



The Complexities of Change, Leadership and Technology in Australian University Libraries

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

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

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LIST OF ACRONYMS

4IR	Fourth Industrial Revolution
ALIA	Australian Library and Information Association
AULs	Australian University Libraries
CARL	Canadian Association of Research Libraries
CAVAL	Cooperative Action by Victorian Academic Libraries (Australia)
CAUL	Council of Australian University Librarians
CIM	Chartered Institute of Marketing, UK
EOM	Engagement Oriented Management
HRDC	Human Research Ethics Committee, RMIT University
ICT	Information and Communication Technologies
ILMS	Integrated Library Management System
LIS	Library and Information Studies
MARC	Machine Readable Catalogue
NLA	National Library of Australia
NPM	New Public Management
OCLC	Online Computer Library Centre
OECD	Organisation for Economic Cooperation and Development
RMIT	RMIT University, Melbourne, Australia
TOM	Transaction Oriented Management
UNSD	Unified National System of Dawkins
USA	Unites States of America

LIST OF DEFINITIONS

Change management	The processes relating to strategic planning and its implementation during rapidly changing times for performance improvement while staying relevant to its stakeholders, particularly its clients, and the university management.
Makerspaces	Collaborative spaces for people to become creative, inventive and sharing new ideas.
Organisational culture	Glue that holds an organisation together and stimulates employees to commit to the organisation and to perform. The glue is the shared perceptions of organisational practices.
Organisational learning	Organisation-wide continuous process that enhances collective ability to accept, make sense of, and respond to internal and external <u>change</u> . Organisational learning is more than the sum of the information held by employees. It requires systematic integration and collective interpretation of new knowledge that leads to collective action and involves risk taking as experimentation.
Staff development or professional development	Process of improving and increasing capabilities of staff through access to education and training opportunities in the workplace.
Workforce planning	Systematic identification and analysis of what an organisation is going to need in terms of the size, type, and quality of workforce to achieve its objectives. It determines what mix of experience, knowledge, and skills is required and sequences steps to get the right number of the right people in the right place at the right time.

ABSTRACT

Managing change in university libraries has been a critical issue for libraries during recent decades. Revolutionary advancement in information and communication technologies (ICT) has been a disruptive force for all libraries. Technology has significantly impacted on higher education pedagogy and student learning behaviour. In Australia, federal government policy, increasingly tightening funding, deregulation and the introduction of market forces to higher education also compelled universities and their libraries to adapt swiftly or become irrelevant organisations in their universities. Therefore, this research aims to explore the change management practices employed and the future directions of Australian university libraries from the context of change, leadership and technological complexities.

Discussion of the theoretical aspects of change appears in the literature on librarianship but is mostly limited to theoretical models applied in libraries or to practices of managing change in respective libraries. Literature on the connection between change induced by technologies in the context of leadership is sparse. Adapting to change concerning library leadership and management is not a field covered in depth in the academic commentary. The Internet has induced revolutionary change for university libraries from the mid-1990s, but in-depth research on the changes has, to a great extent, failed to materialise.

Empirical research to explore the current change management practices of Australian university libraries and to learn from their experiences is an aim of this research in order to contribute new knowledge in this field of inquiry.

This study investigates the effectiveness of change management practices and the role of leadership in Australian university libraries within an environment of ongoing transition in technology, funding, needs of clients, and university teaching, learning and research. This research uses the inductive qualitative constructivist approach with constructivism as its foundation for knowledge creation.

This study collected information by visiting 18 Australian public university libraries and interviewing chief librarians, or their equivalents. The interviews were characterised by in-depth open-ended questions based on four key themes that

emerged from the literature review: change, technology, leadership and human resources development. Document analysis and library reports were used for data triangulation. Data from these three sources were gathered, coded thematically, analysed and synthesised to construct knowledge within this thesis.

This study provides a substantial body of knowledge as an original contribution and extension to existing knowledge in the complex area of managing rapid change. Maintaining a proficient service and addressing 21st century needs of university library stakeholders within an ever changing and technologically turbulent environment are prominent issues within this research.

The research makes three main contributions to knowledge. Firstly, some university libraries with new buildings seem to be very active in swiftly adapting to changing environments by designing purpose-built structures and integrating new technology into the design, as well as expanding to areas that were once considered non-traditional responsibilities of libraries. Secondly, there has been a paradigm shift in university libraries since the 1990s. This has involved collection development, services, policies and practices, the changes from just physical buildings to virtual libraries, required new skills among library staff (including senior managers), and the shift in management and communication with new and old stakeholders. Thirdly, based on this research, a model for effective change management in the context of university libraries has been developed to complement other change management models and strategies.

The findings of this research challenge traditional views of library management, emphasising the necessity for libraries to meet vast changes in stakeholder needs while adding value to university goals. The study echoes the power of market forces and advancing ICT and discusses and analyses the need for new recruitment policies for librarians to attract new knowledge and skills required to meet the needs of key clients in a highly digitised environment. Accordingly, the research also provides some policy recommendations to facilitate the evolution of the future-orientated university library and to maintain its relevance.

The above-mentioned research findings contribute to knowledge, primarily in the Australian university library context. It also adds value to university libraries in

countries with similar higher education environmental conditions. This research may have a modest impact on public, schools and private libraries, given the relevance of the use of technology to support learning, teaching and research as an individual or amalgamated pursuit.

CHAPTER 1. INTRODUCTION

... it seems natural to wonder about what will happen to libraries in a new environment in which the distinction between the physical and cyber world is diminished or absent (Frederick, 2016, p. 11).

1.1 Preamble

This research focusses on managing change in Australian university libraries (AULs). Organisational change has been a topic of vital importance and subjected to considerable research and discussion within the business sector. Change was considered a permanent phenomenon by Greek philosopher Heraclitus as early as 500 BC (London, 1996). Yet, the change happening at present has the character and speed that has never been experienced before (Burnes, 2004c; Caboni, 2011; Herman, 2011; Dobbs, Manyika, & Woetzel, 2015). Because of the rapid changes taking place in the higher education environment (Casares, Dickson, Hannigan, Hinton, & Phelps, 2011; CAUL, 2014b; Davis, 2013; Oakley & Vaughan, 2007), it has become critical for university libraries to effectively manage change in order to remain relevant as complementary learning structures and add value to university business in an environment of increased exposure to market forces and competition (Koz, 2014; Levien, 2011; Sarrafzadeh, 2008; Stephens & Russell, 2004).

Examples of AUL reports confirming this notion are:

The higher education environment continues its rapid pace of change with new technologies, pedagogies, and funding uncertainties disrupting and challenging traditional modes of academic delivery. In addition, the changing nature of information provision presents both opportunities and challenges for university libraries. (University library strategic directions 2015-2020. University of Western Australia, 2015, p. 2)

The University of Sydney 2011–2015' outlined both the external and internal challenges that we face in maintaining our current position in an increasingly competitive global education sector. (University of Sydney strategic plan 2011-2015. University of Sydney, 2011, p. 3)

Universities, and their libraries with them, continue to face unprecedented change, triggered by the dramatic and rapid development of technology, shifting government policy and funding regimes and the evolution of the core learning, teaching and research roles of universities. (Transforming Scholarship: Monash University Library 2015 annual plan. Monash University, 2014, p. 1)

Leadership in any field of work, including university libraries where technology-driven change is unstoppable (Campbell, 2006; Levien, 2011), is crucial to provide the work environment and culture necessary to manage change satisfactorily (Popp, 2012; Starke et al., 2011).

There is a considerable body of literature relating to various facets of change, including technology (ALIA, 2014; Dobbs, Manyika & Woetzel, 2015; Hajkowicz, Cook & Littleboy, 2012; KPMG, 2014; London, 1996). Yet, the need for more empirical research is emphasised by many in the field of management (By, 2005; Goedegebuure & Schoen, 2014; Pryor, Taneja, Humphreys, Anderson & Singleton, 2008), including in librarianship (Duderstadt, 2009; Johnson, Becker, Estrada, & Freeman, 2015; Levien, 2011; Lynch, 2000; Morehart, 2015; Nesta & Mi, 2011; Piorun, 2013). Availability of limited empirical research (discussed in detail in Chapter 2 - Literature Review) on managing change in university libraries represents an obvious hindrance to the knowledge required to strategically plan and efficiently implement change in Australian university libraries for them to adapt as value adding units of the universities.

Hence, this thesis examines the change management practices adopted by Australian university libraries from the viewpoint of their chief librarians or directors. This thesis aims to contribute new knowledge in the field by moving beyond the simple mapping of ever-more complex change forces that are influencing and shaping university libraries in Australia.

1.2 Background

The past four decades or so were dominated by remarkable changes in the world arena in which globalisation, capital, trade, labour mobility and information technology collectively induced major changes (Durrani & Smallwood, 2008). These changes are constant, significant and continuously influencing higher education (Deem, 2010; Durrani & Smallwood, 2008; Rich, 2006; Sandhu, 2015), including university libraries in Australia (ALIA, 2013, 2014; CAUL, 2014b; Davis, 2013; Wainwright, 2005).

Some key factors are impacting on changes in the higher education sector with a

residual effect on AULs. Firstly, declining funding of Australian universities by the government has a major effect on changes within the higher education sector, including libraries. Australian universities were fully funded by the government in 1974 (ABS, 2004). Then in 1989, the Australian government introduced a new funding policy with the Unified National System of Dawkins (UNSD) (ABS, 2004). This policy has resulted in decreased funding to Australian universities by the federal government over time: from full contribution in 1974 to 40.1 per cent in 2002 (ABS, 2004) to approximately one-third by 2007 (Guthrie & Neumann, 2007). There has not been any improvement in this situation since 2007 and Australia fell behind in public spending for higher education in comparison to 29 OECD (Organisation for Economic Cooperation and Development) countries to 25th place (Davis, 2013; Montague, 2013). This trend continues as ‘Australia’s level of public investment in higher education is low compared to other industrialised economies’ (Rea, 2015, p125). To add further complexities, the Australian government in 2016 introduced a further 20 per cent funding cut from 2016 (Carrington, O’Donnell & Rao, 2016; Conifer, 2016) and further cuts proposed in *Higher Education Reform Package, 2017* (Commonwealth of Australia. Ministry of Education and Training, 2017), thus signalling potential problems for the higher education sector with cuts remaining an issue of contention (Kniest, 2016). The significant budget cuts that commenced in 1996, provided much of the stimulus for profound changes such as reduced staff numbers and changed collection development policy in university libraries (Wood, Miller & Knapp, 2007).

The Australian government’s “*National Innovation and Science Agenda*” (Commonwealth of Australia. Department of the Prime Minister and Cabinet, 2015) emphasised the significance of innovation and creativity, which would add pressure and complexities to managing the performance of universities, including their libraries, while further strengthening market forces. Major change is also signaled in the research culture of Australian universities as the Turnbull government appears to be downgrading the importance and focus of publishing articles in academic journals that are read by few people (Danckert, 2015).

Secondly, rapid advancement in information and communication technologies (ICT) is a major factor underpinning change in university libraries (Baker, 2014a; Campbell,

2006; Gilstrap, 2009; Glogoff, 2001; Johnson et al., 2015). The Internet is a networking technology that connects millions of computers enabling convenient transfer of information, which, in turn, has a huge impact on accessing and sustaining knowledge (Beal, 2010). The Internet has profoundly impacted on the world so much that Tim Berners-Lee (1998), the inventor of the World Wide Web, considered it a dream technology to stimulate diversity of thought in a world facing and needing to resolve new challenges. While still evolving, the Internet has an intense influence on information sharing, conversation and collaboration, causing far-reaching changes in higher education as well as in its libraries (Anglada, 2007; Antoni, 2009; Baker, 2014a, 2014b; Kaufman, 2007; O'Connor, 2007). Combined with digital technology and ubiquitous access to information, the Internet is causing major shifts in library perspectives and functions such as access brokerage, global access, collection management, space planning and other complex access issues (Anderson, 2015; Baker, 2014b; Gibbons, 2007). The term “Internet” is used in this thesis to denote both the technology used to source information and the Internet as a source of information in its own right.

Among the technologies libraries use, Integrated Library Management Systems (ILMS) and Machine-Readable Catalogue (MARC) formats have proved inadequacies in terms of data and document exchange (Denison, 2007). In comparison, the Internet provides ubiquitous access not only to the library collections but to a vast array of electronic resources through clients’ computers (Denison, 2007). Consequently, information commons or learning commons models originated and were developed in response to advancing technology and increased demand for access to digital resources from the new generation of students (Beatty, 2008)). The information commons model consists of three elements: technology, space and people (Beatty, 2008). To be effective, information commons provide necessary technology (software and hardware) to access a vast array of information available through the Internet, appropriate spaces for individual and group learning, and expert staff to provide information technology help when necessary to support learning (Beatty, 2008). In satisfying the demand from clients, information commons also need to cater for a number of fundamentals: face-to-face learning support by librarians, technical experts and learning experts; virtual instruction support; formal learning support (classrooms

and instruction by experts); formal instructions by librarians; and informal learning facilities (Beatty & White, 2005; McPherson & Ganendran, 2010; Riddle & Souter, 2012). Thus, information commons have a strong link to learning by fostering a sense of community, collaboration and creativity (Beatty, 2008; Lippincott, 2006).

