or innovation of connections which are directed to a specific past, a specific future or based on current time and relational space. Accordingly, the first proposition is developed:
**Proposition 1a:** the valence of actor engagement resides in the focal actor’s past, current and future psychological dispositions.

While there is a prevalent view in marketing and service literature that the valence of engagement is dichotomous – either positive or negative (Hollebeek & Chen, 2014) – this overlooks the possibility that an actor might have both positive and negative interactive experiences with the same object or with another actor in the network (Juric et al., 2016). Actors may have not only positive or negative, but also a combination of positive and negative psychological dispositions driven by different factors at the same time. For example, an angry customer retaliates against a service provider in order to vent negative emotions and restore justice (Grégoire et al., 2010). This actor’s psychological dispositions are negative because the actor perceives the service provider as aversive. However, at the same time, this actor may also have positive psychological dispositions because her need or desire for revenge has been fulfilled. Thus the actor is experiencing a mixture of both positive and negative psychological valence at the same time.

The following examples also show that actors can have positive and negative psychological dispositions simultaneously. Studies of buying intention in online settings show the coexistence of consumers’ trust (positive dispositions) and distrust (negative dispositions) towards various attributes of the shopping website (Moody et al., 2014; Ou & Sia, 2009). In the online environment, actors who are deeply engaged in computer games are attracted, and at the same time, they may wish to avoid and escape what have become addictive behaviours (Charlton & Danforth, 2010). Another example would be that an actor may perceive an engagement object as attractive and become positively engaged, but the same actor may also become negatively engaged after finding out that according to the norms of the network, the
object is perceived as harmful. In line with Kaplan’s (1972) definition of ambivalence, which refers to actors holding two or more contradictory attitudes towards the same object at the same time, a combination of positive and negative psychological dispositions towards an engagement object or another actor is referred to as engagement ambivalence.

Further, due to the dynamic nature of engagement, valence may shift between positive, negative and ambivalence. Engagement is conceptualised as having a temporal dimension, which refers to the actors’ previous connections with other actors or service experiences that will influence their engagement at the current time (Chandler & Lusch, 2015). Also, nested in a constellation of various value propositions of different actors, the valence of the focal actor’s dispositions may be affected by a number of value propositions, which are seen as highly relevant to the actor (Li et al., 2017).

Actor engagement valence will vary along a timeline, because of the dynamic character of the engagement process. It could be the case that an actor will be negatively engaged, soon after being positively engaged with the same object or value proposition (Li et al., 2017). For example, studies on the service recovery paradox suggest that previously positively engaged actors may become negatively engaged after encountering service failure, but become even more positively engaged than before the service failure, after receiving successful service recovery (de Matos et al., 2007; Krishna et al., 2011). Thus, the following is proposed:

**Proposition 1b:** the valence of an actor’s dispositions can shift between positive, negative and ambivalence.
Proposition 1a points out that the valence of actor engagement resides in the actor’s psychological dispositions, rather than in other engagement dimensions such as triggers, behavioural directions or behavioural outcomes. Proposition 1b states that the valence of actor’s psychological dispositions can be positive, negative or a combination of both positive and negative (ambivalence). This proposition supplements the narrowed, dichotomous perspective that the valence of actor engagement is either positive or negative. Also, proposition 1b depicts the dynamic nature of actor engagement valence. Engagement valence is not static but fluctuates over time.

The two propositions, together, outline the definition of actor engagement valence and lead to other sets of propositions, which explain the mechanism of valence formation, and the relationship between actor engagement valence and observable engagement behaviours. In the next sections, propositions are developed to address these issues and to provide more insights for scoping the conceptual domain of the valence of actors’ engagement.

4.3 Triggers of actor engagement valence in networks

Common to all the studies from the literature review in the marketing and service disciplines is the view that the valence of engagement has triggers. For example, the triggering objects of positive or negative engagement can be a product, brand, or some environmental stimulus such as the functional attributes of the engagement platform (Bowden et al., 2015; Hollebeek & Chen, 2014). Also, as Frow and her colleagues suggest, actors who strive to improve their well-being in a service eco-system, specialise and exchange their services for services with others, and they also respond to value propositions from other actors in the service eco-system (Frow et al., 2014). Value propositions are defined as actors’ invitations or perceived invitations to engage with one another in service-for-service exchange to gain value, which can be economic,
financial or social or some combination of those (Chandler & Lusch 2015; Emerson, 2003; Li et al., 2017). From such a system perspective, value propositions involve service-related events, including another actor’s engagement behaviours such as posting on Twitter or uploading to YouTube. The value propositions of an actor can be explicit or may be implicit to others in the network (Li et al., 2017) – and they may or may not be well designed and delivered (Frow et al., 2014).

Actors do not simply react to the properties of objects and value propositions; rather, actors assign meaning or significance to the objects (Lewin, 1951; Panksepp, 2005) and the relevance of value propositions (Chandler & Lusch, 2015) based on their own current needs or goal states, and react to that meaning or significance (Weber, 1967; Juric et al., 2016; Li et al., 2017). In a nested constellation of value propositions, actors react only to those which are considered to be of high importance and great significance (highly relevant) (Chandler & Lusch, 2015). These relevant value propositions can be perceived as beneficial as well as destructive (Li et al., 2017) and thus can be seen to result in the focal actor's positive or negative engagement dispositions. This perspective indicates that valence only occurs when the focal actor assigns meaning or significance to the engagement object or the value propositions of other actors in the network. Therefore the following is proposed:

**Proposition 2:** the valence of actor engagement is triggered by engagement-associated objects with assigned significance or meaning, and by the relevant value propositions of other actors in a network.
4.4 Antecedents of the actor’s positive and negative psychological dispositions

While triggers denote the immediate external factors that lead to positive, negative or ambivalent engagement (Waller, 2002; Mazzarol & Sweeney, 2007), antecedents refer to the background factors that predispose the valence of an actor’s dispositions and engagement behaviours (Galland, 2006). The understanding of antecedents of actor engagement valence contributes to the clarification of how an actor’s positive, negative and ambivalent dispositions are formed. Studies suggest that underlying such complex mechanisms are various antecedents that lead to positive and negative psychological dispositions. This subsection provides propositions for two groups of antecedents – individual factors as antecedents and network-related factors as antecedents.

4.4.1 Individual factors as antecedents of actor engagement valence

Studies imply that the valence of dispositions is influenced by the focal actor’s evaluations (Hollebeek & Chen, 2014; van Doorn et al., 2010) of the triggers (objects and value propositions), and the focal actor’s temporal and relational connections (Chandler & Lusch, 2015). Actors conduct multi-faceted evaluations of: 1) whether their previous, real, or anticipated experience is desirable or undesirable (Lewin, 1935; Panksepp, 2005); 2) whether their engagement’s behavioural outcome is desirable or undesirable (Heidenreich et al., 2015; Izard, 1991); 3) whether their engagement goal has been attained or thwarted (posteriori) (Dyer, 1987; Bickhard, 2000; Li et al., 2017); and 4) whether their dispositions align with their connections (Li et al., 2017).

Actors draw upon cognitive sources to engage with one another in the network (Chandler & Lusch, 2015). In particular, these cognitive sources include knowledge such as knowledge of how to access the resources in the network, the ability to evaluate what is
beneficial or harmful, the ability to deal with either lack of information or information overload (Morgeson & Campion, 1997), and selective memories relating to positive or negative information (Warren, 1976). The actor will act as an information processor to make positive (negative) evaluations upon cognitive sources with regard to the object of engagement (Morgeson & Campion, 1997), and this will lead to positive, negative or ambivalent psychological dispositions. Thus,

**Proposition 3a:** the focal actor’s positive/negative evaluations, based on cognitive sources in relation to triggers and the actor’s network connections, lead to the actor’s positive/negative/ambivalent psychological dispositions in actor engagement.

Together with actors’ individual evaluations of specific objects or other actors, actors’ affective states or emotions also matter to the valence of psychological dispositions. Research has shown that actors often use their affective states to guide evaluations and behaviours (Schwarz & Clore, 1996). Affective states or emotions can substantially bias actors’ access to and use of related cognitive sources (Forgas, 2002). Also, it is recognised in the psychology literature that valence is the basic building block of humans’ emotional life (Barrett, 2006). In other words, among various specific types of emotions, the actor’s pleasant and unpleasant feelings represent the fundamental property of emotional experience and emotional responding (Barrett, 2006). The hedonic principle also proposes that pleasantness and unpleasantness associate with positive and negative behavioural motivations, respectively (Bentham, 1988; Kahneman et al., 1999). Marketing and service studies into the valence of engagement, conceptualise that positive (negative) engagement is expressed through actors’ favourable (unfavourable) feelings (Hollebeek & Chen, 2014). For example, negative emotions may
facilitate access to negative memories and lead to engagement in more defensive or aggressive behaviours (Forgas & Smith, 2003). Hence,

**Proposition 3b:** the focal actor’s pleasant/unpleasant feelings in relation to triggers, lead to the actor’s positive/negative psychological dispositions in actor engagement.

### 4.4.2 Network-related factors as antecedents of actor engagement valence

In complex situations, however, an actor’s cognitive ability is limited, and this results in bounded rationality (Simon, 1997). In such situations, institutional or network rules, norms, and beliefs provide both guidelines for taking actions, and prohibitions and constraints on actions (Thornton et al., 2012; Scott, 2013; Vargo & Lusch, 2016). That is, when actors engage with one another in nested networks, their social norms and shared beliefs about what is desirable or undesirable provide baselines for individual actors to engage.

When engaging actors identify with established institutions, they may develop positive psychological dispositions to engage; otherwise, they may have negative or ambivalent psychological dispositions. For example, in studying religion and its impact on consumption practices, McAlexander et al. (2014) found that as individuals identify less with a system’s institutions, the countervailing ideals will cause tensions and thus affect the individual’s psychological disposition. Thus, the institutions within the network influence the dispositions of actors to engage behaviourally. Thus,
**Proposition 3c:** social norms and shared beliefs within service networks lead to the actor’s positive/negative/ambivalent psychological dispositions in actor engagement.

In their study of how engagement spread among multiple actors in the network, Li et al. (2017) suggest that the network of actor engagement expands and contracts over time. While the iterative process of multi-actor engagement drives networks to evolve, the characteristics of a network in terms of its size or density also influences how actors engage with one another in the network. Research into WOM in network settings show that actors feel encouraged (positive dispositions) to cooperate and collaborate with others in a network of high density (Webster & Morrison, 2004; Vilpponen et al., 2006). On the other hand, actors may also feel stressed (negative dispositions) by a need to conform to group expectations when engaging with others in a network of high density (Burt, 2000). The structure of a network influences how the individual actor engages with others in the network. Thus,

**Proposition 3d:** the structure of the network influences the actor’s positive/negative/ambivalent psychological dispositions in actor engagement.

### 4.5 Actor engagement valence as an antecedent of engagement behaviour

The actor’s engagement becomes observable when it is exhibited through behavioural manifestations (Brodie et al., 2013; van Doorn et al., 2010). The valence of an actor’s psychological dispositions, which influences the actor’s engagement behaviours (Brodie et al., 2011; Juric et al., 2016) is the key aspect of the actor engagement. For example, a happy,
satisfied online community member will volunteer to help other members of the community to solve problems (Lee et al., 2011), and angry, disappointed customers will punish a firm or a brand by spreading negative WOM (Sweetin et al., 2013).

However, if actors are encountering ambivalence regarding future dispositions of engagement, how can they decide upon their engagement behaviours? To resolve this question, this study follows an idea from Shuman et al. (2013), who conceptualise valence as having micro and macro levels. Micro valence reflects the psychological dispositions of engagement, whereas macro valence corresponds to a net (weighted) outcome of diverse dispositions related to the same object, that informs choice among engagement behaviours (Zeelenberg & Pieters, 2004; Shuman et al., 2013). In a situation where an employee is dealing with an incident of service failure and facing a customer’s furious reaction, the frontline employee may be angry and upset. On the other hand, the employee also may feel sympathetic towards this customer and evaluate his ‘venting emotion’ as a justified behaviour. If the net balance of this employee’s psychological dispositions is positive, the employee may proceed patiently and engage in appropriate service recovery. Otherwise, if the net balance is negative, the employee may engage in a more defensive manner (Grandey et al., 2004; Groth & Grandey, 2012).

