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Supporting the emergence of a shared services organisation: Managing change in complex health ICT projects

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of the requirements for the degree of
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Glossary of terms

'death valley of change'	A curve depicting a process common to most change theories as described by Elrod & Tippett
Action research	A cyclical form of qualitative research in which researcher and participants act and reflect repeatedly while gathering or generating data and learning in order to improve the plan iteratively (Waterman, Tillen, Dickson, & de Koning, 2001)
AR cycle	Plan, act, reflect and modify action plan (Brydon-Miller, Greenwood, & Maguire, 2003)
Business case	Documentation containing financial and other justification for a project
Business process re-engineering	Radical, rapid change resulting from introduction of new ICT technology, processes and interpersonal relationships in order to change and improve an organisation (Hammer & Champy, 2001b)
Capability crisis	An expression of commitment and transition to change marked by a composite of signs including heightened sense of ambiguity and uncertainty, difficult communication and leadership, overwhelming workload, predictions of failure and demand for learning.
Change	Used in the sense of organisational change in which the previous ways of working are no longer useful or appropriate and new ways, usually linked to the adoption of an innovation, need to be assimilated into daily work activities.
Change management	The facilitation of change by means of leadership, learning, communication and support.

Communication	The transfer of information to people who needed it in order to be able to participate in and contribute to the project's goals.
Complex adaptive system	A system in which all components interact with and influence one another and the whole, resulting in constant change, which aims at resilience of the system (Begun, Zimmerman, & Dooley, 2003).
Constructivism	A philosophical approach to understanding reality, that assumes that we all have different understandings reflected by language and history (Appleton & King, 2002).
Convergent interview	An interview or series of interviews, the structure of which tightens as the content becomes clearer (Rao & Perry, 2003).
Critical success factors	Measures taken to predispose projects for success, such as cost, scope, time, project management and change management (Pinto, 2004).
District Health Board	In the New Zealand context this is a regional governance body for the delivery of healthcare (Ministry of Health, 2000).
Grounded theory	A qualitative research approach with distinct features such as the data analysis process, theoretical sampling, and constant comparison (Charmaz, 2006; Strauss & Corbin, 1998).
Health	Although the World Health Organisation definition of health is "A state of wellbeing and the ability to lead a productive life," people working in the health sector refer to the healthcare system, its users and providers as "health". For this reason, "health" is used in the thesis with the latter meaning.

Health ICT project	An ICT project implemented in a health system, usually associated with the adoption of new components of the EHR, and introducing new ICT technology and its associated processes.
Health information strategy	The strategy that provides guidance for the implementation and use of components of a country's EHR (Wyatt & Keen, 2005).
Health system	The interaction between people, structures, policy, funding, and other components that contribute to, use or participate in the delivery of healthcare in various settings on local, regional and national levels.
Healthcare	The delivery of health services at the point of care.
Healthcare organisations	The organisations in which people work together aiming at the delivery of clinical care.
Hierarchy of evidence	In clinical care the hierarchy of evidence refers to the gold standard of evidence as encapsulated in the randomised control trial with qualitative research low on the hierarchy (Petticrew & Roberts, 2003)
IS infrastructure	An organisation's IS infrastructure is the networks, hardware and personnel who provide the technical foundation for the delivery of information services to enable healthcare (Weill & Vitale, 2002).
Leadership	The qualities, attitudes and behaviours of some people that result in others becoming their followers (Turner & Muller, 2005).
Learning	The activities, attitudes and behaviours that result in changes in daily working activities.
Process	"The self-contained, temporal and logical order (parallel and/or serial) of those activities that are executed for the transformation of a business object with the goal of accomplishing a given task" (Rosemann, 2003, p. 18)

Project Fusion	A large and complex infrastructure project in which the IS services of two DHBs were joined into one and upgraded to the latest Microsoft versions.
Reflection	The activities (such as writing, thinking, talking, brainstorming, journaling, amongst other things) that result in learning and improved performance in subsequent AR cycles (Day, Orr, Sankaran, & Norris, 2006).
Shared services organisation	A shared services organisation is an internal, outsourced, organisational arrangement whereby a business unit is shared between multiple organisations but is set up separately from them (Dibbern, Goles, Hirshheim, & Jayatilaka, 2004)
Support	The availability of personnel to help those using new software by coaching them in the new technology and processes, and by solving problems as they emerged.
Users	Those who learn and adopt new technology, processes and relationships brought about by ICT projects.
Zone of complexity	The increase in complexity, ambiguity and uncertainty that occurs as a result of a shift from the interactively simple way of life in a complex adaptive system to a more complex way of life (Tan, Wen, & Awad, 2005).

List of abbreviations

ACC	Accident Compensation Insurance Corporation
AR	Action Research
BPM	Business Process Management
BPR	Business process re-engineering
CIO	Chief Information Officer
CMDHB	Counties Manukau District Health Board
COO	Chief Operating Officer
DHB	District Health Board
DRG	Diagnostic Related Groups
EHR	Electronic Health Board
FAQ	Frequently Asked Questions
GDP	Gross Domestic Product
HASS	healthAlliance Shared Services
HMO	Health maintenance organisation
HMO	Health Maintenance Organisation
HR	Human Resources
ICT	Information and Communications Technology
IM&T	Information Management and Technology
IS	Information Services
LAN	Local Area Network
MIS	Management of Information Systems
MS	Microsoft
NHS	National Health Service
NZ	New Zealand
PCT	Primary Care Trust
PHO	Primary Health Organisation
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PRINCE	**PR**ojects **IN C**ontrolled **E**nvironments

SHI	Statutory health insurance
SHI	Statutory Health Insurance
TCO	Total Cost of Ownership
UK	United Kingdom
USA	United States of America
WAN	Wide Area Network
WDHB	Waitemata District Health Board

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Abstract

Although there is a high risk of failure in the implementation of ICT projects (which appears to extend to health ICT projects), we continue to implement health information systems in order to deliver quality, cost-effective healthcare. The purpose of the research was to participate in and study the change management as a critical success factor in health ICT projects, and to examine people's responses to change so as to develop understanding and theory that could be used in future change management programmes.

The research was conducted within the context of a large infrastructure project that resulted from the emergence of a shared services organisation (from two participating District Health Boards in Auckland, New Zealand). Action research (AR) formed the basis of the methodology used, and provided the foundation for a change management programme: the AR intervention. Grounded theory (GT) was used for some of the data analysis, the generation of themes by means of constant comparison and the deeper examination of the change process using theoretical sampling. AR and GT together supported the development of theory regarding the change process associated with health ICT projects.

Health ICT projects were revealed in the findings as exhibiting the properties of complex adaptive systems. This complexity highlighted the art of change management as a critical success factor for such projects. The fabric of change emerged as a composite of processes linked to project processes and organisational processes. The turning point in the change process from the before state to the after state is marked by a capability crisis which requires effective patterns of leadership, sensitive targeting of communication, effective learning, and management of increased workload and diminishing resources during the course of health ICT projects. A well managed capability crisis period as a component of change management can substantially contribute to health ICT project success.