The theoretical explanation linking the advancement of technology and managing change also provides new perspectives. For example, Christensen's (2000) theory of disruptive technologies suggested that some new technologies bring aggressive new possibilities to the marketplace that are usually cheaper and more satisfactory in meeting the needs of organisations. Christensen's (2000) theory is also relevant to higher education institutions, its libraries and clients because not making use of aggressive new technologies can soon make some university libraries irrelevant and even disappear, while others may prosper through the adoption of innovative ICT functionalities (Gibbons, 2007; Gibson, 2000; Lafferty & Edwards, 2004). The urgency of adapting to change for university libraries is demonstrated as the advancement of cyberinfrastructure (powerful and advanced ICT systems with capabilities for creation, dissemination, preservation, and application of knowledge) represented the second major wave of the information and communication technology (ICT) revolution that could disrupt higher education (Bement, 2007).

The fourth industrial revolution (4IR), comprised of advancements in technologies such as artificial intelligence, robotics, nanotechnology, 3D printing and biotechnology which also could lay the foundation for rapid changes in organisations, is well advanced (Schwab, 2016; WEF, 2016). These technological advancements also come with new opportunities for higher education institutions and are open to immense possibilities, for example, collaborative learning, creation of new knowledge, curation of digital information breaking the physical boundaries and exposing resources, and making the virtual university a possibility (Duderstadt, 2009; Frederick, 2016; Tapscott & Williams, 2010).

To Frederick (2016, p. 9) the World Economic Forum's (WEF) major theme was the impending impact of 'robots, artificial intelligence, cloud-based computing, big data and a combination of other technologies ... gradually merging to create a new reality which has the potential for revolutionizing our way of life.' The "data deluge"

segment at the WEF consisted ‘of an exploration of the fourth industrial revolution, what role libraries might play in this revolution, and how our information environment could be forever changed’ (Frederick, 2016, p. 9).

some large academic libraries use automated robots in combination with RFID {Radio-frequency identification} technology and data from the library’s bibliographic and holdings records to retrieve from storage and deliver books that have been requested by users. While this application of technologies is newer for libraries, it is not on the cutting-edge for industry. It is an example of how libraries are already making use of the processes which are arising out of developments which are increasingly part of the new industrial revolution (Frederick, 2016, p. 10).

Frederick (2016, p. 10) considered that it was appropriate to assume that the use of 4IR technological processes and tools will increase in the future and be focused on application to ‘the execution of routine library work and services for patrons’.

O’Connor and Sidorko (2010) raised some fundamental questions regarding functional efficacy of libraries without published content in digital form, personal computers (as opposed to mainframes with terminals) or the Internet. O’Connor and Sidorko (2010) wanted their readers to describe the functions of a library through imagining what the possibilities might be if a licence was granted to ‘re-invent your library’s future. What would you do? Would you know what to change? Would you be able to convince your stakeholders and your colleagues about your proposed changes? Would you be confident to select just the right changes?’ (O’Connor & Sidorko, 2010, p.1).

Thirdly, a diverse student population is an added issue for library leadership in response to change. The student population can range from baby boomers to “millennials” or the “Net” generation with vastly different characteristics (Oblinger, 2003). While baby boomers are considered the older generation born between 1946 and 1964 (McCrinkle, 2006), the “Net” generation is the younger generation who grew up with the Internet and related technologies (Roberts, 2005). A significant element of changing student population in universities is the increasing number of time-poor students (CAUL, 2003; Oblinger, 2003; Popp, 2012). Students often juggle studies with either family life or work or both (Oblinger, 2003) and use computers and the Internet extensively (Lippincott, 2005; Oblinger & Oblinger, 2005). They use multiple methods of communication and study, shop and socialise online, spending fewer hours in the library (Oakley & Vaughan, 2007). Microlearning (the process of

learning through small units) is also the preferred approach to learning by net generation, and hence, this process of learning is growing in importance in higher education andragogy (EDUCAUSE, 2014; Grovo, 2014). As a result, millennials expect online library services that reflect the capabilities of fashionable websites (Lippincott, 2005; Oakley & Vaughan, 2007) to facilitate ease of using the library collection and databases and saving their time by enabling instant, seamless and complete access 24/7 to information from any locality (Connaway, Dickey & Radford, 2011; Popp, 2012; Sheesley, 2002).

Finally, extensive changes have also taken place in the methods of university teaching, learning and research. Advancing technologies facilitate the emphasis on life-long learning, problem-based learning, student-centred learning, online teaching, learning and research, and the delivery of learning material (Duderstadt, 2009; Jamieson, 2013; Oakley & Vaughan, 2007; Tangney, 2014). Therefore, speedy and comprehensive information retrieval is essential in institutions of higher learning, and a system, including library service that supports it is crucial for effective learning in the 21st century (Montague, 2012).

1.3 Changing role of the university library

Around the middle of the twentieth-century, the library was considered the centre of university education and deemed an essential part of the university that all students, academics and researchers had to visit for information (Darnton, 2008). It was the responsibility of the university library to acquire and organise books, journals and other library materials that may be required for teaching, learning and research in the university (Darnton, 2008). With the swift changes happening in the university environment, the purpose and expectations of a university library have changed remarkably (Bostick & Irwin, 2014; Campbell, 2006; Darnton, 2008; Sandhu, 2015). The relevance of the library as part of the university structure is still being acknowledged (Jamieson, 2013; Sandhu, 2015) while the need for its adaptation to changing times is also recognised widely (ALIA, 2014; Beatty, 2008; Cuillier, 2012; Johnson et al., 2015).

The traditional view of the library emphasised its importance around its information

resources, and users accessing them on the terms of the institution to ensure the integrity of the collection (Brophy, 2005). In addition to increasing digital publishing, digitisation projects of existing library print collections break the physical barriers, opening digital collections to the rest of the world (Anderson, 2015; Duderstadt, 2009). Furthermore, the transition of higher education andragogy from instruction-centred to an adult learning-centred paradigm (andragogy) shows a growing recognition of variation of students' learning styles and the need for university libraries to adapt accordingly, through group teaching/learning, simulated learning environments, immersive environments, peer to peer and social learning, clusters and learning spaces demonstrating the value of the social constructivist view of learning (Jamieson, 2013). As higher education institutions are increasingly moving towards supporting "student-centred" learning, academic libraries also need to move along this direction to complement these learning and teaching strategies (Childs, Matthews & Walton, 2013a, 2013b; Jamieson, 2013). Today's university library is a place for collaboration, learning, social engagement, and creativity (Sandhu, 2015) with the purpose of adding value to university business. Revolutionary advancements in ICT also bring challenges as well as opportunities for university libraries to play a significant role in the university academic enterprise (Duderstadt, 2009) in a changing university teaching, learning and research.

1.4 Rationale of the research

Changes in the Australian university environment described the demand that academic libraries manage all resources with a heightened shrewdness concerning the learning needs of their clients (Lippincott, 2005; Roberts, 2005; Smith, 2008). The Australian university libraries also need to remain abreast of issues that include swift technological changes through human resource development or recruiting staff with new skills to meet learning needs in terms of access to information and suitable learning spaces (Bell, 2014; Lippincott, 2005; Roberts, 2005; Smith, 2008) and, most of all, making the university library future ready (Chan, 2014; Gilstrap, 2009; Jefcoate, 2010; Kaufman, 2007; Stephens & Russell, 2004). The alternative to effective change management is that university libraries may become irrelevant and obsolete organisations within a short period (Chan, 2014; Stephens & Russell, 2004).

This observation has been raised by many (Baker, 2014a; Farley, Broady-Preston, & Hayward, 1998; Gilstrap, 2009; Stoffle & Cuillier, 2011; Wood et al., 2007) who collectively assert that the essence of managing university libraries is about managing change or adapting to a changing environment. Effective leadership provides the necessary vigour (Gomathi, 2014; Kotter, 1990b; Starke et al., 2011) to manage changes in library resources (including technology) and planning and implementation of strategies to meet the needs of clients and other stakeholders (Popp, 2012; Wells, 2007). If AULs adapt to the changing environments with foresight, the library can function as a well-placed component within the academy (Childs et al., 2013b; Jamieson, 2013; Kostagiolas, Banou, & Laskari, 2009; Martin, 2008; Mitchell, 2008). Then, higher education libraries will have the capacity to cater for the future demands of clients and the future strategic needs of the university contributing to university strategic goals (Childs et al., 2013b; Jamieson, 2013; Kostagiolas et al., 2009; Martin, 2008; Mitchell, 2008). Hence, this study of change management practices of AULs is significant not just for their survival, but more importantly, adding value to the university academic enterprise, for example, learning, teaching and research (Johnson et al., 2015; Lafferty & Edwards, 2004; Sandhu, 2015).

This research is also significant because of limited empirical research on this topic, particularly within the Australian context. The gravity of the problem in this critical time of rapidly changing AULs necessitates further research on the subject. Chapter two, a review of the literature also points to some areas needing further research in the light of available or published literature to-date.

1.5 Research objectives and research questions

As discussed in Section 1.2 (Background), university libraries are being subjected to major changes occurring due to numerous factors such as government policy, technology, a diverse student population and changing university teaching, learning and research environments.

In the context of related demands on and challenges for higher education, and libraries specifically, the key objectives of this thesis are to:

- a) Gain an insight into the complexities of the challenges in terms of change

- management, leadership and technology advances;
- b) Investigate the current change management practices in university libraries, with emphasis on Australian university libraries; and
 - c) Develop new knowledge in the field of change management and leadership by investigating the way the chief librarians in university libraries approach these important issues.

A good research question brings rigour and validity to the subsequent research and determines how research is conducted, while striving to interpret or describe how, why and what of the research question (Agee, 2009; Kinmond, 2012; Mantzoukas, 2008). Therefore, the research questions in this thesis have been formulated as one principal research question followed by the four subsidiary questions, as follows, to guide the entire investigation.

1. The principal research question:
What key factors contribute to effective change management in Australian university libraries from the perspective of chief university librarians?
2. The subsidiary research questions:
 - 1) What change management practices are being employed in Australian university libraries?
 - 2) What practices do leaders adopt to address the constant and effective application of new technologies?
 - 3) How crucial is effective leadership to Australian university libraries?
 - 4) What are the future directions of Australian university libraries?

1.6 Propositions

This research upholds the following three propositions as key conditions based on the related literature:

1. Change in a university library environment is swift (Beerel, 2009; Durrani & Smallwood, 2008; Miller, 2012; Popp, 2012).
2. Factors affecting change are complex, and they can either be internal or external (CAUL, 2014a, 2014c; Lippincott, 2005; Oakley & Vaughan, 2007; Oblinger, 2003).

3. In effectively managing change in university libraries, leadership plays an important role as it leads to important decision making and successful implementation (Castiglione, 2006; Fullan, 2001; Popp, 2012).

1.7 Scope of the research

This research concentrates on information gathered by interviewing selected chief university librarians of Australian public universities. Another data source was university library documents such as annual reports. Out of the thirty-seven public universities in Australia, a sample of twenty was selected initially. This sample includes the Group of Eight universities (established prior to the mid-twentieth century), and the other twelve are universities founded during more recent times or which gained university status during the past three decades. This sample also includes universities from all states and territories except Tasmania and the Northern Territory. Second data source was university library documents such as annual reports. Third was relevant information from the literature used in 'Chapter 2 Literature Review' also used to compare and contrast the findings of this research.

1.8 Significance of the research

Managing change has been an important issue for university libraries due to the swift changes occurring in higher education (Maloney, Antelman, Arlitsch & Butler, 2010; Miller, 2012; Popp, 2012), particularly over the past thirty years or so (Durrani & Smallwood, 2008; R. Miller, 2012; Popp, 2012). The advent of the Internet (a massive networking infrastructure connecting computers around the world) in 1995 enabled every network to connect with every other network and access information seamlessly (The Internet Society, 2015b). These capabilities of the Internet made the biggest and farthest-reaching impact on libraries as well as universities by facilitating convenient sharing of information and opening the possibilities of virtual institutions (Antoni, 2009; Baker, 2014a). It is important to redefine and reshape the future of libraries (Stephens & Russell, 2004) to regain or sustain the relevance of the library in university education (Levien, 2011; Wainwright, 2005; Walton, 2007).

Leadership is a critical force to effectively manage change in organisations (Basu, 2015; Drucker, 2007; Higgs, 2009; Huy & Mintzberg, 2003; Kotter, 1990a).