Accordingly, it can be seen that the net (weighted) valence is the balance between positive and negative psychological dispositions. The behaviours that follow are then driven by this overall positivity and negativity. The behaviour is realised either through one dominant psychological state or through a weighted valence made up of several psychological dispositions of opposing valence. Thus,

**Proposition 4a:** the net balance of valence of an actor’s psychological dispositions determines the actor’s engagement behaviours.
The relationship between the valence of engagement and an actor’s engagement behaviours can be moderated by an individual as well as by network factors. These moderators will influence whether an actor will pursue an activity related to the engagement object (van Doorn et al., 2010; Juric et al., 2016). For example, a frustrated customer who is very shy may choose to express his or her complaint about a service failure but is more likely to silently ‘move away’ from the relationship with the service provider (Davidow & Dacin, 1997). Studies on customer revenge demonstrate that consumers’ self-control and moral views on retaliation moderate the relationship between their dispositions to revenge and their revenge behaviours (Douglas et al., 2008). Personality traits such as altruism, individualism, assertiveness and especially an inclination to attribute blame (Folkes, 1984; Tax et al., 1998) have also been shown as significant moderators between the valence of dispositions and behaviours.

In addition to individual factors, network or system factors such as shared beliefs or norms of system institutions also influence the actor’s engagement behaviours. Within the network, actors are interdependent with others and are motivated to find a way to fit in with relevant others, to become part of various interpersonal relationships (Markus & Kitayama, 1991). Therefore, the relationship between the valence of actors’ psychological dispositions and behavioural engagement can be moderated by social influences within the network. For example, a professional manager anticipates substantial profits from engaging in a theme park development project and chooses to become positively engaged; however, such a project may need land reclamation, which will cause social turmoil within the local community or a wider range of people on social media. The manager may decide to give up this profitable project. Hence,
**Proposition 4b:** the relationship between the valence of an actor’s psychological dispositions and engagement behaviours is moderated by individual and network factors.

5. Summary and future research directions

5.1 Overview

This article conceptualises one of the key dimensions of actor engagement – valence. Thus this study contributes to the engagement literature by understanding and refining the emerging concept of actor engagement, responding to the research calls by Storbacka et al. (2016), Brodie et al. (2017) and Li et al. (2017). Also, to our knowledge, this paper marks the first study to conceptualise actor engagement valence systematically.

Despite acknowledging the important role of valence in engagement, extant research has tended to focus on the positive side of engagement, often between a customer and an engagement object. Little attention has been given to looking at both positive and negative engagement, and from a system perspective involving multiple actors in networks, resulting in a limited understanding of the valence of engagement in actor networks. This study addresses the issue by defining actor engagement valence and by covering both the positive and negative engagement of actors. This study goes beyond a customer-centric and dyadic perspective to take into account actors’ value propositions as invitations for one another to engage; actors’ connections with others in the network, and network factors such as system institutions and network structures. Further, this research applies the theoretical lens of service-dominant logic (S-D logic; Vargo & Lusch, 2008, 2016) to analyse the relationship between the valence of actors’ engagement dispositions and their engagement behaviours, and how such relationships interact with the institutions within the network.
In particular, four sets of propositions are developed that contribute to defining the conceptual domain of actor engagement valence. These propositions clarify that the valence of actor engagement has triggers, and various antecedents; demonstrate the dynamic nature of actors’ positive engagement, negative engagement and a combination of both, and show the relationship between the valence of actor engagement and engagement behaviours, and the role of individual as well as network factors.

The review of the literature shows an inconsistent understanding of the nature of positive and negative engagement, and of where the valence lies in various aspects associated with the focal actor’s engagement. This research responds to this issue by conducting an etymological search of the word ‘valence’ and then exploring the theoretical foundations of actor engagement valence in the fields of psychology, marketing and service. This paper then proposes that the valence of actor engagement resides in the actors’ psychological dispositions rather than in their engagement behaviours or engagement object per se. For example, WOM is a behavioural manifestation of engagement. The positive and negative valence of such engagement resides in the focal actor’s psychological dispositions rather than in their WOM behaviours.

The study supports earlier findings by Chandler and Lusch (2015), by showing that the valence of actors’ dispositions can be past-, current- and future-oriented. Furthermore, the synthesis of the insights from the literature review suggests that the valence of engagement has triggers. Thus this paper proposes that the valence of actor engagement resides in the focal actor’s past, current and future psychological dispositions which can be positive, negative or ambivalent, and is triggered by engagement-associated objects with assigned significance or meaning, and by the relevant value propositions of other actors in the network.
While previous research suggests a ‘black or white’ relationship between positive and negative engagement (Hollebeek & Chen, 2014; van Doorn, 2011), this study proposes that positive and negative engagement may co-exist. An actor’s psychological dispositions can be a combination of both positive and negative, which this study has characterised as engagement ambivalence. This proposition questions the previously assumed bipolar relationship between the two constructs of positive and negative engagement and enriches the understanding of their co-existence. Also, due to the dynamic nature of engagement (Li et al., 2017), the valence of actors’ dispositions shifts between positive, negative and a combination of both. This set of propositions helps to reflect more relevant, nuanced service practices, where actors present ambivalent, dynamic engagement dispositions.

The research also identifies factors that influence actors’ positive and negative psychological dispositions. Of particular importance are the cognitive sources that assist actors’ positive and negative evaluations. Emotions are also considered to be another antecedent of actor engagement valence. Thus actors’ hedonic feelings – pleasant or unpleasant – associated with triggers, also affect their positive and negative dispositions towards or during their interactive experiences. Besides these individual factors, the study also emphasises the essential role of actor-network or system factors in influencing the valence of actor engagement. Specifically, the network-related factors also lead to a different valence of actor engagement. Social norms and shared beliefs within networks form the institutional context for actors and provide guidelines as well as constraints for actors to engage with one another, and influence the valence of the focal actor’s dispositions. Also, the structure of the network, such as its density, influences the valence of actor engagement dispositions, and thus the way actors interact with one another in the network.
As actors engage with one another in activities embedded in the interactive process of resource integration (Storbacka et al., 2016), the relationship between actors’ various dispositions (positive, negative and ambivalence) and their engagement behaviours is of particular importance. This research contributes to this issue by pointing out that actors’ dispositions are the antecedents of their engagement behaviours. The underlying mechanism is that the net balance of an actor’s valence of dispositions determines his or her engagement behaviours, and that relationship can be moderated by the individual factors as well as the factors of his or her embedded networks or systems.

A limitation of this study is that the literature of various behavioural expressions of positive and negative engagement dispositions (e.g. WOM, altruistic behaviour, complaining and recommendations) are consulted but not systematically reviewed. Further and deeper investigation of the literature of such engagement behaviours needs to be considered in future studies with the focus on the relationship between the valence of actor engagement dispositions and the actor’s engagement behaviours.

5.2 Future research

The four groups of propositions serve as a basis for further research about the valence of actor engagement in service networks, as demonstrated in Table 3. Each group of propositions leads to a list of research questions to facilitate further investigation of actor engagement valence in service networks. The first set of propositions outlines the definition of actor engagement valence. The questions that are derived from the definitional propositions include what constitutes the actor’s psychological past, present and future dispositions in different contexts and the ways the valence of the actor’s past, current and future psychological dispositions influence each other. While the ambivalence of actor engagement captures the co-existence of
both positive and negative valence within the focal actor’s psychological dispositions, are actors consciously aware of such engagement ambivalence? The possible shift between positive engagement, negative engagement and ambivalence demonstrates the dynamic nature of actor engagement valence; a question worthy of investigation is what the underlying mechanisms that influence the shift (e.g. ambivalence to positive, and negative to ambivalence) are. Also, what is the impact upon the focal actor as well as on other actors in the network of the shift of engagement valence?

The second proposition explains that actor engagement valence can be triggered by objects or by the value propositions of other actors. However, the underlying process of how such triggers work merits further research. Also, since the value propositions can be explicit or implicit, how do explicit and implicit (perceived) value propositions trigger the valence of actors’ psychological dispositions?

The third group of propositions explain the individual factors and network-related factors as antecedents of actor engagement valence. This set of propositions suggest the need for further research into the factors influencing psychological dispositions and the valence of engagement. For example, what are the cognitive sources and processes that underlie an actor’s evaluations of connections and value propositions? What are the other antecedents that determine the valence of an actor’s psychological dispositions? What is the relationship between these antecedents? What is the relationship between the valence of positive and negative dispositions with regard to the specific type of emotion, such as sadness, anger, disgust or regret? Are there specific forms of social norms or shared beliefs that lead to an actor’s particular positive or negative psychological dispositions? What is the interplay between the network characteristics and evolution of the network, and the focal actor’s engagement valence?
Research questions generated from propositions 4a and 4b call for further elaboration of the relationship between the valence of engagement and engagement behaviours. How does the strength of valence of an actor’s psychological dispositions influence the net balance of valence and thus engagement behaviours? What is the algorithm to arrive at the net balance of valence and how can an actor’s positive and negative psychological dispositions, and the net balance of valence, be measured? What is the influence of the interaction effect of an actor’s past, current and future dispositions on engagement behaviours? How to measure an actor’s positive and negative psychological dispositions, and the net balance of valence? What are the individual factors and network factors and what influence do they have? Are there other moderators of the relationship between the valence of engagement and actor engagement?

Of note is that the unit of analysis in this study is the individual actor who engages in the network. By analysing the network as a whole, future research could address relevant questions as to how the service network evolves when positive and negative engagement co-exist among different actors in the network. Another question worth researching is how the valence of an individual actor’s psychological dispositions, using the normalisation process, influences the institutional norms and standards within networks or service ecosystems.
Table 3. Research implications arising from the propositions of actor engagement valence

<table>
<thead>
<tr>
<th>Propositions</th>
<th>Research implications</th>
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</table>
| Proposition 1a: the valence of actor engagement resides in the focal actor’s past, present and future psychological dispositions. | • What constitutes an actor’s past, present and future psychological dispositions in different contexts?  
• How do the valence of actors’ past, current, and future dispositions influence each other?  
• Are actors consciously aware of the ambivalence of their engagement?  
• What is the underlying mechanism that influences the shift of the valence of engagement: positive to negative, positive to ambivalence, negative to positive, negative to ambivalence, ambivalence to positive and ambivalence to negative?  
• What is the impact upon the focal actor as well as on other actors in the network of the shift of valence of engagement? |
| Proposition 1b: the valence of an actor’s dispositions can shift between positive, negative and ambivalence. | • What is the process underlying the process of triggering the valence of actors’ psychological dispositions?  
• How do explicit and implicit (perceived) value propositions trigger the valence of actors’ psychological dispositions? |
| Proposition 2: the valence of actor engagement is triggered by engagement-associated objects with assigned significance or meaning, and by the relevant value propositions of other actors in a network. | • What is the process underlying the process of triggering the valence of actors’ psychological dispositions?  
• How do explicit and implicit (perceived) value propositions trigger the valence of actors’ psychological dispositions? |
| Proposition 3a: the focal actor’s positive/negative evaluations, based on cognitive sources in relation to triggers and the actor’s network connections, lead to the actor’s positive/negative/ambivalent psychological dispositions in actor engagement. | • What are the cognitive processes that underlie an actor’s evaluations?  
• What are the other antecedents that determine the valence of an actor’s psychological dispositions?  
• What is the relationship between these antecedents? |
<p>| Proposition 3b: the focal actor’s pleasant/unpleasant feelings in relation to triggers, lead to the actor’s positive/negative psychological dispositions in actor engagement. | • What is the relationship between the valence of positive and negative dispositions with regard to the specific types of emotions? |</p>
<table>
<thead>
<tr>
<th>Proposition 3c: social norms and shared beliefs within service networks lead to the actor’s positive/negative/ambivalent psychological dispositions in actor engagement.</th>
<th>• Are there specific forms of social norms or shared beliefs that lead to an actor’s positive or negative psychological dispositions?</th>
</tr>
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<tbody>
<tr>
<td>Proposition 3d: the structure of the network influences the actor’s positive/negative/ambivalent psychological dispositions in actor engagement.</td>
<td>• What is the interplay between the evolution of the network and the shift of valence of individual actor engagement?</td>
</tr>
</tbody>
</table>
| Proposition 4a: the net balance of valence of an actor’s psychological dispositions determines the actor’s engagement behaviours. | • How does the strength of valence of an actor’s psychological dispositions influence the net balance of the valence and thus engagement behaviours?  
• What is the algorithm to arrive at the net balance of valence?  
• What is the influence of the interaction effect of an actor’s past, current and future dispositions on engagement behaviours?  
• How can an actor’s positive and negative psychological dispositions, and the net balance of valence be measured? |
| Proposition 4b: the relationship between the valence of an actor’s psychological dispositions and engagement behaviours is moderated by individual and network factors. | • What are the individual factors and network factors and what influence do they have?  
• Are there other moderators of the relationship between the valence of engagement and actor engagement? |
CHAPTER 3: CONCEPTUALISATION AND OPERATIONALISATION OF NEGATIVE ACTOR ENGAGEMENT

1. Introduction

In the increasingly networked service ecosystem, actors continually interact and engage with one another in service exchange to craft their value propositions (Wieland, Polese, Vargo & Lusch, 2012), co-create their service experience (Chandler & Lusch, 2015), and contribute to the formation of system institutions (Vargo & Lusch, 2016). Defined as “both the actor’s disposition to engage, and the activity of engaging in an interactive process of resource integration within a service ecosystem” (Storbacka et al., 2016, p. 3009), actor engagement reflects the interconnections within service systems (Brodie et al., 2016), and provides a multi-actor perspective of the dynamic, iterative processes of engagement among diverse networks of actors (Li et al., 2017). Also, it emphasises the pivotal role of actors’ dispositions about the behavioural manifestations of engagement during actors’ interactions with one another on different engagement touch points and platforms (Blasco-Arcas, Hernandez-Ortega & Jimenez-Martinez, 2016).

With the development of engagement theory, valence emerges as one of the key dimensions underlying the engagement concept, and it is recognised as one of the research imperatives for understanding and refining the concept of actor engagement (Storbacka et al., 2016; Brodie et al., 2016). Built on a systematic literature review of the psychological foundations and marketing applications of the concept of valence, Li, Juric and Brodie (2018) explore the conceptual domain of valence, and conceptualise valence as residing in the actors’ psychological dispositions which can be positive or negative, and is considered to be a key determinant of engagement behaviours. However, studies to date tend to limit their research
mainly to investigate positive engagement phenomena (Baldus, Voorhees, & Calantone, 2015; Dessart, Veloutsou, & Morgan-Thomas, 2016; Hollebeek, Glynn, & Brodie, 2014; Sarkar & Sreejesh, 2014; So, King, & Sparks, 2014; Vivek, Beatty, Dalela, & Morgan, 2014), and thus engagement scales developed are informed only by the ‘bright side’ of engagement practices. Research that attempts to investigate negative engagement remains fragmented and scant and is largely conceptual and explorative. Therefore the purpose of this paper is to address this gap by conceptualising negative actor engagement and operationalising it in a specific context of service platform.

Of particular interest are knowledge sharing platforms, especially the context of student learning service ecosystem. In a student learning service system, students are the key actor who engage with the course, instructors and other students. Student engagement is recognized as a predictor of educational success (Grier-Reed et al., 2012). The growing body of research demonstrates that student engagement acts as an antidote to low academic achievement, student burnout, lack of resilience, dissatisfaction, and drop-out (Wang & Eccles, 2012). Institutional support, interactions with staff, active learning, and academic challenge are key contributors to an engaged student (Kahu, 2013). Student engagement can occur on different online learning platforms such as Blackboard, Canvas and Piazza. Students can be positively engaged with other students or the lecturers on the learning platforms as well as negatively engaged. For example, during their interactions on the platform, students feel annoyed by not being able to get the answers to their questions from the instructors, or feel anxious when posting questions on the platform because they are afraid of being judged by the classmates regarding whether the questions posted are meaningful or ‘smart’. Therefore the research context is chosen as the student engagement with learning service platform. The objective of the research is to conceptualise and develop scales for negative student engagement with the learning service platform.
This study fills the literature gap of scant empirical study of negative actor engagement by going beyond the dyadic and customer-centric perspective, demonstrating the conceptual domain of negative actor engagement, coming up with definitional propositions and developing the scales for negative actor engagement so that future empirical studies can draw on this tool to measure negative engagement. In doing so, this research echoes to the research call that the concept of actor engagement need to be operationalised in various contexts (Brodie et al., 2017; Storbacka et al., 2016).

The paper proceeds as follows. Section 2 outlines the background of research of actor engagement valence and negative actor engagement. Section 3 demonstrates the methodology of the research. In section 4, three studies are conducted to develop the scale of negative student engagement with the learning platform. Section 5 addresses the research limitations as well as the research implications for practice and future research.

2. Literature review

2.1 Actor engagement valence

With the development of engagement theory, valence emerges as one of the key dimensions underlying the engagement concept, and it is recognised as one of the research imperatives for understanding and refining the concept of actor engagement (Storbacka et al., 2016; Brodie et al., 2016). The term “valence of engagement” was first coined in van Doorn et al.’s (2010) study to reflect the range of positive and negative engagement, and is considered to be a key determinant of engagement behaviours (Brodie et al., 2011; Hollebeek and Chen, 2014) in terms of their behavioural directions (Bowden et al., 2015), properties and forms (Li et al., 2017), and outcomes (Juric et al., 2016).
Positive engagement is associated with pleasant feelings and positive evaluations of the engagement object or actor, during active, interactive service experience (Brodie et al., 2011; Vivek et al., 2012), and can manifest in observable engagement behaviours such as repurchase (Jahn & Kunz, 2012), compliance and cooperation (Verleye et al., 2014), advocacy (Kumar et al., 2010) and altruistic behaviours (Hsieh and Chang, 2016). Thus positive engagement is also posited to represent a strategic imperative for an enhanced value co-creation experience (Prahalad & Ramaswamy, 2004), improved innovation capabilities (Frow et al., 2015), and superior competitive advantage (Kumar and Pansari, 2015).

On the other hand, negative engagement is associated with unpleasant feelings and negative appraisals of the engagement object or actor, during interactive service experience (Juric et al., 2016), and can manifest in complaints (Naumann et al., 2017), negative word-of-mouth (WOM) (Hollebeek & Chen, 2014), boycotts (Lee et al., 2009) or revenge (Grégoire and Fisher, 2008). Negative engagement can also sometimes attract unexpected, non-traditional actors outside the focal service network to become connected and they may offer the opportunity to create new networks or join the existing networks (Li et al., 2017). This engagement can lead to value co-destruction or diminishment of the well-being of actors (Smith, 2013), poor financial and non-financial performance (van Doorn et al., 2010), and negative sentiments and turmoil online (Juric et al., 2016).

To date, however, engagement studies have focused predominantly on the positive side of engagement (Baldus et al., 2015; Dessart et al., 2015; Hollebeek et al., 2014; Leckie et al., 2016; Vivek et al., 2012), and have neglected the ‘dark’ side. Research that investigates negative engagement remains fragmented and scant and is largely conceptual and explorative. The research by Smith, Juric and Niu (2013) and Hollebeek and Chen (2014) are among the very few studies trying to conceptualise and define negative engagement in the marketing
discipline. Specifically, after an exploratory study of negative engagement phenomena based on 25 blogs on an online social network platform, Smith et al. (2013) propose that negative engagement is distinct from positive engagement. Hollebeek and Chen (2014) extend the conceptualisation of customer brand engagement to include both positive- and negative-valenced engagement expressions. Of note is that the two studies do not reach a consensus regarding the conceptualisation and definition of negative engagement. Hollebeek and Chen (2014) claim that positive engagement and negative engagement are reciprocal, i.e. they are logical opposite concepts which share the same construct and go through the same engagement process. By contrast, Smith et al. (2013) argue negative engagement as a distinct construct with a different nomological network and engagement process from those of positive engagement.

Drawing from the extant conceptualisations of actor engagement (Storbacka et al., 2016; Brodie et al., 2016), Li et al. (2018) apply the theoretical lens of service-dominant logic (S-D logic; Vargo & Lusch, 2008, 2016) to explore actors’ engagement within networks. Specifically, they claim that valence resides in actors’ psychological dispositions, which result in various engagement behaviours. Also, negative engagement is a distinct concept from positive engagement. This study follows Li et al.’s (2018) definition of actor engagement valence to inform the conceptualisation of negative student engagement disposition.

2.2 Negative engagement studies in social science and management disciplines

Research of the ‘dark’ side in the engagement literature is limited, and thus we turn to research in the disciplines of social science and management for further insights of negative engagement. We provide an overview of reviewed ‘negative engagement’ studies proposed in these two fields in Table 1, which demonstrates the following observations.
First, we identify a number of different engagement-based concepts, including employee engagement, husband-wife engagement, mother-infant engagement and treatment engagement. This indicates that actor engagement can be applied in different micro-level contexts, which offers more foundational and context-specific investigations of the nature of actor engagement. Also, it is evident that negative engagement exists across different fields, thus meriting further research.

Second, the literature review shows that the conceptualisation of engagement reflects diverse views of single-dimensional vs multi-dimensional concept. The crucial difference underlying these two views is where valence lies in engagement – dispositions or behaviours, or both. The literature review of actor engagement valence in section 2.1 also demonstrates such controversial discussions in engagement studies in marketing (e.g. Juric et al., 2016; Hollebeek & Chen, 2014). Following Li et al. (2018), our conceptualisation of negative student engagement with the knowledge sharing platform will reflect that engagement valence resides in the actors’ psychological dispositions (which mirror affective and cognitive dimensions of engagement).

Third, a couple of common dimensions underlying the actors’ negative, affective and cognitive engagement are revealed. For example, ‘exhaustion’ and ‘cynicism’ are identified to be two key dimensions underlying ‘burnout’, which is the opposite concept to employee work engagement (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Exhaustion refers to the negative emotions that point to work fatigue and frustration; cynicism points to the employees’ negative thoughts of whether their effort is meaningful or pointless (Schaufeli et al., 2002). The study by Hedman (2004), who investigated the psychological mode of engagement, shows that frustration and anxiety are evident for negative engagement. Another study by Lee et al. (2013) demonstrates that the when parents get negatively engaged with their children, they tend to
have negative emotions of annoyance and anger, and develop the thoughts of criticizing their counterpart.