Leadership is a force that aligns and develops human resources (Cloeke & Goldsmith, 2002; Kotter, 1990a; Walker, 2009), understands and addresses moral issues and complexities of change, builds knowledge and skills of organisations, and provides coherence in managing change (Fullan, 2001). Thus, leadership provides the expertise for a systematic approach to managing change (Gomathi, 2014; Huy & Mintzberg, 2003; Kirkpatrick, 2001). Rapid changes have been taking place in higher education environments, including in Australia (as discussed in Section 1.2). Therefore, the equally critical nature of leadership in managing change in libraries to maintain relevance and add value to university business is well documented (Malhan, 2006; Martin, 2015; O'Connor, 2014; Riggs, 2001; Schreiber & Shannon, 2001).

Empirical research is critical for the advancement of knowledge relating to changing university libraries, of which leadership and technology are significant influences. Due to a level of inadequacy of research in this area, there has been a call for more research on library change management (Piorun, 2013; Stephens & Russell, 2004). This study aims to contribute to this field of research, enriching knowledge relating to change management in university libraries in the Australian context. The findings could have wider applicability as the factors of change in the Australian university library environment are common to university libraries globally and also to public libraries to a degree. While technology is one of the primary drivers of change in the 21st century (Levien, 2011; Parker, 2008; Roberts, 2005), leadership is critical for a systematic approach to change management and solving problems that have no easy answers (Fullan, 2001; Huy & Mintzberg, 2009). As this research also studies the impact of continuing technological change on university libraries, it will be frontier research with elements of “futuristic” significance as it discusses how Australian university libraries can adapt to the changing needs of higher education. Furthermore, as all interview participants were from AULs in the public sector, findings may also have some relevance to other segments of the public sector related to education and also to academic libraries outside the public sector.

1.9 Chapter summary

This chapter (Chapter 1), *Introduction*, establishes the context for this research by discussing the forces underpinning the Australian university library environment and

the critical need for libraries to adapt for the benefit of stakeholders, particularly for the teaching, learning, and research agenda. Accordingly, this chapter demonstrates the significance of this study and establishes objectives.

The second chapter, *Literature review*, is devoted to reviewing the literature relevant to this study. The research topic relates to library management, leadership and technology. Therefore, in addition to the relevant literature in library and information studies (LIS), literature in the related fields of business management, public sector management, sociology and psychology are of much significance for this study. The literature review includes discussion of key concepts such as change management, theories of change management, managing change in the library, relevance of leadership, and technology. Review of pertinent literature helps to understand the related thinking, trends, and debates in the field of management as well as librarianship. It is also the method used in the development of more detailed research questions for participant interviews and identifying themes and concepts for data analysis from published literature as a secondary data source in this research study.

The third chapter, *Research methodology and design*, describes the research methodology and the research method used in this research. It includes a theoretical discussion of qualitative research methodology and the constructivism, conceptual framework, and its suitability for this research. The conceptual framework is outlined to explain the design of establishing truths and to allow a description that places the findings of the study in context to justify research methods and design as Dine, McGaghie, Bordage, and Shea, (2015) suggested. The conceptual framework is considered important to allow other researchers and reviewers to evaluate and interpret the methods and results (Evans et al., 2014, Dine et al, 2015). This chapter also explains the research design of this study, the development of broad research questions, description of the interview process, and the process of data coding and analysis.

Chapter four, *Data analysis and findings*, presents research results from analysing collected research data based on the interview questions. It also summarises findings of the research.

The fifth chapter, *Discussion*, answers the research questions by discussing the

research findings and their relationship to the objectives of the thesis, commenting on the degree to which the findings agree or do not agree (gel or do not gel) with the literature in the field, as well as with library reports of Australian universities (Evans et al, 2014). This chapter also includes a discussion of key findings and some overarching conclusions of the research and provides new insights and knowledge.

The last chapter, i.e. *Conclusion*, outlines what has been concluded from this research, highlighting the implications for theory and practice as well as identifying the limitations of the research, and areas needing further research. This again reflects the defining aspects of a conclusion as detailed by Evans et al., (2014).

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter is an evaluative description, summation, and citation of prominent studies within the literature related to the key issues underpinning the current research, thus providing a theoretical foundation for the study as outlined by Evans, Gruba, and Zobel (2014). This chapter also critically reviews the literature concerning the three key themes underpinning this research: change management, leadership and technology.

The library is an integral component of a university. Since the impact of the Internet from the mid-1990s, the university, and particularly its library, has been subjected to rapid changes because of changing environmental, technological conditions and circumstances in higher education (Kaufman, 2007; Backer, 2014a; Frederick, 2016). Therefore, the research and professional literature within the library and information studies (LIS) field covers numerous aspects of operational issues such as the application of new technologies to collection development, information service and library management. As universities operate within a competitive market environment, academic libraries are also subjected to the same pressures as the parent institution (Frederick, 2016; Gregory, 2015). Related literature in other fields such as business and organisational management, psychology and sociology also provide enhanced understanding of effective management of university libraries as will be shown in this and subsequent chapters. Academic commentary pertaining to information and communication technology (ICT) also features prominently within the literature cited in this chapter. ICT underpins not only change in university libraries at present, but also the future directions and planning (Frederick, 2016). The heavy reliance on advancing technologies for university libraries to deliver optimal services to stakeholders is a key factor in choices for managers to obtain funds in a competitive financial regime (Gregory, 2015; Koz, 2014). The literature selected has assisted the process of portraying the current “state of knowledge” in the field, positioning this study in the context of managing change in Australian university libraries (AULs) and contextualising the varying perspectives of the chief university librarians, who were interviewed for this study. To place the literature review chapter

in a heightened perspective, it acts as a check against the views of chief university librarians in Australia and vice-versa. The aim of this research is to develop original knowledge through an analysis of how the concepts and themes from the literature considered compares and contrasts with data from library reports and the original research that has surfaced from interviews with the chief university librarians.

By reviewing the literature, this chapter outlines the nature of the field relevant to this study identifying major debates, pertinent studies, knowledge gaps in the field and the potential contributions of this study. The chapter identifies the main themes and concepts that help in constructing the conceptual framework of this research. To achieve these objectives, this literature review is structured into four main sections – change management, leadership, technology and the future of university libraries.

2.2 Change management

Pugh (2007) argued that a definition of change management is an elusive concept and open to conjecture (see section 2.2.2 below). However, Creasey and Taylor (2014) provide a generic and compelling definition, suggesting: the objective of managing change is to advance an organisation's productivity by altering the way targets are met by human and technological interaction. When change is introduced within organisations, staff in leadership positions will impact on numerous facets such as the operational structure of the organisation, processes and procedures, the administrative and technological systems and the roles of staff (Creasey, & Taylor, 2014).

2.2.1 Why change management?

Managing change has been a critical topic in management studies because of the revolutionary vicissitudes that are happening in the world today; technology is seriously impacting on organisations in all sectors whether public, private or not-for-profit (Drucker, 1999; Graetz, Rimmer, Lawrence, & Smith, 2006; Kirkpatrick, 2001; Yunus, 2008, WEF, 2016). Change has been considered the only constant and reality, as Heraclitus, the Greek philosopher pronounced around 500 BC (Beerel, 2009; Walton, Burke, & Oldroyd, 2009) but many researchers consider the 21st century as a time of unprecedented change (Beerel, 2009; Duderstadt, 2009; Popp, 2012: WEF, 2016; Zappalà & Gray, 2006). Change is not only unpredictable and complex but also the impact of it is greater than ever before for organisations (Hajkowicz et al, 2012; Klaasjan & Visscher-Voerman, 2010; Lowry, 2001; Maloney et al., 2010, WEF, 2016). Government policies

promoting globalisation and trade liberalisation encourage competition between producers, advancing technologies making great improvements in production and communication, while, at the same time, rising client/consumer expectations, make managing change essential for organisations to improve performance and remain relevant (Beerel, 2009; Fryer, Antony, & Ogden, 2009; Gilstrap, 2009; Graetz et al., 2006; Tovey, Uren, & Sheldon, 2010; Wood et al., 2007), and that includes libraries (Cuillier, 2012; Frederick, 2016; Levien, 2011; Pors, 2003; Stoffle & Cuillier, 2011). The changing organisational environment causes changes in the workforce and client needs, which requires cost issues to be resolved (Hajkowicz et al, 2012; Kotter, 1990a, 1996; Queensland Government, 2017) to better capitalise on opportunities (Drucker, 1999). Managing effectively during changing times, including times of fiscal uncertainty, can help organisations to thrive due to the need to survive (Miller, 2012; Stoffle & Cuillier, 2011) and to meet the ever-changing requirements of consumers (Burnes, 2004c). The alternative is failure and marginalisation or demise (Drucker, 1999; Kirkpatrick, 2001). Therefore, managing change is widely considered critical for organisations (Beerel, 2009; Farley et al., 1998; Gilstrap, 2009; Graetz et al., 2006; Kotter, 1996; Wood et al., 2007), including libraries (Cuillier, 2012; Levien, 2011; Pors, 2003; Smith, 2011; Stoffle & Cuillier, 2011). A revolutionary change (Miller, 2012), managing uncertainty (Walton, 2009a) or redefining the future (Stephens & Russell, 2004) are indispensable issues that must be considered for libraries to stay relevant and add value to university business. Effectively managing change is also considered a complex and lengthy process (Klaasjan & Visscher-Voerman, 2010; Kotter & Cohen, 2002; Lowry, 2001).

2.2.2 Defining change management

A widely-accepted definition of change management is elusive and possibly does not exist (Pugh, 2016). The reason for this ambiguity is the number of different perspectives on managing change (Pugh, 2016). Numerous theorists have considered change management as a movement away from a present state to a future state, adaptation of an organisation at the individual, group and collective level, or observation of difference over time in an organisation (Graetz et al., 2006, Pugh, 2016). Effective change management is necessary for order and consistency in an organisation during changing times (Andrade, 2016; Weber, 2005), and it is about managing performance in organisations (Fryer et al., 2009; Gomathi, 2014; Tovey et al., 2010). Some academic commentators prefer to use the term ‘leading change’ because of the significance of leading an organisation effectively during rapidly changing times (Drucker, 1999; Mayfield, 2014). A few attempts at defining change management include:

Change management is the process of taking a planned and structured approach to help align an organisation with the change. In its most simple and effective form, change management involves working with an organisation's stakeholder groups to help them understand what the change means for them, helping them make and sustain the transition and working to overcome any challenges involved. (Queensland Government, 2017, p. 1)

A process involving unfreezing, moving, and refreezing values, practices, and procedures within organisations. Unfreezing refers to the creation of a perceived discrepancy between the existing and ideal state of an organisation that generates a desire for change and lowers people's resistance to change. Moving refers to the various processes such as training, education, and restructuring that lead to the development of new behaviors, attitudes, and beliefs. Refreezing regards re-establishing a new state of equilibrium within the organisation by stabilizing the new patterns through a variety of support mechanisms. (CommGap, 2017, p. 1)

The art or science of making changes to a certain method or system in an orderly, systematic fashion, to make sense out of the organisational chaos that is permeating the company, its employees, its suppliers and vendors and most importantly its customers. (Ledez, 2008, p. 112)

As a result of a study of successful change management of several organisations, some experts (Tushman, & Reilly, 1996; Van der Voet, Kuipers, & Groeneveld, 2016; Creasey, Jamieson, Rothwell, & Severini, 2016) concluded that “the fit” between evolving organisational strategy, structure, knowledge and skills, culture that has in-built flexibility, changing markets and advancing technology, enabled effective management of organisational change. Based on Tushman and Reilly (1996) Van der Voet et al. (2016) and Creasey et al. (2016) it is arguable that managing change is concerned with essentials such as understanding the challenges of changing organisational environment, identifying organisational goals and objectives, strategic planning, developing/acquiring required resources, knowledge, and skills, creating a suitable organisational culture, and effective implementation of a strategic plan to add value to a parent organisation for the benefit of stakeholders. Therefore, in this study, “change management” or “managing change” refers to university library strategic planning and implementation processes during rapid change to improve performance and remain relevant to stakeholders, particularly academic staff, students and university management. These terms are used synonymously in this thesis to depict the concept of “change management” or “managing change.”

2.2.3 Change management theories

Although there is no widely accepted definition of theory (Pugh, 2014), some consider

theory as an explanation of a natural or social behaviour, event, or phenomenon (Bhattacharjee, 2012). All theories or approaches in change management attempt to help, analyse and find solutions to the problem of organisational change to assist the process of adapting to achieve organisational objectives (Cameron & Green, 2012; Pors, 2003). Strategic management facilitates planning and implementation of organisational efforts to achieve performance objectives (David, 2011;; Graetz et al., 2006). Burnes (2004c) claimed that for nearly a century, strategic attempts had largely departed from “ad hoc” processes based on “best guess” to more complex practical and theoretical considerations underpinned by strategic planning. Complexity of change is a widely-accepted phenomenon (Jurov, 1990; Klaasjan & Visscher-Voerman, 2010; Kotter & Cohen, 2002; Lowry, 2001) because of the intensity of variation as well as difficulties in successfully managing variations for performance improvement (Edwards, 2010; Mark, 2010; Spector, 2007). As the pressures from change agents grows, so too the importance of organisational change theory grows (including as applied in libraries), as theories have the potential to help find answers and solutions to complex challenges and problems encountered by organisations (Pors, 2003; Wood et al., 2007; Ganguly, Bhattacharya, Roy, Shukla, & Deepa, 2016).