In sum, the literature review in the fields of social science and management informs us that negative actor engagement exists in a wide variety of contexts and mainly consists of affective and cognitive aspects of engagement. Firstly, although behavioural engagement is also discussed by some (e.g. Tronick et al., 2005), we focus on the actors’ psychological dispositions in which engagement valence resides (Li et al., 2018). Specifically, the common affective factors revealed include annoyance, frustration, sadness, anger, anxiety; the evident cognitive factors identified involve negative thoughts of being futile, disappointed and cynical about the effort spent in their engagement. Secondly, there is few empirical research on negative engagement, especially in the context of multiple actors in the network. The literature review demonstrates a research focus on the dyadic perspective of negative engagement. Thirdly, it can be seen from the literature review that research in the context of students’ negative engagement is scant. Therefore, it is of theoretical importance and practical relevance to understand students’ negative engagement with other actors in a network setting. In the next section, we introduce the research context of student learning service platform and the methodology of scale development for negative actor engagement.
Table 1. Negative engagement studies in social science and management

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Concept</th>
<th>Author</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee management</td>
<td>Employee engagement</td>
<td>(Schaufeli et al., 2002)</td>
<td>• Burnout is the opposite of employee engagement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The sub-dimensions of burnout are exhaustion and cynicism.</td>
</tr>
<tr>
<td>Mother-infant psychology</td>
<td>Mother-infant engagement</td>
<td>Tronick et al. (2005)</td>
<td>• For the infant, negative engagement consisted of the passive-withdrawn and protest phases, neutral engagement consisted of object-environment and social monitor, and positive engagement consisted of the social positive engagement phase.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• For the mother, negative engagement consisted of the hostile-intrusive and passive-withdrawn phases, neutral engagement consisted of the social monitor without vocalizing phase, and positive engagement consisted of the social monitor with positive vocalizing and social positive engagement phases.</td>
</tr>
<tr>
<td>Family psychology</td>
<td>Parent-infant engagement</td>
<td>Nordahl, Janson, Manger &amp; Zachrisson (2014)</td>
<td>• Negative engagement included all negative behaviours irrespective of affect, and all positive or neutral behaviours with negative affect. For example, offering a toy (positive nonverbal behaviour) with an angry facial expression (negative affect) was regarded negative engagement, as was verbal disapproval (negative verbal behaviour) with a neutral voice (neutral affect).</td>
</tr>
<tr>
<td></td>
<td>Parent-children engagement</td>
<td>Lee et al. (2013)</td>
<td>• Negative engagement includes: disgust, contempt, belligerence, low-intensity domineering, high-intensity domineering, criticism and anger. (Active and negative social engagement)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Negative disengagement includes: tension, tense humour, defensiveness, whining, sadness and stonewalling. (More withdrawn or disengaged types of affective behaviour)</td>
</tr>
<tr>
<td>Psychology</td>
<td>Treatment engagement</td>
<td>Stein et al. (2006)</td>
<td>• Negative engagement is characterized as the process in group intervention treatment: adolescents reinforce each other's delinquent behaviours during treatment through laughter, attention, winks, and nods that result in the iatrogenic effects of intervention groups.</td>
</tr>
<tr>
<td>Social psychology</td>
<td>Husband-wife engagement</td>
<td>Degamo &amp; Marion S. Forgatch (2002)</td>
<td>• Negative engagement is defined as engaging in negative socio-emotional behaviours during problem-solving discussions.</td>
</tr>
</tbody>
</table>
3. Research context and methodology

3.1 Research context: a student learning service platform – Piazza

Of particular interest of this study is the context of student learning service ecosystem. Actor engagement has emphasised the generic role of actors and their interactions on various touch points and platforms (Li et al., 2017; Vargo & Lusch, 2016). In a student knowledge sharing and learning service system, students are the key actor who engage with the course, instructors as well as other students on different learning platforms such as Blackboard, Canvas and Piazza. It is recognised that student engagement is a predictor of educational success (Grier-Reed et al., 2012). The growing body of research demonstrates that student engagement acts as an antidote to low academic achievement, student burnout, lack of resilience, dissatisfaction, and drop-out (Wang & Eccles, 2012). Institutional support, interactions with staff, active learning, and academic challenge are key contributors to an engaged student (Kahu 2013). Students can be positively engaged with the learning platforms as well as negatively engaged. In a study of classroom engagement, Vitiello, Booren, Downer and Williford (2012) refer students’ negative classroom engagement to tense, conflictual and dysregulated engagement with teachers and peers.

Our specific research context is the mainstream learning service platform – Piazza that has been used in 1,500 schools and tertiary institutions across 90 countries (Piazza, 2018), which is designed to engage students and educational instructors. Observations show that students engage both positively and negatively with Piazza. For example, during their interactions with Piazza, students feel annoyed by receiving repetitive questions from other students, or feel anxious when answering another student’s questions because they are afraid
of providing misleading information. Therefore the research context is chosen as the student engagement with learning service platform.

### 3.2 Methodology

The conceptualisation and operationalisation of negative student engagement follow a multi-stage process incorporating the guidelines by Churchill (1979) and Diamantopoulos and Winklhofer (2001). Three studies are involved. The explorative Study 1 collects qualitative data of 17 interviews on students’ conceptions of student negative engagement dispositions with a learning service platform. Of particular note is that the literature review informs us the potential dimensions of negative engagement dispositions, we took a conservative approach and remain exploratory and take an open attitude to the emerging findings from the qualitative data, which allow new codes and themes to derive at this stage. Such exploratory findings and literature review contributes to building the conceptual framework of negative student engagement dispositions and the first pool of items. Study 2 employs a student panel and an academic panel to ensure the face validity of the initial items generated and reduce the number of items due to redundancy. Further, we employed IBM SPSS Statistics 25 and conducted an exploratory factor analysis (EFA) to investigate the factorial structure of the negative student engagement disposition scale, and further refine the item pool. The scale is further validated using confirmatory factor analysis (CFA) via the Mplus 7. Finally, in Study 3, we employed another sample and included a relational construct of negative WOM of the nomological network to build a path model so that the validity of the scale at the second-order is assessed. The methodological decisions undertaken in each one of these studies will be presented in each study.
4. Results

4.1 Study 1: Item generation

4.1.1 Students’ conceptions of negative engagement dispositions

To further explore and define negative student engagement disposition towards Piazza, we conducted exploratory qualitative research. This study provides the foundation for the development of a pool of relevant items to reflect the facets of negative engagement. It is not uncommon to use qualitative data to develop a scale or generate an initial pool of scale items (e.g. Brakus, Schmitt, & Zarantonello, 2009; Christodoulides, De Chernatony, Furrer, Shiu, & Abimbola, 2006; Walsh & Beatty, 2007), because such data tends to increase scale reliability (Churchill, 1979). In this instance, the exploratory stage involved structured in-depth interviews with 17 undergraduate students (nine males and eight females, aged between 18 and 24) at a New Zealand university. Participants were recruited through advertisements posted on campus notice boards. One of the criteria for recruiting participants is that they have used the Piazza platform during the past three months. The interview started with questions about their general experience with Piazza platform, then moved on to their engagement during their interaction with Piazza platform, including negative engagement with the instructor as well as other students on Piazza platform.

Interviews were carried out in-person, and were recorded, and transcribed. All transcribed data were content analysed and coded in line with existing procedures (Miles & Huberman, 1994). Based on a content analysis, Table 2 provides a list of the respondents, and key quotes that unveil the nature and dimensionality of student negative engagement dispositions. The analysis reveals that negative student engagement disposition is a multi-dimensional concept that includes different modes of affective and cognitive dimensions, which aligns with the findings from the prior literature.
To illustrate, the data demonstrate two aspects of negative affective engagement disposition. The first aspect centres on students’ feeling of annoyance. The words such as ‘annoyed’, ‘frustrated’, ‘sad’, and ‘confused’ are commonly used by our informants to express their negative emotions when interacting with Piazza platform. The other affective aspect highlights students’ anxious emotions when they negatively engage with Piazza platform. The informants frequently refer to ‘anxiety’, ‘fear’ and ‘concern’ or being ‘worried’ to indicate such negative affective engagement.
## Table 2. Overview of interview with quotes

<table>
<thead>
<tr>
<th>Student informant (pseudonyms)</th>
<th>Quotes of student negative engagement with learning service platform</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flora (18)</strong></td>
<td>I feel annoyed when I see too many simple and repetitive questions on the [Piazza] platform.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>I think the platform should be improved for checking what people mean, or expressing yourself better.</td>
<td>Cognitive (Failed expectation)</td>
</tr>
<tr>
<td></td>
<td>When my answers get edited by others, I feel frustrated.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>Tang (19)</strong></td>
<td>I feel annoyed when I see that others’ posts are cluttered.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>I only answered to the questions that I’m pretty confident about, because I’m afraid that my answers cannot be wrong.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>Evan (18)</strong></td>
<td>I feel disappointed when I saw that lecturers did not involve much.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>The system does something that I’m not expecting.</td>
<td>Cognitive (Failed expectation)</td>
</tr>
<tr>
<td><strong>Jun (20)</strong></td>
<td>When I saw many unread posts on Piazza platform, I felt stressed.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>May (19)</strong></td>
<td>When I see this confusing question, I felt a bit stupid because I thought I must have misread this.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td><strong>Catherine (22)</strong></td>
<td>It’s frustrating if you cannot get what someone needs.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td><strong>David (20)</strong></td>
<td>I think I spent a lot of time and effort in answering that question, but my answer is not helpful to anyone.</td>
<td>Cognitive (Futility)</td>
</tr>
<tr>
<td></td>
<td>And so it was frustrating because I couldn’t efficiently find what I was looking for, but it was also positively engaged because I was finding interesting things at the same time.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>I feel concerned about my academic performance if I cannot find the things I need.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>Kui (19)</strong></td>
<td>When I’m asked to provide more clarifications to my answers, I feel annoyed.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td><strong>Lydia (18)</strong></td>
<td>I feel annoyed when I see too many repetitive posts.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>When I got responses to my posts on Piazza, I felt stressed.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>Summer (18)</strong></td>
<td>I felt annoyed when I saw inappropriate comments about other students’ questions.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>The way people interacted with Piazza platform was not what I expected.</td>
<td>Cognitive (Failed expectation)</td>
</tr>
<tr>
<td><strong>Yanran (20)</strong></td>
<td>I felt annoyed when I saw inappropriate comments about the lecturer.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td></td>
<td>When I posted on Piazza platform, I feared that my posts might be wrong.</td>
<td>Affective (Anxiety)</td>
</tr>
<tr>
<td><strong>Lu (20)</strong></td>
<td>When there is no results coming from the Piazza search of my concerns, I feel sad because I need to spend some effort in posting that question.</td>
<td>Affective (Annoyance)</td>
</tr>
<tr>
<td>Name</td>
<td>Experience</td>
<td>Cognitive</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Xinren (24)</td>
<td>I was cynical about the value that Piazza platform provided to me.</td>
<td>Failed expectation</td>
</tr>
<tr>
<td></td>
<td>I thought that my time spent on Piazza platform did not bring enough value for me.</td>
<td>Futility</td>
</tr>
<tr>
<td></td>
<td>I feel annoyed when my answer does not solve the question. I think I spent a lot of time and effort on it.</td>
<td>Annoyance</td>
</tr>
<tr>
<td>Xinren</td>
<td>When my questions get answered by other students, I doubt the answers because sometimes students’ answers can be wrong.</td>
<td></td>
</tr>
<tr>
<td>Dias (19)</td>
<td>I thought that my interaction with Piazza platform did not contribute to anything.</td>
<td>Failed expectation</td>
</tr>
<tr>
<td></td>
<td>When I’m about to answer some question but find it unclear, I feel confused.</td>
<td>Annoyance</td>
</tr>
<tr>
<td></td>
<td>I could not do what I wanted to do on Piazza platform.</td>
<td></td>
</tr>
<tr>
<td>Troy (20)</td>
<td>I feel embarrassed, when I have my name on Piazza and I posted a wrong answer.</td>
<td>Annoyance</td>
</tr>
<tr>
<td>Jason (19)</td>
<td>I thought my efforts on Piazza platform did not receive enough recognition from other students.</td>
<td>Futility</td>
</tr>
<tr>
<td></td>
<td>When my questions get unclear answers, I feel annoyed.</td>
<td>Annoyance</td>
</tr>
<tr>
<td>Matthew</td>
<td>When I got responses to my posts on Piazza, I felt worried.</td>
<td>Annoyance</td>
</tr>
<tr>
<td>Matthew</td>
<td>When I’m asked to provide more clarifications to my questions, I feel annoyed.</td>
<td>Anxiety</td>
</tr>
<tr>
<td></td>
<td>I thought my efforts on Piazza platform did not receive enough recognition from the lecturer.</td>
<td>Futility</td>
</tr>
</tbody>
</table>
Also, the data demonstrate a cognitive dimension of negative student engagement disposition. For example, one informant indicates that he is ‘disappointed with Piazza platform and it should be improved’. This example demonstrates negative perceptions of Piazza because the platform failed to meet student expectations. Another aspect of negative cognitive engagement is shown in students’ views that their time and effort spent is pointless. This notion is reflected in participant comments such as ‘my answers on Piazza is not helpful to anyone’ and ‘my effort spent on Piazza was not recognized by other students’.

In summary, the qualitative study shows that students’ conceptions of negative engagement dispositions are aligned with key findings addressing the engagement concept in prior research. We introduce negative student engagement disposition conceptualization in the next section.

4.1.2 Conceptual development of negative student engagement

Based on the results from Study 1, and taking into account lessons from existing literature, this study defines negative student engagement dispositions as students’ negative emotions and thoughts during their interactive experience with lecturers and other students on various touch points of learning service platforms such as Piazza. Four aspects of negative engagement were identified – annoyance, anxiety, failed expectations and futility. To illustrate, annoyance refers to the student’s unpleasant feelings derived from interaction with Piazza (Nordahl, Janson, Manger & Zachrisson, 2014). Anxiety refers to the student’s intrinsic level of anxiety and stress while using Piazza (Hedman, 2004). Futility refers to the student’s pessimistic evaluations of his/her time and effort spent on Piazza and the student’s doubts about their contribution to Piazza (Schaufeli et al., 2002). Failed expectation refers to the student’s thoughts and reflections on how Piazza fails their expectations (Lee et al., 2013).
In measuring a latent construct such as the negative engagement concept, consideration of the nature of the construct is required (i.e., reflective vs formative; Netemeyer, Bearden, & Sharma, 2003). According to Jarvis, MacKenzie and Podsakoff (2003), the direction of causality, interchangeability of the indicators, covariation among the indicators, and nomological net of the construct indicators determines the measurement theory. The direction of causality refers to whether the indicators define are defining characteristics or manifestations of the construct. In a reflective model, the latent factor causes the indicators, whereas a formative model assumes that the indicators cause the construct (Hair, Black, Babin, Anderson & Tatham, 2006). According to the literature review and interview feedback, factors such as anger, anxiety and frustration composite the higher level construct of negative student engagement. Specifically, these composite constructs can be positive-, negative- or even non-correlated. With this in mind, the concept of negative engagement is operationalized as a composite measure. If any one of these indicators increases, negative engagement dispositions would increase (even if the other indicators did not change). Conversely, if a person’s negative engagement disposition increases, this would not necessarily be accompanied by an increase in all four measures (Hair et al., 2006). For example, the more students got annoyed, the more they would get negatively engaged with Piazza. However, if the students’ get more negatively engaged, it is not necessarily because they get more annoyed.

Secondly, interchangeability of the indicators refers to whether indicators share a common theme (Jarvis et al., 2003). That is whether dropping one of the indicators alters the conceptual domain of the construct. For a formative model, the indicators need not to have the same or similar content. Based on the findings from the qualitative research of students’ engagement, the indicators do not share a common theme. Rather, they are not interchangeable; together the four aspects of annoyance, anxiety, failed expectation and futility composite the conceptual domain of the construct. Thirdly, covariation among the indicators refer whether it
is necessary for indicators to covary with each other (Jarvis et al., 2003). For a formative model, it is not necessarily the case that changes in one indicator associates with changes in another. Changes in one sub-dimension is not necessarily associated with proportional changes in the other sub-dimensions. For example, when a student found so many repetitive posts from other students on the platform, he or she would feel rather annoyed but may not feel angry or anxious, nor would this student thought that Piazza failed their expectations because he or she understood that this might be incidental. Thus, the potential of low or no correlation among these constructs show that negative student engagement is a formative construct. Lastly, the nomological net of the construct indicators determines the measurement structure (Jarvis et al., 2003). For a formative construct, indictors are not required to have the same antecedents and consequences. For negative engagement, the indicator of annoyance is associated with causes of other students or instructors behaviours. On the other hand, the indicator of anxiety is caused by the internal psychological perceptions of the environment. It can be seen that they are caused by different antecedents. Therefore, after scrutinizing the four rules of alternative measurement theories, negative engagement is determined as a formative construct rather than a reflective construct.

According to Li et al. (2018), actors’ engagement dispositions can lead to certain engagement behaviours such as WOM. Specifically, we conceptualise that negative WOM will be the behavioural, consequential factor resulted from negative actor (student) engagement dispositions with the service platform. Negative word of mouth is chosen because actors with negative engagement disposition are likely to share their experience of negative engagement with other actors who have been through the similar experience. Such behaviours of spreading information about their negative engagement towards the service platform can be captured by negative word of mouth. Therefore we conceptualise that these four first-order factors will form
the higher level construct of negative engagement dispositions, which will lead to negative WOM. Therefore we develop our conceptual framework as depicted in Figure 1.

![Conceptual framework](image)

**Figure 1. Conceptual framework**

### 4.2 Study 2: scale development, reliability and validity

The purpose of Study 2 is to develop and validate the scale for negative student engagement disposition. Specifically three phases are involved. The first phase focuses on the face validity check of the initial item pool by consulting a student panel and an academic expert panel. The result of phase 1 is to remove inappropriate items and ensure the content reliability of all items. The second phase is to conduct exploratory factor analysis (EFA) with the potential items. 12 items are retained and four first-order factors are identified. Lastly, the third phase involves confirmatory factor analysis (CFA) of these four first-order factors. The employed analyses include composite reliability check, convergent validity check, discriminant validity check and the measurement model fitness check.
4.2.1 Phase 1: Face validity check and item reduction

Phase 1 aims to generate specific items for the proposed dimensions of negative student engagement dispositions and to ensure that the scale items meet the requirements of face validity. To generate the items, we consulted the literature review and qualitative research results from Study 1. From these analyses, we developed a pool of 28 items to indicate negative student engagement dispositions (see in Table 3). Following Brakus, Schmitt, and Zarantello (2009), we performed an initial face validity check by using two panels: 1) a student panel who are or have been actively engaged on Piazza, comprising eight university students (six males and two females), and 2) an academic expert panel (four males and three females).

The student panel was asked to report their engagement with Piazza platform including the time when they were negatively engaged. Employing an in-depth interviewing format, we explained the negative student engagement disposition concept to the screening participants and asked them to evaluate the extent to which the 28 items described their ‘negative engagement disposition’ with Piazza platform. For the academic expert panel, we explained the ‘negative engagement disposition’ concept and asked them to assess the items. We used the panellists’ recommendations to further assess the preliminary negative student engagement disposition item pool, guide specific item additions/deletions, and to improve the item wording, as required (Churchill 1979); thus contributing to the establishment of content validity for the preliminary negative engagement disposition scale.

Following the recommendations of the two panels, six items were edited, and eight items were removed due to redundancy, resulting in a pool of 20 items: five items for ‘annoyance’, six items for ‘anxiety’, five items for ‘failed expectation’ and four items for ‘futility’. Of particular note is that, the expert panel and student panel were employed further
in the item reduction stage, thus forming an iterative process and that resulting in the final item pool of 12.
Table 3: Item pool prepared for EFA

<table>
<thead>
<tr>
<th><strong>Annoyance (9 items)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>When I saw basic or repetitive questions on Piazza platform, I got annoyed.</td>
</tr>
<tr>
<td>When I found that the instructor was not active on Piazza platform, I felt disappointed.</td>
</tr>
<tr>
<td>When I was not able to find the posts on Piazza platform to solve my quires, I felt frustrated.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt annoyed.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt frustrated.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt disappointed.</td>
</tr>
<tr>
<td>When I saw that other people corrected my posts on Piazza, I felt embarrassed.</td>
</tr>
<tr>
<td>When I found that my posts on Piazza did not get any responses, I felt ignored.</td>
</tr>
<tr>
<td>When I found no results for my searches on Piazza, I felt frustrated.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Anxiety (10 items)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>When I saw many unread posts on Piazza platform, I felt stressed.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt stressed.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt worried.</td>
</tr>
<tr>
<td>While I was interacting with Piazza platform, I felt anxious.</td>
</tr>
<tr>
<td>When I was posting on Piazza platform, I feared that my posts might be wrong.</td>
</tr>
<tr>
<td>When I was posting on Piazza platform, I was afraid that other people would not approve of my posts.</td>
</tr>
<tr>
<td>When I was posting on Piazza platform, I worried about what other people thought about me.</td>
</tr>
<tr>
<td>When I was posting on Piazza platform, I felt stressed.</td>
</tr>
<tr>
<td>When I got responses to my posts on Piazza, I felt worried.</td>
</tr>
<tr>
<td>When I got responses to my posts on Piazza, I felt stressed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Failed expectation (5 items)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I was cynical about the value that Piazza platform provided to me.</td>
</tr>
<tr>
<td>I could not do what I wanted to do on Piazza platform.</td>
</tr>
<tr>
<td>Piazza platform was not what I thought it should be.</td>
</tr>
<tr>
<td>I thought Piazza platform need to be improved.</td>
</tr>
<tr>
<td>The way people interacted with Piazza platform was not what I expected.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Futility (4 items)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>I thought that my time spent on Piazza platform did not bring enough value for me.</td>
</tr>
<tr>
<td>I thought that my interaction with Piazza platform did not contribute to anything.</td>
</tr>
<tr>
<td>I thought my efforts on Piazza platform did not receive enough recognition from other students.</td>
</tr>
<tr>
<td>I thought my efforts on Piazza platform did not receive enough recognition from the lecturer.</td>
</tr>
</tbody>
</table>
4.2.2 Phase 2: EFA of first-order factors

The pool of 20 items was retained to form a questionnaire which used 10-point scales anchored with the descriptors one = ‘strongly disagree’ to 10 = ‘strongly agree’. The questionnaire was first pre-tested on eight university students for overall quality assessment of the instrument and then administered to a pilot sample of undergraduate students in a business school course. A total of 59 questionnaires were returned to the researcher from 60 distributed surveys; thus generating a response rate of 98.3%. Of these, two unusable (incomplete) responses were removed from further analyses; thus resulting in a total of 57 useable responses. 94.7% were under 24 years old. 40.4% were male, 54.4% were female, and 4.9% were gender diverse. 63.2% were domestic students, 35.1% were international students, and 1.8% were exchange students. The students are asked to answer the questions of the survey based on their engagement with Piazza platform in the last three months. Hair et al. (2016) set the minimum requirement for the sample size in a factor analysis is 50. According to Mundfrom et al. (2005), the minimum sample size is 3 times the number of items in a factor analysis. The ratio of our sample size of 57 to 20 items is approximately 3, which met the minimum requirement of the sample size for factor analysis.

The software package IBM SPSS Statistics 25 was used to run the analysis. Less than 1% of missing data was found, which was addressed with the mean replacement method on SPSS (Tabachnik & Fidell, 2000). To analyse the data, we employed exploratory factor-analytic (EFA) procedures using principal axis factoring with varimax rotation, to extract the negative engagement disposition factors at the first order factor level (Byrne, 2010; Conway & Huffcut, 2003). Items with low communality scores and/or have double loading issues are considered as potential candidate to be removed. We also take qualitative judgement by the expert panel and student panel of the theoretical relevance and content validity into
consideration, to decide which items are to made redundancy. As a result, 12 items were retained.

A final EFA was conducted including these 12 remaining items. The KMO statistic of 0.748 suggests a factor structure is likely to underlie the data. Bartlett's test of sphericity for the correlation matrix: \( \chi^2 (66) = 581.619 \) (\( p =0.000 \)) indicates the existence of large correlations amongst the variables. Based on Cattell (1966), we observed the scree in the scree plot at four factors, thus corresponding to our hypothesized four-factor model of the first-order factors of the negative engagement disposition. The scree plot and eigenvalues exceeding 1.0 (at 1.373) concurred in suggesting the suitability of a four-factor solution for negative engagement disposition, which explained 86.934% of the total variance (Kaiser, 1974). The item descriptions and factor loadings for the 12 remaining items of the four extracted first-order factors are shown in Table 4.