Experts (Kotter, 1996; Kotter, 2012; McCalman, 2015; Schein, 1996) have attempted to construct theories, frameworks or approaches to explain how to manage change effectively. Theories relevant to managing change are considered in two groups in this literature review. One group of theories is from different branches of social sciences that have relevance to understanding change management, e.g. institutional theory and contingency theory. The second group of theories address the tools or step-by-step approaches for managing change; for example, Lewin’s three step model (Lewin, 1976) and Kotter’s eight-step model (Kotter, 1996). These theories, frameworks or approaches are briefly discussed below in Sections 2.2.3.1 to 2.2.3.11 to provide an elementary understanding of the subject.

2.2.3.1 New Institutional Theory

Among the change theories New Institutional Theory attempts to address the issues of change, power and efficiency (Graetz et al., 2006), the forces that interplay in

organisational dynamics, to understand radical organisational change (Greenwood & Hinings, 1996). New Institutional Theory accepts that new organisation is deeply rooted in the socio-political environment, and pressured to conform to rules/laws, beliefs and conventions of the wider environment (Graetz et al., 2006; Powell, 2007). Explaining these forces in a more structured format, Scott (2005) described institutions as consisting of a three-pillars format – cognitive (focusses on strategic institutional environmental management), normative (e.g. code of ethics of professional associations including the environment or the climate), and regulative (rules and laws). These pillars claim to provide both meaning and stability to institutional behaviour (Gornitzka & Maassen, 2000). Hence, the Institutional Theory is considered to assist organisations understand, prepare and adapt to the environmental changes (Graetz et al., 2006). When analysing change in the higher education context, some researchers argue that New Institutional Theory needs to focus on the cognitive dimension, environmental factors, and the barriers to change adaptation that may exist within the organisation in order to meet its challenges (Gornitzka & Maassen, 2000). New Institutional Theory enables description and explanation as to why institutions act in different ways, such as in crisis and managing complex issues (Frandsen & Johansen, 2013). Therefore, this theory is considered by some as beneficial to understand and address organisational change (Gornitzka & Maassen, 2000; Meyer & Holerer, 2014).

2.2.3.2 Contingency Theory

Contingency Theory, in contrast to New Institutional Theory, considers that the structures and operations of organisations during changing times is dependent on situational variables (Burnes, 2004c). Based on Contingency Theory, effective operations of an organisation are dependent on the effectiveness of its characteristics to mesh together (Donaldson, 2001). For example, appropriate meshing between structure and contingencies such as organisational environment, organisational size, and organisational strategy influences performance during changing times (Burnes, 2004c; Donaldson, 2001). The theory suggests that no two organisations will face the same contingencies and situations and therefore an organisation should adopt a structure and operation that are suitable for adaptation to change (Burnes, 2004c). Therefore, the course of action to take is not one best way but depends on the situation

or the influencing environmental factors (Burnes, 2004c; Donaldson, 2001; Graetz et al., 2006). Thus, the emphasis on the importance of environmental factors is considered a great strength of the Contingency Theory in managing change (Battilana and Casciaro, 2012; Graetz et al., 2006). Yet, Contingency Theory has been criticised for its multiplicity of theories (such as Structural Contingency Theory, and Power Contingency Theory) with no one unifying theory (Donaldson, 2001; Graetz et al., 2006).

2.2.3.3 Stakeholder Theory

Stakeholder Theory claims to direct managers on how they should operate to build relationships and engagement to create value for the organisation (Freeman, 2005; Freeman, Wicks & Parmar, 2004; Harrison & Wicks, 2013). Therefore, the underlying suggestion of this theory is that stakeholders and the business have a symbiotic relationship (Freeman, 2005). According to Freeman (2005), the management strategy of the Stakeholder Theory requires attention to four conditions:

- 1) Being mindful of one's actions on others, as well as their possible effects
- 2) To be mindful of stakeholder behaviours, values, backgrounds, social contexts, and the issues the management stands for
- 3) Understanding stakeholder relationships
- 4) Balancing stakeholder interests over time.

As implied from the above four conditions, the stakeholder approach aims to add value to satisfy all interests, including those of the organisational entity, within the private and public sectors (Harrison & Wicks, 2013). A study pertaining to university library change management has suggested that the main cause of failure of most change efforts is the lack of thorough investigation of stakeholder needs (Koz, 2014). This also suggests the significance of value creation for stakeholders in effective change management in university libraries.

2.2.3.4 New Public Management

As a theory specifically designed for performance improvement in the public sector, the theory of New Public Management (NPM) attracted attention in the field of public administration during the past few decades (Christensen & Lædreid, 2002; Levy, 2010). It aims to modernise and improve the efficiency of the public sector by

employing private sector managerial concepts such as performance management, customer orientation, and strategic focus because of the pressure from governments for increased performance (Christensen & Lædreid, 2002; Duderstadt, 2009; Ferlie, 1996; Truss, 2008). Some of its main features are considered to be the market orientation, devolution, outsourcing, and the application of management knowledge and theory for performance improvement in the public sector (Christensen & Lædreid, 2002).

Whether NPM is a new approach, doctrine, or a resurgence of old ideas, the underpinning theory is to apply commercial business principles to the meaningful transformation of public sector entities because of the prevailing view of proven benefit to improve accountability and efficiency (Vigoda, 2003; Wallis & Gregory, 2009; Zamhury, Hashim, & Ahmad, 2009). This includes libraries (Düren, 2010). Therefore, NPM has been praised by some for showing the transferability of knowledge and experience from the private sector to the public sector to address inefficiencies (Vigoda, 2003) including improving quality in the higher education sector (Harvey & Stensaker, 2008) and its libraries (Düren, 2010).

Despite its popularity, NPM has been criticised by some; for example, for not satisfactorily promoting collaboration or partnership between citizens and the public sector (Vigoda, 2003), as well as presenting it as an approach of general/universal applicability (Hood, 1991; Osborne & McLau, 2002). As NPM undergoes incremental changes and variations, it is also considered unable to present as a coherent model for deployment, implementation or comparative study (Osborne & McLau, 2002).

From a higher education perspective in Australia, Watts and Buckeridge (2015) were severe critics of NPM and questioned its context with the provision of quality education. NPM has a link to the ideology of neoliberalism and is poorly researched in terms of effectiveness (Siltala, 2013). Despite Siltala (2013) focusing the research for NPM within a European context, the researcher emphasised that it has strong ideological links to neoliberalism and was quite inefficient as its main objective was to induce added productivity with the use of less human resources. Siltala (2013) also alleged that the research in the area of NPM was quite sparse despite its wide adoption.

2.2.3.5 Learning Organisation model

Senge (1990) considered that organisations that will excel in the future are those that exploit employees' commitment and their learning capacities. This principle was considered applicable to all levels of staff in an organisation. Learning Organisation Theory accepts that an invention becomes innovation when it can be replicated reliably and meaningfully. Therefore, employee learning is effectively applied for effective performance improvement in a learning organisation.

Successful application of Learning Organisation Theory is based on five critical components (Senge, 1990). These are:

- 1) System thinking (seeing it as a whole)
- 2) Personal mastery (personal growth and learning)
- 3) Mental models (scanning for good ideas)
- 4) Building shared vision (developing personal vision and then a vision that can be shared by all in the organisation)
- 5) Team learning (One person's idea/experience developed and applied to the whole team/organisation).

The Learning Organisation Theory assumes the significance of knowledge/skills for effective performance in an organisation (Graetz et al., 2006; Piorun, 2013; Rowley, 1997). The theory advocates learning to be stimulated by organisational transformation and adjustments in strategic planning process to address the challenges of a changing organisational environment (Graetz et al., 2006; Piorun, 2013; Rowley, 1997). Learning Organisation Theory is also considered as an effective component within change management promoting the significance of continuous learning of staff to provide the foundation for change management (Chow, 2014). In a learning organisation the importance of individual and team learning, as well as other factors such as culture and systems thinking for organisational performance, is crucial (Chow, 2014). Despite the wide acceptance of the significance of Learning Organisation Theory for performance, the apparent simplicity of the theory in explaining the complexity of individual and team learning and empowerment is considered a limitation of learning organisation as a model for managing change (Brundrett, 2000; Nyhan, Cressey, Tomassini, Kelleher & Poell, 2004; Somerville & McConnell-

Imbriotis, 2004).

2.2.3.6 Continuity Theory

The paradox of continuity and change features are a prominent topic of expert commentary. (Feather, 2013; Musselin, 2005; Sushil, 2013). Sushil (2013) referring to the separate theoretical perspectives of Mintzberg and Drucker, argued for the need to balance change with continuity and the need for an organisation to act as a change leader for its continuity or survival. Continuity Theory has used the metaphor of a flowing stream to explain the need for change to sustain organisations (Sushil, 2013). Continuity Theory in context of the university library draws on Feather (2013) who argued that the continuity of delivery of information in the university is not dependent upon the library to the extent it once was. Other institutions, persons, agencies or the Web have the capacity to occupy this role. Feather (2013) considered that it is not which structure or ICT function provides access to information that is important, but the continuity of information delivery and provision to the end-user. An examination of change and continuity in relation to different organisations/industries found that they roughly fall into four categories (Sushil 2013). These four categories (see Figure 2.1, Figure 2.2, and 2.3) as outlined by Sushil (2013) add depth to the concept of low and high forces of change and continuity. These four categories are:

Low change high continuity which are “stabilizers” and termed “tree” as these are more stable and evolve slowly or incrementally and sustain continuity. Organisations in this category are traditional industries with vast infrastructure base and slow technological change, e.g. petrochemicals, steel and fertilizer industries.

Low change low continuity which are “quick cashers” symbolised as “mushroom”. These are considered small organisations with fluid structures, have a comparative short life-span, jumping from one opportunity to another for quick profitability. Examples of such organisations were cited as small industries such as coaching and consulting.

High change low continuity which are “change masters” or “wind”. These organisations require radical change/transformation to find new opportunities and continuity of the organisation in the face of swiftly advancing technologies. Examples

for these organisations are business process outsourcing (BPO), IT enabled services (ITES), and social networking.

High change high continuity considered as global organisations/industries with large global infrastructure investment, strong competition, and changing customer needs, e.g. telecom, computers, electronics, home appliances, and automobile industries. These organisations have highest confluence of continuity and change, and are termed “synthesizers” or “flowing stream”.

Figure 2.1: Continuity - change matrix
 (Permission granted - Adopted from Sushil, 2013, p. 69)

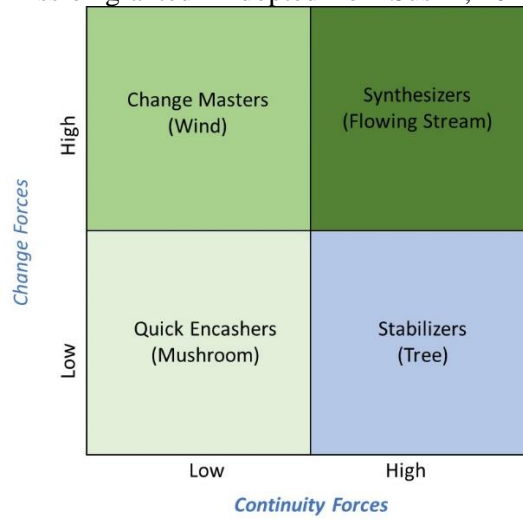


Figure 2.2: Mapping of select industries on continuity – change matrix
 (Permission granted - Adopted from Sushil, 2013, p. 70)

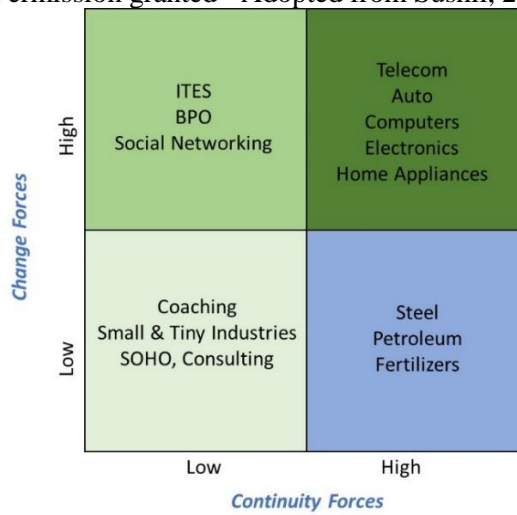
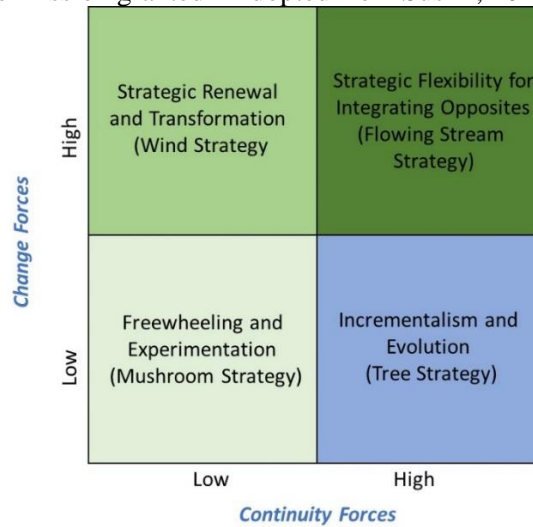


Figure 2.3: Change versus continuity
 (Permission granted - Adopted from Sushil, 2013, p. 72)



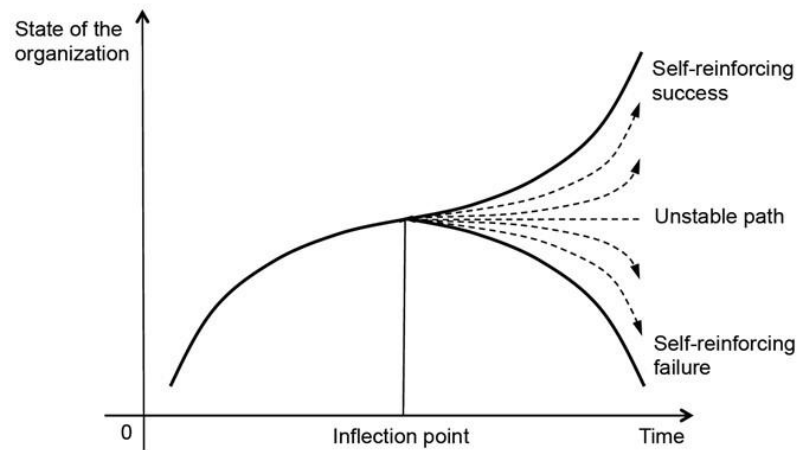
As Feather (2013) claimed, university libraries are subjected to radical change because of rapidly advancing ICT significantly transforming the way information is being delivered to clients. University libraries need radical change or transformation to find new opportunities to meet stakeholder needs (Feather, 2013). Based on Feather’s (2013) views for radical change, it can be argued that university libraries are reasonably well suited in “high change low continuity” reflecting the categories in Sushil’s matrix in which IT services dominate.

2.2.3.7 Strategic Inflection Point

Grove (2007) developed the concept of the Strategic Inflection Point to depict a critical moment at which the balance of forces shifts fundamentally, changing the situation of a company/organisation (Grove, 2007). Over time, fundamentals of a company change permanently, critically influencing the overall competitive structure of an organisation (Grove, 2007).

The Strategic Inflection model cited by Grove (2007), as depicted in Figure 2.4 below, reflects the market movement of an organisation. Change occurs at a steady rate until a significant response is necessary for improved performance in response to disruptive forces in the market (Grove, 2007). The degree of effectiveness of the measures applied was claimed by Grove (2007) to result in the level of performance of the organisation (Grove, 2007).

Figure 2.4: Strategic Inflection Point
(Permission granted - Adopted from Brandenburger, 2013)



Brandenburger, (2014) suggested that universities reflect a Strategic Inflection Point due to the digital revolution. Numerous experts, according to Brandenburger, (2014) have advanced that this was an opportunity for universities to increase market share within the country and the global marketplace. Given that the digital revolution is also a critical influence on university libraries (Bement, 2007; Lafferty & Edwards, 2004; Sandhu, 2015; Wilson, 2015), and considering the high change and low continuity position of libraries in continuity matrix (Sushil, 2013), it is arguable that university libraries are also at a Strategic Inflection Point to take advantage of the opportunity to greatly improve the library's role in teaching, learning and research support or, alternatively, disregard the environmental changes and become irrelevant, if not obsolete.

2.2.3.8 Lewin's three step model

Though this model originated more than 50 years ago, Lewin's (1951) three step model started attracting the attention of some experts as a valued change management model during more recent times (Burnes, 2004a, 2004b; Levasseur, 2001; McAleese, Creed, & Zutshi, 2013; Schein, 1996; Spector, 2007) including the World Bank (CommGap, 2017). It is a model involving three stages of change implementation: unfreezing, moving and refreezing (Burnes, 2004a; Schein, 1996; Spector, 2007). Spector (2007) summarised the change implementation processes in each step as in Table 2.1.

Table 2.1: Implementation implications of Lewin's change model
(Adopted from Spector, 2007)

Stage 1: Unfreezing	Stage 2: Moving	Stage 3: Refreezing
Create dissatisfaction with the status quo	Redesign organizational roles, responsibilities, & relationships	Align pay/reward systems
Benchmark operations against other companies	Train for newly required skills	Re-engineer measurement/control systems
Diagnose internal barriers to improved performance	Promote supporters/ remove resisters	Create new organization structure

This three-step model has attracted major criticisms as it has been considered to be too simplistic in addressing complexities that industries face (Baekdal, Hansen, Todbjerg, & Mikkelsen, 2006) in an increasingly turbulent organisational environment (Burnes, 2004b). The validity of its third step “Refreeze” was also questioned against the premise of continuity of change (McAleese et al., 2013). However, the renewed interest from some researchers has suggested it as a robust model contributing to the understanding of complexities of individual, group, and organisational behaviour (Baekdal et al., 2006; Burnes, 2004a, 2004b; McAleese et al., 2013), justifying the third step (Refreezing) to stabilise and sustain benefits achieved from the first two steps “Unfreezing” and “Moving” (McAleese et al., 2013).

Acknowledging the validity of Lewin’s three step change model, Baekdal et al. (2006) suggested a process for its effective implementation. Addressing internal barriers was considered an important part of the “Unfreezing” stage (Spector, 2007). Tedlow (2010) pointed out that unconscious refusal of people, including leaders of organisations, to accept certain facts as true, turns challenges into crises and catastrophes. It can also be true with regard to all, including leaders of organisations (Tedlow, 2010). Baekdal et al. (2006) posited ‘denial’ as a counterproductive force when managing change, and therefore as an issue to address at the first stage of “Unfreezing”. Baekdal et al. (2006) also agreed that the third stage, “Refreezing,” was also the beginning of “Unfreezing” for new change projects, recognising managing change as a continuous process.

2.2.3.9 Kotter's eight steps

Kotter's (1995) eight steps model for successful organisational change is well-known to business circles and to some extent in the LIS field (Farkas, 2013). It was built on Lewin's three-step model to create a more detailed approach for addressing change (Robbins et al., 2014). Kotter's (1995) eight steps are condensed in Figure 2.5.

Kotter (1995, 1996) affirmed the significance of the model, but acknowledged that failures may occur in the implementation phase because of a failure to adhere to any of the steps (Kotter, 1995), or the way people implement the model (Kotter & Cohen, 2002). In an Australian context, Uys, (2010) claimed that Charles Sturt University implemented Kotter's eight-step model in a different order with success. Among the libraries that have adopted Kotter's model, not many have embraced it fully, and some questioned the practicality of the strict step-by-step sequence (Farkas, 2013).

Figure 2.5: Kotter's eight steps model
(Adapted from Kotter, 1995)

Step 1	<p>Establishing a sense of urgency <i>Examining market and competitive realities</i> <i>Identifying and discussing crises, potential crises, or major opportunities</i></p>
Step 2	<p>Forming a powerful guiding coalition <i>Assembling a group with enough power to lead the change effort</i> <i>Encouraging the group to work together as a team</i></p>
Step 3	<p>Creating a vision <i>Creating a vision to help direct the change effort</i> <i>Developing strategies for achieving that vision</i></p>
Step 4	<p>Communicating the vision <i>Using every vehicle possible to communicate the new vision and strategies</i> <i>Teaching new behaviours by the example of the guiding coalition</i></p>
Step 5	<p>Empowering others to act on the vision <i>Getting rid of obstacles to change</i> <i>Changing systems or structures that seriously undermine the vision</i> <i>Encouraging risk taking and nontraditional ideas, activities, and actions</i></p>
Step 6	<p>Planning for and creating short-term wins <i>Planning for visible performance improvements</i> <i>Creating those improvements</i> <i>Recognising and rewarding employees involved in the improvements</i></p>
Step 7	<p>Consolidating improvements and producing still more change <i>Using increased credibility to change systems, structures, and policies that don't fit the vision</i> <i>Hiring, promoting, and developing employees who can implement the vision</i> <i>Reinvigorating the process with new projects, themes, and change agents</i></p>
Step 8	<p>Institutionalising new approaches <i>Articulating the connections between the new behaviours and corporate success</i> <i>Developing the means to ensure leadership development and succession</i></p>

2.2.3.10 Project management approach

A widely-accepted definition of project management does not exist. Therefore, many organisations have their own definitions (Newton, 2015). The Association for Project Management (UK) defined it as a:

Process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realised. Projects are unique, transient endeavours undertaken to achieve a desired outcome. Projects bring about change and project management is recognised as the most efficient way of managing such change (APM, 2017, p. 3).

The significance of the project management approach for managing change is seen by

prominent bodies purely through the lens of the success rates (APM, 2017; IBM, 2008). Managing change through projects is considered by some as more efficient than managing change holistically (Crawford & Nahmias, 2010; Gareis, 2010; Kilkelly, 2014; Stummer & Zuchi, 2010). To continually refine an organisation's objectives and operations as it demands is more efficient when using a framework such as a project model to induce a focus (Crawford & Nahmias, 2010; Gareis, 2010; Kilkelly, 2014; Stummer & Zuchi, 2010). Project management is considered to be crucially important to managing change methodically and strategically (IBM, 2008; Shore & Kupferberg, 2014; Tynan et al., 2010). IBM's "Making Change Work" study (2008) included interviews with 1500 chief executive officers (CEOs) globally and concluded that the success of project management initiatives does not predominantly hinge on factors such as technology or change leadership, but largely on people. This view was reflected by Jamil et al. (2015) in relation to library services. The synergistic benefit provided by the combination of these factors (technology, change leadership, and people) in the project management approach was found, through this compelling research, to be even greater than the totality of their individual impacts (IBM, 2008, Jamil et al 2015).

2.2.3.11 Other models of change management

There are a number of other change management models such as Carter's (2008) seven steps (see Figure 2.6), or Cuillier's (2012) eleven steps (see Figure 2.7), Kirkpatrick's (2012) seven steps (see Figure 2.8) and Mento, Jones and Dirndorfer's (2002) twelve steps model (see Figure 2.9), to name a few. Other models are formed by theorists that combined models, and provide examples of organisations that developed "best-fit" models for their circumstances pertaining to needed changes (Brisson-Banks, 2010).

Figure 2.6: Carter's seven steps change management model
(Adapted from Carter, 2008)

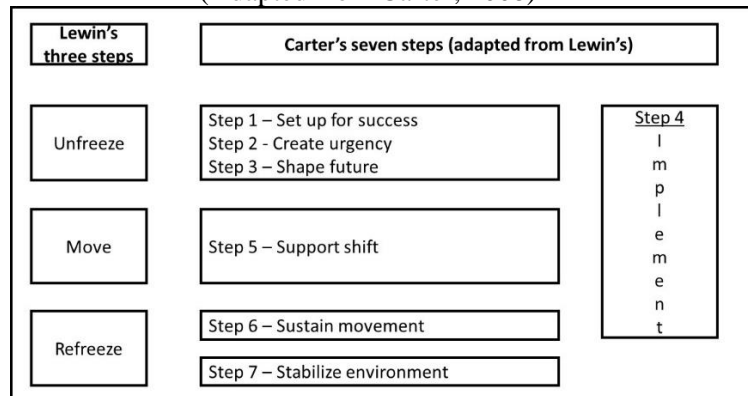


Figure 2.7: Eleven steps change management model
of Cuillier (Adapted from Cuillier, 2012)



Figure 2.8: Change management model of Kirkpatrick
(Adapted from Kirkpatrick, 2012)

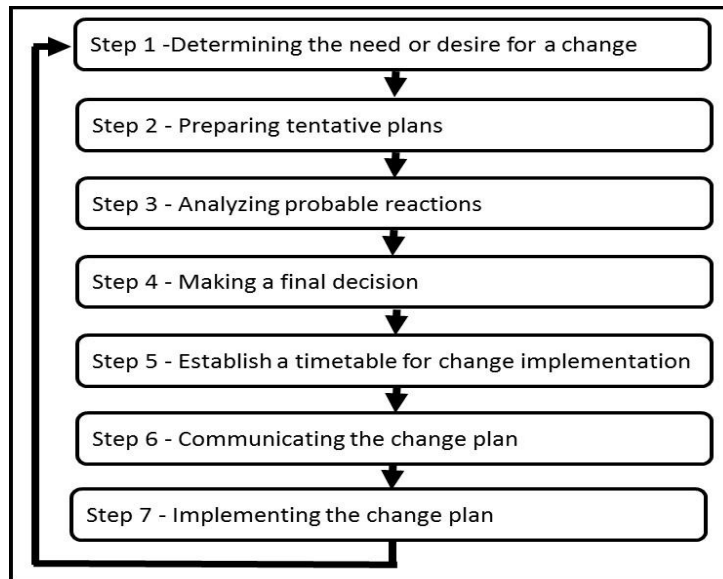


Figure 2.9: Twelve steps change management model of Mento, Jones, and Dirndorfer (Adapted from Mento, Jones, and Dirndorfer, 2002)