Table 4. EFA of first order factor

<table>
<thead>
<tr>
<th>Factor</th>
<th>Loading</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annoyance</td>
<td>0.885</td>
<td>When I saw basic or repetitive questions on [platform name], I got annoyed.</td>
</tr>
<tr>
<td></td>
<td>0.885</td>
<td>When I was not able to find the posts on [platform name] to solve my questions, I felt frustrated.</td>
</tr>
<tr>
<td></td>
<td>0.846</td>
<td>When I found that the instructor was not active on [platform name], I felt disappointed.</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.945</td>
<td>While I was interacting with [platform name], I felt anxious.</td>
</tr>
<tr>
<td></td>
<td>0.921</td>
<td>While I was interacting with [platform name], I felt worried.</td>
</tr>
<tr>
<td></td>
<td>0.911</td>
<td>While I was interacting with [platform name], I felt stressed.</td>
</tr>
<tr>
<td>Failed expectation</td>
<td>0.901</td>
<td>I could not do what I wanted to do on [platform name].</td>
</tr>
<tr>
<td></td>
<td>0.888</td>
<td>I thought [platform name] need to be improved.</td>
</tr>
<tr>
<td></td>
<td>0.873</td>
<td>[Platform name] was not what I thought it should be.</td>
</tr>
<tr>
<td></td>
<td>0.855</td>
<td>The way people interacted with [platform name] was not what I expected.</td>
</tr>
<tr>
<td>Futility</td>
<td>0.928</td>
<td>I thought my efforts on [platform name] did not receive enough recognition from [the platform instructor].</td>
</tr>
<tr>
<td></td>
<td>0.919</td>
<td>I thought my efforts on [platform name] did not receive enough recognition from [other platform users].</td>
</tr>
</tbody>
</table>
4.2.3 Phase 3: CFA of first-order factor

To refine and confirm the preliminary, 12-item negative engagement disposition scale, another sample of 85 students was employed from 90 distributed questionnaire surveys in a Business school undergraduate course. The response rate was 94.4%. Among the 85 respondents, 97.6% were under 24 years old. 49.4% were male, 45.9% were female and 4.7% were gender diverse. 82.1% were domestic students, and 17.9% were international students. Less than 1% of missing data was found, which was addressed with the mean replacement method on SPSS (Tabachnik & Fidell, 2000). Then we conducted the CFA with the software Mplus 7 (Muthen & Muthen, 2010). The results suggest excellent model fit (Kline, 2016): $\chi^2 (48) = 52.727 (p =0.296); \chi^2/df =1.098; \text{CFI} = 0.994; \text{TLI} = 0.992; \text{RMSEA} = 0.034; \text{and SRMR} = 0.040$. Thus our data fits our measurement model well. All standardized factor loadings are above 0.8 (see in Table 5), suggesting that all items should remain in the model.
Then we conducted the reliability and validity check for the four first-order constructs and the results are shown in Table 6. It can be seen that the composite reliability (CR) for each construct is good, all above 0.88, exceeding the recommended threshold of 0.70 (Hair et al., 2014). The average variance extraction (AVE) for each construct is above 0.72, which indicates good convergent validity for all the constructs (Fornell & Larcker, 1981). The square root of AVE of each construct is larger than its correlation between any other construct, which suggests good discriminant validity (Fornell & Larcker, 1981).

Table 5. CFA of first-order construct: standardised factor loading

<table>
<thead>
<tr>
<th>Factor</th>
<th>Loading</th>
<th>Item description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failed expectation</td>
<td>0.900</td>
<td>[Platform name] was not what I thought it should be.</td>
</tr>
<tr>
<td></td>
<td>0.853</td>
<td>I thought [platform name] need to be improved.</td>
</tr>
<tr>
<td></td>
<td>0.835</td>
<td>I could not do what I wanted to do on Piazza platform.</td>
</tr>
<tr>
<td></td>
<td>0.817</td>
<td>The way people interacted with [platform name] was not what I expected.</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.959</td>
<td>While I was interacting with [platform name], I felt worried.</td>
</tr>
<tr>
<td></td>
<td>0.936</td>
<td>While I was interacting with [platform name], I felt stressed.</td>
</tr>
<tr>
<td></td>
<td>0.923</td>
<td>While I was interacting with [platform name], I felt anxious.</td>
</tr>
<tr>
<td>Annoyance</td>
<td>0.941</td>
<td>When I found that the instructor was not active on [platform name], I felt disappointed.</td>
</tr>
<tr>
<td></td>
<td>0.821</td>
<td>When I was not able to find the posts on [platform name] to solve my quires, I felt frustrated.</td>
</tr>
<tr>
<td></td>
<td>0.814</td>
<td>When I saw basic or repetitive questions on [platform name], I got annoyed.</td>
</tr>
<tr>
<td>Futility</td>
<td>0.968</td>
<td>I thought my efforts on [platform name] did not receive enough recognition from [other platform users].</td>
</tr>
<tr>
<td></td>
<td>0.899</td>
<td>I thought my efforts on [platform name] did not receive enough recognition from [the platform instructor].</td>
</tr>
</tbody>
</table>

Table 6. CFA of First-order constructs: Mean, Standard deviation, Reliability and Validity

<table>
<thead>
<tr>
<th></th>
<th>MEAN</th>
<th>SD</th>
<th>CR</th>
<th>AVE</th>
<th>ANOY</th>
<th>ANXY</th>
<th>FEXP</th>
<th>FUTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOY</td>
<td>7.271</td>
<td>0.473</td>
<td>0.913</td>
<td>0.741</td>
<td>0.861</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANXY</td>
<td>4.506</td>
<td>0.473</td>
<td>0.958</td>
<td>0.883</td>
<td>0.512</td>
<td>0.940</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEXP</td>
<td>4.141</td>
<td>0.459</td>
<td>0.915</td>
<td>0.726</td>
<td>0.260</td>
<td>0.422</td>
<td>0.852</td>
<td></td>
</tr>
<tr>
<td>FUTY</td>
<td>4.447</td>
<td>0.592</td>
<td>0.880</td>
<td>0.873</td>
<td>0.225</td>
<td>0.262</td>
<td>0.386</td>
<td>0.934</td>
</tr>
</tbody>
</table>

SD = standard deviation; CR = composite reliability; AVE = average variance extraction; ANOY = annoyance; ANXY = anxiety; FEXP = failed expectation; FUTY = futility; MEAN is calculated based on Latent Mean rather than aggregated score; Diagonal elements = square root of AVE; The lower triangle shows the correlation between constructs.
Also, the low correlation coefficients between these four first-order constructs support our theoretical claim that negative engagement disposition is best operationalised as a formative construct at the second-order level rather than a reflective construct. That is, negative student engagement disposition is a first-order reflective, second-order confirmative construct. In the following study 3, further validity check at the second-order factor level is conducted.

4.3 Study 3: Validity check at second-order factor level

The purpose of Study 3 is to further validate the negative engagement disposition scale at the second-order factor level. Following the validation approach of formative scale suggested by Diamantopoulos and Winklhofer (2001), we examined the nomological validity of negative student engagement at the second order by including the consequential, behavioral construct into the full model. In doing so, Study 3 also contributes to verifying that the developed scale of negative student engagement disposition behaves as expected regarding the behavioural outcome. To this end, the study tested the psychometric properties of negative student engagement disposition in relation to its behavioural consequence of negative WOM. Negative WOM is chosen because actors with negative engagement disposition are likely to share their experience of negative engagement with other actors who have been through similar experiences. Such behaviours of spreading information about their negative engagement towards the service platform can be captured by negative WOM. Specifically, these affective and cognitive factors or the actor’s negative engagement dispositions further result in negative WOM behaviours.

Therefore, in addition to the items measuring the first-order constructs of negative engagement, we included measures relating to negative WOM (Goyette, Richard, Bergeron & Marticotte, 2010) in the questionnaire (e.g. “I spoke unflatteringly about Piazza platform to
Negative WOM is the consequential factor in the nomological network of negative engagement disposition (Li et al., 2018). Another 210 questionnaires were distributed in a Business School course, resulting in a total sample of a sample of n = 204 undergraduate respondents (response rate = 96.2%). Four invalid questionnaires are removed due to incomplete surveys, resulting in the final sample size of 200. 95.5% were under 24 years old. 44% were male, 50.5% were female, and 5.5% were gender diverse. 78% were domestic students, 21.5% were international students, and 0.5% were exchange students. Less than 1% of missing data was found, which was addressed with the mean replacement method on SPSS (Tabachnik & Fidell, 2000). With this newly recruited sample, we conducted further CFA and path model analyses, as detailed overleaf.

4.3.1 CFA on the measurement model

To test the composite reliability, convergent validity and discriminant validity for all constructs in the full model, a CFA was conducted on the measurement model, using Mplus 7 (Muthen & Muthen, 2010). The results suggest excellent model fit (Kline, 2016): χ² (67) = 69.240 (p =0.402); χ²/df =1.033; CFI = 0.999; TLI = 0.998; RMSEA = 0.013; and SRMR = 0.027. Thus the data fit our full model well. Table 7 shows that the composite reliability (CR) for each construct is good, all above 0.86 (Hair et al., 2014). The average variance extraction (AVE) for each construct is above 0.72, which indicates good convergent validity for all the constructs (Fornell & Larcker, 1981). The square root of AVE of each construct is larger than its correlation between any other construct, which suggests good discriminant validity (Fornell & Larcker, 1981).
4.3.2 Full model: Formative scale at the second-order factor level

For formative construct scale development, reliability tests are not applicable, since dimensions are not necessarily expected to correlate with one another (Diamantopoulos & Winklhofer, 2001). However, a number of validity checks were conducted, as suggested by Diamantopoulos and Winklhofer (2001). We include the consequential construct of negative WOM into the full model. Then, we conducted the full model analysis using SEM in Mplus 7 (Muthen & Muthen, 2010). The results suggest excellent model fit (Kline, 2016): $\chi^2$ (67) = 69.240 (p =0.402); $\chi^2$/df =1.033; CFI = 0.999; TLI = 0.998; RMSEA = 0.013; and SRMR = 0.027. Thus the data fit our full model well.

As shown in Figure 2, the path coefficients between the first-order constructs and the consequential factor, negative WOM are all significant, showing good validity of the formative scale indicators. The relationship between negative engagement disposition and the negative WOM is also significant, supporting our theoretical claim of the nomological relationship between negative engagement dispositions and negative engagement behaviours.

<table>
<thead>
<tr>
<th>Table 7. CFA of full model constructs: Mean, Standard deviation, Reliability and Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEAN</strong></td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>ANOY</td>
</tr>
<tr>
<td>ANXY</td>
</tr>
<tr>
<td>FEXP</td>
</tr>
<tr>
<td>FUTY</td>
</tr>
<tr>
<td>NWOM</td>
</tr>
</tbody>
</table>

SD = standard deviation; CR = composite reliability; AVE = average variance extraction; ANOY = annoyance; ANXY = anxiety; FEXP = failed expectation; FUTY = futility; NWOM = negative word-of-mouth; MEAN is calculated based on Latent Mean rather than the aggregated score; Diagonal elements = square root of AVE; The lower triangle shows the correlation between constructs.
5. Discussion and concluding remarks

The study has addressed the following objectives. First, we conceptualise negative actor engagement, which provides further insights as to how actors negatively engage with one another in a service system. This echoes to Brodie et al.’s (2016) call for research of refinement of actor engagement conceptualisation. Specifically, our study goes beyond the dyadic, customer-centric perspective and take into account engagement among multiple actors in the service system. In doing so, we conceptualise negative actor engagement as actors’ negative dispositions that contains negative affective and cognitive factors during their interactive experience with one another on the touch points and/or engagement platforms. In our research context of student learning service system, it is shown that negative student engagement occurs
during their interactions with other students as well as the lecturer on the learning service platform.

Second, our research marks the first study to operationalise actor engagement. We follow the scale development approach suggested by Churchill (1979) and Diamantopoulos and Winklhofer (2001) and develop a measurement scale for negative actor engagement disposition with a service platform. Specifically, we identified that negative actor engagement disposition consists of four first-order constructs (annoyance, anxiety, failed expectation and futility). The constructs of ‘annoyance’ and ‘anxiety’ belong to the affective dimension; ‘failed expectation’ and ‘futility’ belong to the cognitive dimension. These four constructs form the second-order construct negative actor engagement disposition.