Step 1	Thinking about the change context: <i>creative thinking and nurturing new ideas through networking.</i>
Step 2	Define the change initiative: <i>identifying the roles of strategists, implementers, and recipients, and analysing the organisation and its need for change.</i>
Step 3	Evaluate the climate for change: <i>consider the stress on the organization and history of success or failure with change.</i>
Step 4	Develop a change plan: <i>consider the power dynamics of the organisation in crafting an implementation plan.</i>
Step 5	Find and cultivate a sponsor: <i>a powerful sponsor can facilitate driving the change process due to their extensive resources and considerable powers of influence through established organisational networks.</i>
Step 6	Prepare the target audience: <i>understand and learn from change resisters and build support for the change effort.</i>
Step 7	Create cultural fit: <i>consider changes in organisational design such as structure, measurement systems, and development systems that thrive change efforts.</i>
Step 8	Change leader teams and teamwork planning: <i>require teams with commitment, competency, and a common goal.</i>
Step 9	Small wins and motivation: <i>rewarding progress towards intermediate milestones along the change journey.</i>
Step 10	Constantly and strategically communicate the change: <i>explain, listen to and work with change recipients to prepare them for the impending change.</i>
Step 11	Measuring progress of the change effort: <i>measures to focus on tangible accomplishments as opposed to measures of activities.</i>
Step 12	Integrate lessons learned: <i>capture and diffuse knowledge gained along the way so that learning is continuous and same mistakes are not repeated.</i>

Graetz et al. (2006) advanced many theories, frameworks and approaches to change management using ten perspectives as a framework of excellence for planning. Graetz et al. (2006) summarised and presented these ten perspectives in a tabular format succinctly providing strengths and weaknesses of each perspective. As Graetz et al. (2006) explained, some theories such as New Institutional Theory and Contingency Theory contained more advantages than others for understanding change as both these theories take environmental forces into consideration. Lewin's three step model first identified in 1947 (Burnes, 2004b) gained traction during more recent times (Burnes, 2004b; Levasseur, 2001; McAleese et al., 2013). Although each of these theories, frameworks and approaches have specific advantages, the authors

claim that these are deficient of empirical evidence and, therefore, lacking comprehensiveness to fully explain organisational change or its effective management (Graetz et al., 2006).

It is arguable that there are no universal rules for managing change (By, 2005); nor is there one best way to manage change (Bolden et al., 2003; Burnes, 1996, 2004c; Michalak, 2010). The success depends on strategies suitable for culture, context and the situation (Chow, 2014). After examining the available change management theories or approaches many academic commentators argue that there is neither a fixed assumption to the nature of change nor one comprehensive theory (Burnes, 2004c; Graetz et al., 2006). Existing theories are also claimed to be mostly contradictory and lacking empirical evidence (By, 2005). In the workplace, it is not unusual to find the need to employ numerous combinations of change models and differing approaches to successfully manage change (Huy & Mintzberg, 2003). After a comprehensive search of the literature, a key finding was that there is a dearth of best practice theories for university libraries to plan and manage change. Different university libraries are applying different models. For example, the Delft University of Technology in the Netherlands used strategic planning with an intention of continually making efforts to adapt to rapid and continuous change (Konings & Dekker, 2005). There are many other examples such as the University of Maryland library that used the Learning Organisation model (Castiglione, 2006), the use of the Total Quality Service model at Victoria University, Australia (Parker, 1997), and at Monash University Library (Pernat, 2004), and strategic management at University of Manchester Library (Jeal, 2014) to demonstrate there is no single model that is universally accepted for suitable for managing change in university libraries.

2.2.4 Change in university libraries

The purpose of the library in the era of print or hardcopy format prior to the 1990s, was collection building and collection management (Brophy, 2005). Brophy referred to this key priority as:

Build broader and deeper collections and to arrange for users to access those collections only on terms which ensure their long-term integrity. In this view the library is essentially a repository, and most of the activity is devoted to maintenance

of that repository (Brophy, 2005, p. 47).

The objective of the library was to provide information to users physically present as well as keeping the library collection intact (Brophy, 2005). Experts acknowledge that until about the 1990s, university libraries (ULs) were held in high esteem within the university campus. The terms such as the centre of the campus, citadel, and gateway to knowledge were commonly used to label its pivotal position. But in more recent times the above-mentioned terms are rarely used (Brophy, 2005; Darnton, 2008; Jamieson, 2013; Johnson et al., 2015). A modern university library is not just a collection of books with attractive reading rooms (Tapscott & Williams, 2010) but encompasses other expectations such as providing access to information, being a place for social engagement, collaboration, learning and skills development (Sandhu, 2015). The university library no longer holds the central position of universities (Campbell, 2006; Wood et al., 2007) since losing control over access to the collection through technological change (Pierre, 2005). The library has shifted from access to a limited collection to be a broker allowing entrée by clients to many publications and collections (e-books, e-journals, other library collections, publisher databases, and so forth) providing an example of the transition from a simplified and restricted service to a complex and multifaceted array of resources (Anderson, 2015; Brophy, 2005; Simons, & Searle, 2014). These changes have been taking place in the Australian higher education context, particularly during the past few decades, due to several factors (e.g. government policy, declining public funding, revolutionary technology, changing higher education andragogy, and the expectations of the “new” student) with a flow-on effect to libraries (Anderson, 2015, Brophy, 2005, Campbell, 2006; Darnton, 2008; Jamieson, 2013; Johnson et al., 2015 Wood et al., 2007).

2.2.4.1 Factors affecting change in university libraries

LIS literature asserts that today’s university library has lost its supremacy within the campus due primarily to the advances in ICT, which complicate responsibilities and services of libraries in the higher education sector (Anderson, 2015; Campbell, 2006; CAUL, 2014b; Johnson et al., 2015; Oakley & Vaughan, 2007). Advancement in technologies (including ICT) has been revolutionary and extremely difficult to predict, with the future perhaps even unimaginable (Bement, 2007; Duderstadt, 2009; Rifkin,

2011). As the advancement in ICT underpins the changes in the higher education sector, it continues to drive massive changes transforming university education and libraries profoundly by breaking physical barriers (Bement, 2007; Duderstadt, 2009; Rifkin, 2011; Tapscott & Williams, 2010; University of Virginia Library, 2016).

Numerous changes have occurred due to a range of external influences. Some consider politics as a predominant force for change (Barton et al., 2012; Battilana & Casciaro, 2012). Public funding of Australian universities has been in continuous decline within a deregulated higher education marketplace with funding attached to market forces and performance (ABS, 2004; ALIA, 2014; 2014b; Bradley, 2008, Davis, 2013; Knott, 2014; Wood et al., 2007). These government policies transformed the Australian higher education system as a major contributor to Australia's economy (Guthrie & Neumann, 2007; Marginson, 2013; Oakley & Vaughan, 2007). The export market has shifted the orientation of Australian universities from academic-driven to market-driven. This entrepreneurial attentiveness is holding them to more accountability for the effective use of funds, resulting in major changes (Guthrie & Neumann, 2007; Marginson, 2013; Oakley & Vaughan, 2007). The Commonwealth Government (2015) aims to implement policies to bolster the level of collaboration/engagement between the business, university/research and industry sectors to promote commercialisation of ideas for problem solving, thus adding more pressure on Australian universities to reform.

Demands and learning habits of clients - the university students - have also been rapidly changing as they pay for a larger proportion for their education (CAUL, 2014d; EDUCAUSE, 2014; Popp, 2012; Wainwright, 2005; Walton et al., 2009). Today's higher education students are technology literate, time poor and have higher expectations of immediate access to information when they want it, wherever they are (CAUL, 2014d; EDUCAUSE, 2014; Popp, 2012; Wainwright, 2005; Walton et al., 2009). Simply stated, the Internet is comprehensively vital to university operations and the irreversible transformation of the library is underpinned by the advent of the Internet in 1995 (Barth, 2011, Baker 2014).

Students find that accessing information resources through the library catalogue is difficult on their own because of the time-consuming steps in contrast to the

convenience of the internet (Lippincott, 2005; Osborne & Cox, 2015; Popp, 2012). Students perceive the Internet as their information world as they expect and experience prompt answers to their questions (Lippincott, 2005). This is a major generational feature for students who were born in the Internet age and indicates that convenience is the predominant factor in information searching in this contemporary era, with changes impacting at a pace beyond any era in history by a considerable margin (Connaway et al., 2011; Popp, 2012. WEF, 2016). An ethnographic study in Illinois academic libraries found that new students do not seem to consider librarians as experts who can help them, or who can answer their questions in a way they can understand (Popp, 2012). This signifies the need for libraries to alter their approach to managing libraries to address client needs (Crumpton, 2015; Koz, 2014; Smith, 2004).

Higher education swiftly changed from the mid-1990s due to the impact of technology in teaching, learning and research, enabling the gathering and dissemination of a wider array of accessible resources (Duderstadt, 2009; Gayton, 2008; Oakley & Vaughan, 2007). Blin and Munro (2008), McLoughlin and Lee (2008), and Ryan and Tilbury, (2013) set the scene where readers were invited to try to imagine less technical libraries of pre-1990s to appreciate the vast ICT revolution that has changed higher education in its entirety. The pace, place and the mode of students' learning in higher education has experienced a flexibility previously unimagined (Gordon, 2014).

Online teaching courses, including massive open online courses (MOOCs) and blended learning (the mix of online learning and face-to-face learning), provide flexibility for student learning, and therefore libraries are challenged by the need to provide required library services to support these newer technological learning methods (Kendrick & Gashurov, 2013; Pujar, Kamat & Savadatti, 2014). Student-centred learning is also fundamentally linked with flexible learning (O'Neill & McMahan, 2005). Student-centred learning places the students in a more central position within the learning experience, expanding the tools and array of resources (podcasts, videos, YouTube etc.) that construct knowledge in higher education courses (Froyd & Simpson, 2010; O'Neill & McMahan, 2005). As an institution that supports university andragogy, the library has been attempting to support student-centred learning and assist student's knowledge creation by providing suitable spaces within the physical library (Jamieson, 2013; Seal, 2015; Wilson, 2015).

Trends in higher education such as MOOCs and blended learning have not only impacted on the attitude of the leaders within universities towards the library, but also influenced the changing role of the library in multiple ways (Kaufman, 2007; Lynch et al., 2007; Pietruch-Reizes, 2010; Simons & Searle, 2014). The university library has moved away from its traditional role as a storehouse of knowledge intended to provide convenient access to information resources in an era where hardcopy resources were dominant (Anderson, 2015; McRobbie, 2003). With the advancement of ICT, the library has been losing its role as a single repository for academic information resources (Baker, 2014b; Gibbons, 2007; Kaufman, 2007; Pierre, 2005).

The loss of the centrality of the library within the university is also exacerbated by other factors. The dissemination of resources that once captured the student as a client, is now subjected to considerable competition from an array of online search engines such as Google Scholar, online resource accessible from other libraries, the Internet generally, and quality research of reputable organisations accessible on the web, to mention a few examples (Baker, 2014b; Gibbons, 2007; Kaufman, 2007; Pierre, 2005). In adapting to a changing environment, it is critical that universities, and particularly their libraries, consider ways of adapting to meet the needs as a form of insurance for its continuity, which is also referred to as “future proofing” (Bokor, 2012; Group of Eight Australia, 2014; Lukanic, 2014; Martin, 2008).

2.2.4.2 Changing role of the university library

Change in libraries is not a new concept: it has always been constant (ALIA, 2013; Miller, 2010). The Australian Library and Information Association (ALIA, 2013) reported that the first library, traced back to 2400 BCE, was a collection of clay tablets at Ebla in Syria. The library was exclusive and reserved for royalty and the powerful. An adapted version of the table of library history from this report (see Table 2.2) shows the transformation of the library from exclusive to inclusive, from collection management to providing and managing access, and from the physical to the virtual library (ALIA, 2013). Never before has change been as swift as in the late twentieth and early twenty-first centuries. The advancement of ICT experiences underpins the most significant changes within all industry sectors in this contemporary era (Gatautis, 2015; WEF, 2016), including the library.