Third, our study establishes the nomological validity of negative actor engagement disposition. The relationship between negative engagement disposition and engagement behaviours, which provides empirical evidence to support Li et al.’s (2018) theoretical propositions of such relationship. Specifically, in our research context, it is shown that students’ negative engagement dispositions with the learning platform have a significant positive relationship with negative WOM behaviours. Lastly, this study focuses on engagement among multiple actors on the platform. Such focus extends the studies of engagement platforms by providing empirical observations of how actors get engaged with one another on the platform. Specifically, our study shows that students engage with multiple actors (other students and lecturers) on the learning service platform.

Besides these contributions, the study also sheds light on the future research directions of actor engagement valence. First, literature has suggested that positive engagement is conceptually distinct from negative engagement (Bowden, Gabbott, & Naumann, 2015; Li, Juric, & Brodie, 2017; Smith, Juric, & Niu, 2013), future study can examine the relationship
between positive and negative engagement by adopting our measurement scale of negative actor engagement. Also the impact of the interplay between positive and negative actor engagement on the consequential engagement behaviours is worth of further investigation. Second, actor engagement dispositions can relate to the past, present and future (Chandler & Lusch, 2015; Li et al., 2018). Whereas our study focuses on the actors’ present negative engagement dispositions, future research can conduct research with the focus on actors’ past and future dispositions. Thirdly, although our study demonstrate the nomological validity of the scale of the negative actor engagement disposition by looking at the behavioural outcomes of negative word of mouth, future studies can further investigate and broaden the nomological network of negative actor engagement dispositions. Lastly, while our research context is student engagement with learning platforms, the generic mechanism underlying engagement among multiple actors remains the same in a range of service systems (Vargo & Lusch, 2016; Li et al., 2017). For example, we see no reason why the measurement scale for negative actor engagement with the learning service platform cannot be generalised in other contexts such as knowledge sharing platforms and user innovation forums. However, due to the context-specific nature of engagement (Brodie et al., 2011), further empirical studies of negative actor engagement in different service systems are encouraged to investigate the interplay between actor engagement valence and context-related factors.
CONCLUSION

The purpose of the thesis is to advance the understanding of actor engagement in service networks by exploring the dynamics of engagement among multiple actors (Chapter 1), and investigating the nature and role of actor engagement valence in service networks (Chapter 2). The development of the measurement scale for the largely overlooked construct of negative engagement (Chapter 3), serves as a prerequisite for further exploration of the nature and dimension of actor engagement valence, which explains diverse actor engagement behaviours, the dynamics of actor engagement in service networks, and the network evolution. Overall, the thesis extends the traditional dyadic and customer-centric perspective of engagement to a networked, multi-actor perspective, thus echoing the research call for engagement studies of multiple actors in the service eco-system (Brodie et al., 2016). Also, the thesis directly responds to the call for service research priorities relating to understanding the interaction and value creation from multi-actor and service ecosystem perspective, and how actors affect one another in the rapidly-changing and dynamic environment (Ostrom et al., 2015). Moreover, the thesis contributes to resolving the inconsistent views in the literature towards engagement valence (Smith et al., 2013; Juric et al., 2016; Hollebeek & Chen, 2014) by conceptualizing the valence of actor engagement. Lastly, the thesis contributes to investigating the previously largely overlooked negative engagement phenomena (Li et al., 2018) and offering a measurement scale of negative actor engagement. Particular contributions from each Chapter are presented below, followed by the future research avenues derived from each study.

Chapter 1 explores the dynamics of multi-actor engagement by examining the process of how engagement evolves and spreads among multiple actors and/or groups of actors in networks. It refines and extends the current understanding of the process of action formation (Storbacka et al., 2016), and the behavioral and activity manifestation of actor engagement by providing more grounded explanations. We identified two additional actor-related elements
(actors’ connections and value propositions) and engagement outcomes which become new conditions for the next iteration. In doing so, the study emphasises the need to examine the dynamic nature of engagement from a multi-actor perspective. This is consistent with recent research by Jaakkola and Alexander (2014) and Verleye et al., (2014). The multi-actor engagement perspective emphasizes the notion that engagement is not merely an individual, customer-only and isolated concept; rather engagement is continuous and interrelated with other actors in the network. Thus our study offers empirical support for the theoretical propositions on the understanding of various dimensions of actors’ interactions and service experience co-creation (Jaakkola et al., 2015).

The dynamic nature of engagement is a fundamental aspect of the conceptualization of engagement (Brodie et al., 2011), and is essential in the networked business environment (Chandler & Lusch, 2015) hence further research focus needs to shift to the dynamics of engagement in the network setting. In the case of United Breaks Guitars, the authors identified various actors and actor groups, and different engagement platforms. The authors (Li, Juric and Brodie) acknowledge this context may limit the generalizability of the findings. Although in other contexts, the actors, their associated resources and the engagement platforms can be more diversified, the authors see no reasons why the framework should not apply to any network of multiple engaging actors and actor groups. Thus this framework could be used in the future research to explore dynamic process in a range of contexts. Also, this study shows that groups of actors could generate substantial influence on other actors and the engagement process. While some groups exist prior to an initial engagement or event, some others are formed later due to their similar or shared interests. The case data did not allow investigation into how such groups build during the process of engagement. Thus future research could explore what factors influence such a group formation process and how such a process can be influenced by actors in the network. Moreover, this study reveals that institutions and institutional arrangements
influence the mode and forms of engagement activities to the extent that they may determine whether value could be generated or destroyed by the engaging actors. Thus it is suggested that this area, guided by S-D logic theoretical framing of institutions and institutional arrangements (Vargo & Lusch, 2016), merits more investigation. Future research issues include: the ways in which institutions and institutional arrangements guide and influence the interplay between engaging actors and external contexts, and vice versa, how such interplay changes the existing institutions and institutional arrangements.

Apart from the main research objective of exploring the mechanism of the dynamic multi-actor engagement in the network, Chapter 1 also demonstrates some emergent findings associated with the valence of engagement. The study found that when engaging with others in the network, the focal actor is appraising the other actors’ value propositions regarding positive and negative valence. This is of particular importance to the action formation process of actor engagement where the focal actor determines whether to accept the ‘invitation’ to join the network to engage with others. Together with other appraisals, the actor then engage in different resource integration activities that are characterized by various engagement properties, which then lead to ensuing outcomes and contribute to the new conditions for engagement in the next iteration. One of the key properties is identified as the valence of certain engagement activities, which will influence the engagement outcomes. Thus it can be seen that valence plays an important part in this dynamic and iterative process of multi-actor engagement. However as different actors possess different dispositions, which will then influence the way the focal actor perceive such outcomes regarding positive and negative valence. That is, valence resides in the eye of the beholder. Thus, from a multi-actor perspective, it is rather complicated to define positive and negative engagement. This intriguing and sophisticated question leads to the following studies in Chapter 2 and Chapter 3.
Chapter 2 conceptualises one of the key dimensions of actor engagement – valence. One of the emergent findings of Chapter 1 points to the pivotal role of valence in influencing the engagement behaviours, the dynamic process of engagement among multiple actors in service networks, and the evolutions of the networks. Thus this study contributes to the engagement literature by understanding and refining the emerging concept of actor engagement, responding to the research calls by Storbacka et al. (2016), Brodie et al. (2017) and Li et al. (2017). Also, this paper marks the first study to conceptualise actor engagement valence systematically. The study supports earlier findings by Chandler and Lusch (2015), by showing that the valence of actors’ dispositions can be past-, current- and future-oriented. Furthermore, the synthesis of the insights from the literature review suggests that the valence of engagement has triggers. Thus this paper proposes that the valence of actor engagement resides in the focal actor’s past, current and future psychological dispositions which can be positive, negative or ambivalent, and is triggered by engagement-associated objects with assigned significance or meaning, and by the relevant value propositions of other actors in the network. The antecedents of actor engagement valence comprise individual factors such as cognitive evaluations and hedonic feelings, as well as network-related factors such as social norms and shared beliefs, and the network structure. The net balance of actor engagement valence determines the actor’s engagement behaviours, and this relationship is moderated by individual and network factors.

The four groups of propositions identified in Chapter 2 serve as a basis for further research about the valence of actor engagement in service networks. Each group of propositions leads to a list of research questions to facilitate further investigation of actor engagement valence in service networks. The first set of propositions outlines the definition of actor engagement valence. The questions that are derived from the definitional propositions include what constitutes the actor’s psychological past, present and future dispositions in different contexts and the ways the valence of the actor’s past, current and future psychological
dispositions influence each other. While the ambivalence of actor engagement captures the co-existence of both positive and negative valence within the focal actor’s psychological dispositions, are actors consciously aware of such engagement ambivalence? The second proposition explains that actor engagement valence can be triggered by objects or by the value propositions of other actors. However, the underlying process of how such triggers work merits further research. The third group of propositions explain the individual factors and network-related factors as antecedents of actor engagement valence. This set of propositions suggest the need for further research into the factors influencing psychological dispositions and the valence of engagement. For example, what are the cognitive sources and processes that underlie an actor’s evaluations of connections and value propositions? What are the other antecedents that determine the valence of an actor’s psychological dispositions? What is the relationship between these antecedents? Research questions generated from the propositions call for further elaboration of the relationship between the valence of engagement and engagement behaviours. How does the strength of valence of an actor’s psychological dispositions influence the net balance of valence and thus engagement behaviours? What is the algorithm to arrive at the net balance of valence and how can an actor’s positive and negative psychological dispositions, and the net balance of valence, be measured? What is the influence of the interaction effect of an actor’s past, current and future dispositions on engagement behaviours? How to measure an actor’s positive and negative psychological dispositions, and the net balance of valence?

Chapter 3 conceptualises negative actor engagement, which provides further insights as to how actors negatively engage with one another in a service system. This echoes Brodie et al.’s (2016) call for research of refinement of actor engagement conceptualisation. This study also marks the first research to operationalise actor negative engagement. Specifically, it follows the scale development approach suggested by Churchill (1979) and Diamantopoulos and Winklhofer (2001) and develop a measurement scale for negative actor engagement
disposition with a service platform. The study also establishes the relationship between negative engagement disposition and engagement behaviours, which provides empirical evidence to support Li et al. (2018) theoretical propositions of such relationship. In the research context of student service learning system, it is shown that students’ negative engagement dispositions with the learning platform has a significant positive relationship with negative WOM behaviours.

Besides these contributions, the study also opens avenues for the future research directions of actor engagement valence. First, literature has suggested that positive engagement is conceptually distinct from negative engagement (Bowden et al., 2015; Li, et al., 2017; Smith et al., 2013), future study can study their relationship by adopting our measurement scale of negative actor engagement. For example, the developed measurement scale can be used to examine the coexistence of positive and negative actor engagement (Li et al., 2018). Also the impact of the interplay between positive and negative actor engagement on the consequential engagement behaviours also worth further investigation. Second, actor engagement dispositions can direct to the past, present and future (Chandler & Lusch, 2015; Li et al., 2018). Whereas our study focuses on the actors’ present negative engagement dispositions, future research can conduct research with the focus on actors’ past and future dispositions. Lastly, while our research context is student engagement with learning platforms, the generic mechanism underlying engagement among multiple actors remains the same in different service systems (Vargo & Lusch, 2016; Li et al., 2017). Thus we see no reason why the measurement scale for negative actor engagement with the learning service platform cannot be generalised in other contexts such as knowledge sharing platforms and user innovation forums. However, due to the context-specific nature of engagement (Brodie et al., 2011), further empirical studies of negative actor engagement in different service systems are encouraged to investigate the interplay between actor engagement valence and context-related factors.
APPENDIX

Appendix I

PARTICIPANT INFORMATION SHEET

Survey participants

Project Title: Engagement with the learning service platform

Name of Student Researcher: Pengtao (Loic) Li

Degree: Doctor of Philosophy (PhD)
Research Supervisors: Prof. Roderick Brodie, Dr. Catherine Frethey-Bentham and Dr. Biljana Juric
Principal Investigator: Prof. Roderick Brodie

Researcher Introduction

My name is Pengtao (Loic) Li and I am currently working towards a PhD degree at The University of Auckland Business School. I am being supervised by Prof. Roderick Brodie and Dr. Biljana Juric.