Table 2.2: Historical evolution of the library
 (Adapted from *Library and information services: the future of the profession, themes and scenarios 2025*. ALIA, 2013)

EARLY HISTORY	
c2400 BC	First library at Ebla, Syria – collection of 17,000 clay tablets Libraries are the domain of scholars, priests and princes
1455	Johann Gutenberg produces the Gutenberg Bible Printing technology enables mass production of books
1760-1840	Industrial Revolution and the rise of the middle class Books begin to find their way into private homes
1800 – 1949	
1827	Van Diemen's Land Mechanics' Institute is founded in Hobart Lending libraries linked with adult education are established
1840	New South Wales Parliamentary Library established First government library in Australia
1852	Appointment of the first librarian at the University of Sydney Start of academic libraries in Australia
1902	First Carnegie lending library in Australia, also in Hobart Spread of lending libraries across Australia
1936	First Penguin paperbacks made available for sixpence in the UK Books begin to become affordable for more people
1950 – 1999	
1976	Electronic journals under development ³ Academic and special libraries move into electronic publications
1985	New York Public Library catalogue cards replaced by terminals ⁴ Public access computers in libraries
1995	Amazon launched ⁵ Cheaper books ordered online, delivered to your door
1998	Google incorporated ⁶ People find an easy way to navigate information on the internet
2000 – 2009	
2002	Launch of Budapest Open Access Initiative The open access movement gains momentum
2003	Over Drive launches download service for libraries ⁸ e-books, audiobooks and other digital content become available in libraries
2003	All university libraries establish repositories ⁹ Supporting best practice institutional digital repositories
2004	Facebook founded Social media provides a new way for people to interact with each other
2007	Launch of the first generation iPhone ¹¹ and the Kindle ¹² A powerful computer in your pocket and eBook readers become mainstream

Since the impact of the Internet, adapting to rapid changes within the higher education environment has been a more intense challenge for university libraries in contrast to the pre-1990s (Wright, 2014). The executive director of CannonDesign Global Education Practice focused on helping educational institutions to design their buildings to meet the challenges of changing times (Lukanic (2014). The findings of the research made it apparent that libraries were (and are) evolving beyond just being

a place for accessing information to a more powerful meeting place for people to truly collaborate, explore and create knowledge (Lukanic, 2014). Four key areas are critical to achieving this goal (Lukanic, 2014):

- 1) The library strategically meeting the business needs of the higher education institution
- 2) Applying technology in every possible aspect of the library service
- 3) Adapt continuously to embrace change with objectivity and flexibility to changing needs
- 4) Making more effective use of library space(s) to stimulate dialogue and engagement among patrons.

A report on change experiences of the University of North Carolina (USA) found five conditions that were significant in their change strategy (Michalak, 2012). These experiences, can be important for university libraries in Australia as well. The evolving role of university libraries is further elaborated in the following paragraphs under those five headings:

Condition 1: Outward facing to connect with the client

The outward facing university libraries have been a widely-discussed topic in LIS literature (Bell, 2014; Martin, 2008; Michalak, 2012; Popp, 2012). With the introduction of market forces, satisfying the learning needs of library clients has become paramount in an environment of declining library users while their expectations are changing and challenging (Popp, 2012; Wainwright, 2005). The new student is considered time-poor as well as more demanding (Bostick & Irwin, 2014; OCLC, 2006; Popp, 2012; Wainwright, 2005). Many commentators claim that the modern library client in higher education, particularly the students, dislike delays in the adaptation of swiftly advancing ICT that adversely affect the access the information anytime, from anywhere (Bostick & Irwin, 2014; OCLC, 2006; Popp, 2012; Wainwright, 2005).

It is argued that the importance of the library in this contemporary era faces a new array of changed attitudes of university leaders because of the ubiquitous access to the library's electronic content fueled by the popularity of the Internet as an information

source (Campbell, 2006; Hewson & Stewart, 2016; Lippincott, 2005; Lynch et al., 2007; Oakley & Vaughan, 2007). The status and importance of the library as the most prominent source of information appears to be weakening, if not waning (Allen & Taylor, 2017; Campbell, 2006; Lippincott, 2005; Lynch et al., 2007; Oakley & Vaughan, 2007). In order to retain its position as an important organisation, libraries need to adapt to the changing priorities of time in meeting the needs of teaching, learning and research as a firm foundation for the university to achieve its business goals (Koz, 2014; Williamson, 2008). To accomplish this objective, university libraries have been engaged in strategic management processes encompassing planning of changes or improvements in all library services to adapt speedily to improve performance (Lukanic, 2014; Michalak, 2012; Williamson, 2008). Consequently, university libraries also claim to deploy innovative methods in introducing new services while embracing a strong role attractive to undergraduates in the physical spaces libraries occupy (Darnton, 2008; Holmgren, 2014; Johnson, 2014; Todd, 2014).

With the advancement of electronic publishing, and electronic materials becoming the dominant format of library materials, changes have been taking place in libraries such as accessibility of library material from remote locations, and declining circulation of print materials, with far-reaching effects for the physical library, such as declining print collections and increasing space allocation for collaborative learning (Alam, 2014; Jaguszewski, 2013; Walton, Burke, & Oldroyd, 2009). Learning habits of the “new student” have also changed to collaborative learning and using the library space for this purpose, rather than using the library materials or getting the services of the library staff. All of the above factors profoundly impact on planning the use of space in the library (Abbasi et al., 2012; Bryant, Matthews, & Walton, 2009; Gayton, 2008; Glogoff, 2001). Library space has become an important place for people to engage in creativity, innovation and finding new knowledge; each of which is considered inherently a social activity (Bryant et al., 2009; CLIR, 2005; Gayton, 2008; Johnson et al., 2015; Lukanic, 2014; Pietruch-Reizes, 2010). Some studies found that the majority of students use library space to concentrate on individual and quiet study. Lukanic (2014) suggests that the library is still considered by some as an oasis within the university campus. For example, the University of Virginia Executive Vice President

and Provost described the library as the greatest intellectual convener and, therefore, an inspiration for that university in assisting with student recruitment and retention (Lukanic, 2014).

However, for some others, the library is considered a costly institution and therefore, it is essential that the higher education library is managed to strategically function as a player in meeting the higher education targets while meeting the changing needs of its clients with each component adding value to university business (Gensler, 2014).

Condition 2: De-siloed departments of the library making boundaries between various subsections within library invisible to facilitate the introduction of convenient change

Communication within libraries is vital to focus staff resources on effective change, with productivity underpinning the provision of service to stakeholders. De-siloed departments of the library facilitate flexibility of changing staff position descriptions conveniently based on the changing needs (McAleese et al., 2013). Flexibility featuring in services, structures, skills, and direction is vital for performing effectively and adapting to the changing circumstances (Hoffman, 2016, Walton, 2007; Walton & Edwards, 2001). Workforce planning in libraries is considered critical to achieving flexibility in the workforce by getting the right person in the right job at the right time (Cardwell, 2009; Stokker & Hallam, 2009). Additionally, the need for ongoing skills and knowledge development of staff to improve the work-related capacities of existing library staff has been recognised as crucially important to perform effectively (Clyde, 2003; Simmonds, 2003; Smith, 2003).

Team concept fosters improvements in libraries to advance interpersonal and interdepartmental connectivity and perform effectively in an environment of declining library funding and staffing numbers (Martin, 2007). An abundance of academic commentary supports the effectiveness of teamwork in achieving motivation, creativity, improved productivity, and efficiency in organisations (Bernfeld, 2004; Katzenbach & Smith, 2005; O'Connor, 2006; Slantcheva-Durst, 2014). The division between the library and other academic activities has also become increasingly meaningless, or the relationship between the two has become increasingly important because of the involvement in information literacy and student-centred learning

(Chadha, 2009; Nilsen, 2012). Conversely, some find that the team concept has not been well implemented in libraries as they rely more on hierarchical management structures that negate the advantages of teams (Castiglione, 2007; Düren, 2013; Halbert, Hartman, & Paz, 2010)

Condition 3: Use of advancing technology for satisfactory library operations

Use of technology, as well as developing technological skills of library staff, is critical for meeting the challenge of rapidly changing university library environments (Michalak, 2012; Pors, 2003; Wilson, 2015). University libraries endeavour to make use of advancing technology for accomplishing effectiveness in library services (Childs, Mathews, & Walton, 2013a; Johnson et al., 2015; Morehart, 2015). Wright (2014) claimed that the influence of technological advances on academic libraries has taken place in two very broad stages since the 1960s. The first stage was the computerisation of the card catalogue that started in the 1960s, facilitating finding library material conveniently, and radically impacting on activities of the library technical service sections (Wright, 2014). The second stage began with digitisation, or the advent of electronic resources (Wright, 2014). This stage is stated to have first begun with the publication of some individual journal articles followed by whole journals placed on the Internet and then on databases and database aggregators, disrupting the roles in library acquisitions, and reference services, and finally enabling remote access to these information resources (Wright, 2014).

With the advancement of digital technology, the purpose of the library shifted from the collection to brokerage because of electronic material becoming the mainstream format of library materials. At the same time, libraries' activities have also shifted from simple services of cataloguing, organising, and operating library circulation services to complex issues such as managing metadata, resolving access issues, and dealing with licences and terms of use (Anderson, 2015; Walton et al., 2009; Wright, 2014). Consequently, the most momentous (even historical) change that has taken place has been enabling access to library electronic materials by clients from anywhere and anytime (Glogoff, 2001).

The effects of ICT on LIS services were described by Lynch (2000 and corroborated by Denison 2007) in three phases. These three phases were:

Phase 1: The automation of traditional library operations such as acquisition, cataloguing, and circulation to replace manual processes for efficiency. This stage claimed to have commenced during the 1950s and spans until the early 1980s, from the use of minicomputers to vast and shared networks (Lynch, 2000). From the relevant literature in the field, Denison (2007) identified some developments in this first phase in Australia. For example, the automation processes of the State Library of New South Wales was said to have begun locally with serials check-ins, binding and subscriptions processes in the 1960s using micro-computers to develop microfiche catalogues, followed by the use of Australian Bibliographic Network (ABN), integrated library management systems (ILMS), and the standards for machine-readable cataloguing (MARC) (Denison, 2007). By the 1980s, shared cataloguing, and retrospective cataloguing, were widespread between groups of university libraries, in addition to the use of ABN, for cost saving and efficiency (Denison, 2007). These databases reflected the holdings of other major research collections (Denison, 2007). To use an analogy, the access to academic resources and services was compared to ‘McDonaldization’ of academic libraries achieved through rationalised services for efficiency, calculability, predictability, and control that made clients gain a similarity in service access everywhere (Nicholson, 2015; Quinn, 2015). The declining cost of advancing ICT is considered to be an obvious result of shared processing and access from an economy of scale perspective (Denison, 2007).

Phase 2 – The Rise of the public access. Lynch (2000) stated that the developments that had taken place until this phase resulted in another round of automation in the 1980s and early 1990s. For example, the increasing availability of library databases and services to its clients, not just through dedicated terminals within the library, but also from desktops at home or in the office, at any time during the day was revolutionary from an access perspective (Lynch,2000). Therefore, the concept of the “digital library” emerged as real, accessible and popular in the early 1990s (Lynch, 2000). Financial gains started to be achieved through consortia purchasing of electronic databases, abstracting and indexing services, from commercial publishers (Lynch, 2000). This occurred despite library clients being unable to access the full-text publications (Lynch, 2000).

Phase 3 – The print content - going electronic. By phase three, Lynch (2000)

observed that the shift to digitisation had gone beyond the automation phase of existing library services. The technology was developed at a pace not seen before in terms of change in libraries as content and images were delivered to libraries efficiently through full-text databases of publishers or aggregators such as EBSCO and ProQuest (Lynch, 2000). Technology advancements also led to the development of e-presses as an alternative to established publishing industry practices. For example, High Wire Press affiliated with Stanford University, and RMIT Publishing at RMIT University in Australia, as direct assistance to the higher education (Lynch, 2000). This signified an alliance of new types of publishers. These partnering bodies began to publish as new entities using e-presses, or simply stated, just publishing online (Lynch, 2000). The emergence of Web-based search engines (e.g. Google and Yahoo) meant that users started to prefer these search engines to library catalogues to gather data for academic endeavours (Gibbons, 2007; Kaufman, 2007; Lynch, 2000).

Within phase three, new complexities arose with the continued development in the ICT (Lynch, 2000); for example, negotiating licenses, prices, intellectual property, and library service issues, added new levels of complexity in library management and administration (Lynch, 2000). The Internet became critically important as it provided convenient access to many websites, reports and other publications (Gibbons, 2007; Kaufman, 2007; Lynch, 2000) and began impacting on the way the library and the client interacted (Lynch, 2000); for example, clients' preference for online access to resources and online reference services boomed (Gibbons, 2007; Kaufman, 2007; Lynch, 2000). As many others have stated it has been possible for clients to access information resources (full-text) through the virtual library (Glogoff, 2001), without stepping into the physical library from about the beginning of the 21st century (Levien, 2011). The impact of ICT has been intensified with the continuing advancement (Lynch, 2007, Levien, 2011, ALIA, 2015) in digitisation, digital publishing, the World Wide Web, networking, portable, ubiquitous and wireless computing, disrupting the existing library services. Thin client technology has been a prominent issue in changing the interaction of libraries with its clients (Glogoff, 2001; Pietruch-Reizes, 2010; Sandhu, 2015). Thin client technology uses accessible and lightweight computers (iPhones, laptops, tablets, iPads) that are purpose-built for accessing servers remotely, and store data in cloud or desktop virtualised

environments (Samsung Electronics, 2016). This technology depends heavily on another computer (its server) to fulfil its computational roles (Samsung Electronics, 2016). Thin client technology has accomplished one of the most profound changes to library service provision to patrons, flexibility in providing access to library information resources (Berry, 2010; Sandhu, 2015).