Project Description

The goal of this research is to explore the positive and negative experience of interacting with the student learning service platform – Piazza.

Invitation to Participate

I would like to invite you to take part in this research as the Piazza users. If you choose to participate, you will be involved in a questionnaire. Your participation in this study is voluntary and you may decline this invitation to participate without penalty. The Head of Department of Marketing, Dr. Bodo Lang has given an assurance that the participation or nonparticipation will not affect students’ grades or relationship with the faculty.

Project Procedures

I would like to conduct a survey with you by asking you to do a questionnaire. The expected time commitment to do the questionnaire is around 10 minutes. You can choose to withdraw from participation at any time without giving a reason.

Your participation is anonymous. In the survey, the questions will not relate to the participants’ personal information. Only basic demographic information will be conducted for analysis purposes, such as age and gender.

The participants’ completion of the survey is taken as providing the consent to participate in the survey.

Data Storage, Retention, Destruction and Future Use
The data you provide in this project will be used in my PhD thesis, including related presentations and possible publications. All electronic data and physical data will be kept for six years since the completion of the project. The electronic form of data will be kept secure on a password-protected computer at The University of Auckland for the duration of the project, after which the data will be permanently deleted from the computer. All hard copies of the data generated during the project will be securely kept in a locked cabinet at The University of Auckland, and will be securely shredded at the completion of the project.

Right to Withdraw from Participation
Your participation is voluntary. You have the right to withdraw from participation from the survey at any time without giving a reason.

Anonymity
The research will keep your identity anonymous. In the survey, the questions will not relate to your personal information. Only basic demographic information will be conducted for analysis purpose, such as age and gender. If the information you provide is reported/published, it will be done in a way that does not identify you as its source. The survey does not involve any risk to you.

Thank you for considering participation in this research.

If you have any questions about this project, please contact me or the Principal Investigator, Prof. Roderick Brodie.

CONTACT DETAILS AND APPROVAL

<table>
<thead>
<tr>
<th>Student Researcher Name and Contact Details</th>
<th>Supervisor Name and Contact Details</th>
<th>Head of Department Name and Contact Details</th>
</tr>
</thead>
</table>
| Pingtuo (Loc) Li  
Department of Marketing, The University of Auckland  
Business School  
pingtuo.li@auckland.ac.nz | Prof. Roderick Brodie  
Department of Marketing, The University of Auckland Business School  
r.brodie@auckland.ac.nz  
+64 9 923 7523 | Dr. Bodo Lang  
Department of Marketing, The University of Auckland Business School  
b.lang@auckland.ac.nz  
+64 9 923 7162 |

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142, New Zealand. Telephone +64 9 373-7599 ext. 83711. Email: ro-ethics@auckland.ac.nz.

Approved by The University of Auckland Human Participants Ethics Committee on 27/08/2017 for three years. Reference Number 019873.
Student Engagement with Piazza Platform

Welcome to the survey!

We are researchers from University of Auckland Business School. We are conducting a doctoral research project investigating student engagement with Piazza platform.

We would appreciate you taking the time to complete the following survey. It should take about 8-10 minutes to complete. Your responses are voluntary and will be entirely confidential. You will not be identified individually in any way. All responses will be compiled and analysed together.

Your responses are important for us. Thank you for agreeing to take part in this survey.

Research team,
Prof. Rod Brodie, Dr. Catherine Frethey-Bentham, Dr. Biljana Juric and Mr. Loic Pengtao Li

Contact details – Loic: pengtao.li@auckland.ac.nz
SECTION 1  The Course and Your Engagement with Piazza Platform

Q1: How long have you been studying at University of Auckland?

_______ Year(s) _______Month(s)

Q2: In which course have you used Piazza platform the most?
Please provide the name of the course, or the course code.

_____________________________

For the course that you indicated in the previous question (Q2), we would like you to think about your experience using Piazza platform for that course during the last month. Based on your thoughts about using Piazza platform in that course, please answer the following questions by circling the appropriate answer.

Q3: On average, how often did you use Piazza for that course?
☐ Less than once a week
☐ 1-2 times a week
☐ 3-5 times a week
☐ 6-7 times a week
☐ More than once every day

Q4. On average, once you logged into Piazza, how long did you use it for?
☐ Less than 10 minutes
☐ About 10 to 20 minutes
☐ About 21 to 30 minutes
☐ About 31 minutes to an hour
☐ More than an hour
Q5. Please continue to think about the last month of using Piazza for the course that you provided in Q2, and indicate the extent to which you agree or disagree with the following statements by circling the number that best reflects your views (1 = Strongly Disagree; 10 = Strongly Agree; NA = Not Applicable).

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>When I saw basic or repetitive questions on Piazza platform, I got annoyed.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>2</td>
<td>When I found that the instructor was not active on Piazza platform, I felt disappointed.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>3</td>
<td>When I was not able to find the posts on Piazza platform to solve my queries, I felt frustrated.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>4</td>
<td>I could not do what I wanted to do on Piazza platform.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>5</td>
<td>Piazza platform was not what I thought it should be.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>6</td>
<td>I thought Piazza platform need to be improved.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>7</td>
<td>The way people interacted with Piazza platform was not what I expected.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>8</td>
<td>I thought my efforts on Piazza platform did not receive enough recognition from other students.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>9</td>
<td>I thought my efforts on Piazza platform did not receive enough recognition from the lecturer.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>10</td>
<td>While I was interacting with Piazza platform, I felt stressed.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>11</td>
<td>While I was interacting with Piazza platform, I felt worried.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
<tr>
<td>12</td>
<td>While I was interacting with Piazza platform, I felt anxious.</td>
<td>1 2 3 4 5 6 7 8 9 10 NA</td>
</tr>
</tbody>
</table>
SECTION 2  Profiling Information

Q6. My year of birth is: __________________

Q7. My country of birth is: ________________

Q8. Please indicate your gender.

☐ Male  ☐ Female  ☐ Gender diverse

Q9. Please indicate your student status.

☐ Local  ☐ International  ☐ Exchange

Thank you again for your taking time to fill in the survey.

The survey ends here.
PARTICIPANT INFORMATION SHEET

Interview Participants

Project Title: Engagement with the learning service platform

Name of Student Researcher: Pengtao (Loic) Li

Degree: Doctor of Philosophy (PhD)
Research Supervisors: Prof. Roderick Brodie, Dr. Catherine Frethey-Bentham and Dr. Biljana Juric
Principal Investigator: Prof. Roderick Brodie

Researcher Introduction

My name is Pengtao (Loic) Li and I am currently working towards a PhD degree at The University of Auckland Business School. I am being supervised by Prof. Roderick Brodie and Dr. Biljana Juric.

Project Description

The goal of this research is to explore the students’ engagement with the online learning service platform – Piazza.

Invitation to Participate

I would like to invite you to take part in this research as the Piazza users. If you choose to participate, you will be involved in a semi-structured interview. Your participation in this study is voluntary and you may decline this invitation to participate without penalty.

Project Procedures

I would like to conduct a semi-structured interview with you at a place you see fit. The expected time commitment of each interview is around 60 minutes. I would like, with your permission, to audio record the interview during the interview. You can have the recorder turned off at any time without giving a reason. After interviewing, the recordings will be transcribed by me. You can require a copy of the recordings and transcripts made of you via email contact with me. You can make any edits with the transcripts that you see fit and return your revisions to me within two weeks of receipt of the transcripts.
Data Storage, Retention, Destruction and Future Use

The data you provide in this project will be used in my PhD thesis, including related presentations and possible publications. All electronic data and physical data will be kept for six years since the completion of the project. The electronic form of data will be kept secure on a password-protected computer at The University of Auckland for the duration of the project, after which the data will be permanently deleted from the computer. All hard copies of the data generated during the project will be securely kept in a locked cabinet at The University of Auckland, and will be securely shredded at the completion of the project.

Right to Withdraw from Participation

You have the right to withdraw from the interview at any time without giving a reason. You may also ask for your interview data being removed from this study up to one month after the interview.

Confidentiality

The preservation of confidentiality is paramount. The interview data will be kept securely and separate from the Consent Form. To protect your confidentiality, if the information you provide is reported/published, it will be done in a way that does not identify you as its source.

The interview does not involve any risk to you. To thank you for your time and participation, you will receive a $30 Westfield gift card at the end of the interview, or a courtesy gift of a $6 coffee voucher from Excel Café on level 1 at the Owen G Glen Building if you decide to withdraw from the interview. Upon the completion of the project, if requested, I can email you a summary report of the project within two months. This summary report will detail the rationale, results and conclusions of the study.

If you have any questions about this project, please contact me or the Principal Investigator, Prof. Roderick Brodie.

CONTACT DETAILS AND APPROVAL

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<td>Pengtao (Loic) Li</td>
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<td>Dr. Bodo Lang</td>
</tr>
<tr>
<td>Department of Marketing, The University of</td>
<td>Department of Marketing, The</td>
<td>Department of Marketing, The</td>
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<tr>
<td>Auckland Business School</td>
<td>University of Auckland Business</td>
<td>University of Auckland Business School</td>
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<tr>
<td><a href="mailto:pengtao.l@auckland.ac.nz">pengtao.l@auckland.ac.nz</a></td>
<td>School</td>
<td>School</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:pbrodie@auckland.ac.nz">pbrodie@auckland.ac.nz</a></td>
<td><a href="mailto:bulero@auckland.ac.nz">bulero@auckland.ac.nz</a></td>
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<td>+64 9 233 7523</td>
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Approved by The University of Auckland Human Participants Ethics Committee on August 28th 2017 for three years. Reference Number 019873.
CONSENT FORM

Interview Participants

This form will be kept for a period of six years

Project Title: Engagement with the learning service platform

Name of Student Researcher: Pengtao (Loic) Li

Research Supervisors: Prof. Roderick Brodie, Dr. Catherine Frethey-Bentham and Dr. Biljana Juric

Contact email address for researcher: Pengtao (Loic) Li pengtao.li@auckland.ac.nz

I have read the Participant Information Sheet, and I have understood the nature of the research and why I have been selected. I have had the opportunity to ask questions and have them answered to my satisfaction.

• I agree to take part in this research.
• My participation is voluntary.
• I understand that I will take part in a 60-min semi-structured interview.
• I agree to the researcher audio-record the interviews.
• I understand that I can have the audio recorder or camera turned off at any time during my participation in this research without giving a reason.
• I understand that the interview audio-recordings will be transcribed by the researcher.
• I understand that I have the right to request a copy of the recording made of me.
• I understand that I can make any edits with the transcripts that I see fit and return my revisions within two weeks of receipt of the transcripts.
• I understand that I am free to withdraw participation at any time without giving a reason, and to withdraw my interview data up to one month after the interview.
• I understand that the data will be used in the researcher’s PhD thesis, including related presentations and possible publications.
• I understand that information reported or published will not identify me as its source.
• I understand that the data will be kept securely and separate from the Consent Form.
• I understand that the hard copies of data will be securely kept in a locked cabinet at The University of Auckland during the project for six years and shredded when the project is completed; An electronic backup of the data will be kept securely on a password-protected computer at The University of Auckland for six years, after which the data will be permanently deleted from the computer.
• I wish to receive a summary report of the research, which can be emailed to me at this email address: ____________________________, within two months of the completion of this research project.

Name: __________________________________________

Signature: __________________________________________ Date: ________________________

Approved by The University of Auckland Human Participants Ethics Committee on 08/28/2017 for three years. Reference Number 019873.
REFERENCES


http://doi.org/10.1108/JPBM-06-2013-0332


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Sweetin, V. H., Knowles, L. L., Summey, J. H., & McQueen, K. S. (2013). Willingness-to-punish the