Advancing technologies induced a number of developments in library resources such as the format and dissemination of information during this third phase of technological development (Kaufman, 2007; Levien, 2011; O'Connor, 2007). Libraries were rapidly transiting to a new terrain underpinned by new-edge technological change with the added burden of adapting to changed user-access and needs. They basically had to implement new quality practices unheard of two or three decades earlier (Vinopal & McCormick, 2013).

As the library collections are dominated by digitised resources (Pan & Howard, 2010; Walton et al., 2009), libraries are increasing the provision of services and resources while the information resource collections of libraries are increasingly becoming similar (Gibbons, 2007). During this third phase of technology development, library collection development experienced a major shift from object gathering (collecting physical information resources) to predominantly facilitating access to digital resources, from institutional to global, from toll access to open access, and dealing with simple resource issues to those with contrasting complexity (Anderson, 2015; Wright, 2014)

Condition4: Collaboration: a systematic methodology

A fourth condition of the changing role of the university library has been advanced by Michalak (2012) involving human resource management concepts, assisted by flexibility, adaptability and cooperative attitude of staff to accomplish more within available resources while boosting staff morale. Collaboration can be between people, branches of an institution or institutions (Michalak, 2012). Based on the University of North Carolina Library experience, ongoing planning, communication and performance appraisal were considered top priority given the increased complexity of collaboration (Michalak, 2012). Therefore, people have been considered as the most important factor in collaboration as people acting together can foster initiatives for

effective change and higher performance in an organisation and beyond (Shepherd, 2017; Michalak, 2012).

For the purposes of survival, university libraries have been collaborating in various areas to provide services to achieve a heightened return on investment in an environment of declining library budgets from both global and domestic (Australia) perspectives (Pugh, 2010; Truelson, 2004; Wade, 2014). Academic libraries have historically been involved in effective collaborative partnerships. But in contemporary times this trend is seen to be more widespread (Gashurov & Kendrick, 2013; Wade & Horton, 2014). For example, in the United States, the Library of Congress cataloguing service, the Online Computer Library Centre's (OCLC) cooperative services in various areas of the LIS field, and Princeton and Columbia universities' Research Collections and Preservation Consortium (ReCAP) can be cited as common cooperative partnerships (Gashurov & Kendrick, 2013).

The National Library of Australia (NLA) has been the leading body for library cooperation in Australia (Wade & Horton, 2014). The NLA's collaborative instrument has been the Libraries Australia database that provides a nationwide service in supplying machine-readable catalogue (MARC) records as well as acting as a union catalogue (that is, a combined library catalogue of the information resources of several libraries) that supports its document delivery service (Wade & Horton, 2014). Also, NLA's Trove database draws together and provides access to e-resources (and other formats) for Australian libraries, museums, and other research bodies (Wade & Horton, 2014). The Council of Australian University Librarians (CAUL) is a body that negotiates e-resource agreements, including prices, and embarks on other initiatives of significance to university libraries in Australia and New Zealand (Wade & Horton, 2014). To name a few more examples Cooperative Action by Victorian Academic Libraries (CAVAL) and UNILINC are non-profit companies established in Australia to facilitate collaboration between institutions that result in benefits in terms of services such as cataloguing and processing of library material, consulting, and web development (Wade & Horton, 2014). CAVAL also provides a storage facility for library material of member libraries (Wade & Horton, 2014). The report "*R-imagining libraries 2012–2016*" (National & State Libraries Australasia, 2012) stated that collaborative efforts facilitate access, use and shared knowledge that is increasingly

found in digital formats to drive greater efficiency and effectiveness across all member institutions in meeting challenges of change (National & State Libraries Australasia, 2012).

Condition 5: Leadership at all levels: the influence of the individual

Michalak's (2012) fifth changing condition of university libraries signified the importance of leadership at all levels within the library. It is not just the physical and procedural aspects of the library that have changed but also the people aspects of the library (Michalak, 2012). People want to feel empowered to take intelligent risks and to be agile, adapt, and to engage in the transformation of the library (Michalak, 2012). Library leaders need to initiate change but they should allow suggestions to come from staff and other stakeholders by facilitating bottom-up and lateral communication (Michalak, 2012). To do so, leaders should lead by motivating and inspiring staff with long-term vision, empowerment and coaching (Mason & Wetherbee, 2004) as managing change or performance is about managing the library culture and getting the best from people (Hart, 2010). To successfully perform the leadership roles at all levels of the library, leadership requires necessary skills such as communication, strategic thinking, and listening (Feldmann, Level & Liu, 2013; O'Connor, 2014). University libraries also need to continue to develop the leadership skills of librarians through short courses or workshops such as the ones from AURORA Leadership Institutes (Feldmann, Level & Liu, 2013; O'Connor, 2014).

Academic commentators recognised the relevance and the urgency of leadership training as well as the careful design of such programmes, not just for libraries but for the whole university sector (Ladyshevsky & Flavell, 2012). Yet Mason & Wetherbee (2004) claimed that a lack of understanding or clarity about the leadership skills required by librarians existed, and therefore recommended further research into defining and introducing or refining the leadership training agenda in LIS schools and other professional bodies. The complexity of leadership in general is also exacerbated by the lack of clarity of required skills for leadership as raised by numerous experts in many different sectors, including business (Drew, 2017; Gilpin-Jackson & Bushe, 2007; McGurk, 2010; Oelke et al., 2008; Van Ameijde et al., 2009).

The library is physical to an extent, but exists in a virtual space regardless of whether

the clients are in the physical space, or using the resources remotely (Bruce & Mertens, 2013; Gerke & Maness, 2010; Honghui & Qunqing, 2014). The physical library now is a space for learning, eLearning, teaching, social engagement, collaboration, research, creativity and the integration of physical and virtual information (Sandhu, 2015). Libraries provide cutting-edge technologies to facilitate access to experts in all discipline areas, collections, and a range of other resources, including the provision of advice from library staff to focus the overall resources to benefit the stakeholders comprehensively (Sandhu, 2015). IT support and career guidance are other services that occur in a few university libraries (Sandhu, 2015). A profound change has been taking place in university libraries where market forces are in operation to meet the demands of clients (Hays & Warner, 2014). Therefore, in combination with other factors such as rapidly advancing ICT and the changing higher education andragogy, a dramatic change is taking place in university libraries on multiple fronts. (Kaufman, 2007; Levien, 2011; Riggs, 2001; Wainwright, 2005).

2.2.5 Key elements of managing change in the university library

It is apparent from the literature cited in this chapter that many researchers have attempted to explain one or more factors that are affecting the success of change management in various organisations or institutions (Blackburn, 2014; Clardy, 2013; Fiol & Lyles, 1985; Kerr, 2014). Different researchers presented different elements pertaining to change management. Kerr (2014) summarised these elements under the following ten headings listed below:

- 1) Establish leadership - the foundation for change (p. 5)
- 2) Build trust - a vital component of ensuring achievement (p. 25)
- 3) Strategy setting - translating vision into action (p. 45)
- 4) Engage staff - the way to gain support and accelerate success (p. 67)
- 5) Manage work through projects - a means to strategic alignment (p. 87)
- 6) Renovate the business - a way to become "of choice." (p. 109)
- 7) Align technology - it's the core of all we do (p. 129)
- 8) Transform staff - the people part of enterprise-wide change (p. 149)
- 9) Renew communication practices - transparency improves performance (p. 169), and

10) Reimagine the organisation - the expressway to the future (p. 189).

Significant organisational change initiatives depend on the staff engagement. If engagement is not fostered by effective leadership, change initiatives will weaken and eventually fail (Wilcox, 2015). Engaging change goes beyond orthodox change management principles to guide consultants, managers and leaders to understand why some initiatives succeed and why others are unsuccessful (Wilcox, 2015). Engaging with practical changes in the workplace must meet challenges involving an understanding of the context of the environment to induce the required change(s) (Wilcox, 2015). Issues regarding conceptualisation, initiation, implementation and sustaining change, also draw in factors such as institutionalised behavioural and structural changes underpinned by compelling visions (Wilcox, 2015). Managing change without consideration of culture, strategy, structure and environment will not succeed (Waddell et al. 2014; Wilcox, 2015).

Wilcox's (2015) and Blackburn's (2014) views on the topic of leading change have considerable parallel thought. A study of a change programme (Service Tasmania) in the public service sector of Tasmania claimed that attention paid to the key elements of managing change resulted in success (Blackburn, 2014). The study identified ten elements that are considered to be vital (Blackburn, 2014). These ten elements are:

- 1) Having a vision that is engaging and compelling
 - 2) Establishing a sense of urgency
 - 3) Recognising resistance as a natural and anticipated reaction
 - 4) Effective communication
 - 5) Reiterating organisational goals and ensuring a tight alignment with focused training that is effective and relevant
 - 7) Owning the change and dispersing the ownership to staff
 - 8) Robust leadership
 - 9) Embed the change in the culture
 - 10) Utilisation of customers
- (Blackburn, 2014)

In an attempt to simplify the diversity of change approaches, Clardy (2013)

categorised factors which were considered important to successfully manage change. These core set of management fundamentals were categorised under the acronym of “IMPROVE.”

- **I**ncreasing the organisation’s capacity for change
- **M**anagement approval for the change
- **P**reparing direction and leadership for the change process
- **R**aising employee motivation for change
- **O**perationalising the change
- **V**alidating that the change process has been successful, and
- **E**MBEDDING the change into the organisation

(Clardy, 2013, p. 35).

The factors affecting managing change are discussed using many different approaches by various researchers. Kotter’s (1996) famous eight steps (see Figure 2.5), and Kirkpatrick’s (2012) seven steps (see Figure 2.8) can be cited as examples of such approaches. In this study, the review of literature relating to factors affecting change management is examined below under some main headings that are important to this research. These main headings - strategy, client issues, people issues and resources - are all covered in the next sections below. Leadership and technology are discussed under separate headings (Sections 2.3 and 2.4) due to the emphasis required based on the thesis topic. It is important to note that these categories are not mutually exclusive.

2.2.5.1 Strategy (and strategic management)

The “knowledge is power” concept still has validity within the organisational management field (Gordon, 2006; Haas, 1990; Kelly, 2007). Since Weber and Marx first coined this theory, it has been given more precision by Bacon, Marx, Foucault and Post-Foucaultian power theorists showing that knowledge has power when it is given a strategic and tactical approach (Gordon, 2006). Hence, strategic planning is considered to be the key to managing change (Chakravarthy, 1982; Fiol & Lyles, 1985; Kilkelly, 2014; Williamson, 2008) as it assists leaders to think, learn and act purposefully (Bryson, 2011). Therefore, knowledge on strategic planning and implementation can provide a critical force on transforming an organisation (Dooris, Kelley & Trainer, 2004; Kaplan & Norton, 2001; Kilkelly, 2014; Kotler & Murphy,

1981).

Defining strategic planning is a complex issue (Mintzberg, 1987). In an organisation, a strategic plan addresses issues such as, its aims and objectives, the course of action to be taken, the resources necessary for achieving its goals and objectives, while understanding organisation's strengths, weaknesses, opportunities and threats (Graetz et al., 2006). Noting the complex nature of defining strategic planning, Mintzberg (1987) proposed a 'Five P definition' suggesting what it should include. These components include a **P**lan for action, a **P**loy for artfulness and tactics, a **P**attern or an action plan, strategically **P**ositioning the organisation within its environment, and **P**erspective representing the shared vision of the organisation (Mintzberg, 1987).

During the preparation of a strategy, it is vital for organisations to examine fundamental issues like the core purpose of the business, its ultimate goals, the course of action, and resources and capabilities needed to achieve desired goals and objectives (Graetz et al., 2006). Scenario planning (a strategic planning method for organisations to make flexible long-term plans) is a tool used for strategic thinking; to think outside the box (Casey, Cawthorne & Citro, 2014; Graetz et al., 2006). Effective implementation of strategic plans, including effective performance measurement, is critical as the ineffective execution of a plan will not result in satisfactory performance (Graetz et al., 2006; Grigore, Constantin & Catalina, 2009; Kaplan & Norton, 2001; Lamberg et al., 2009; Saver, 2015).

Strategic planning as a method of managing change is considered to work efficiently in a high-trust and questioning environment in which the key source of competitive advantage comes from the way organisations absorb, analyse and share knowledge (Graetz et al., 2006). One of the reasons for difficulties in effectively implementing strategic plans is assessing and measuring intangible assets, particularly the knowledge-based strategies (i.e. customer relationships, innovative products and services, high-quality and responsive operating processes, and employee capabilities) that provide the competitive advantage in organisations (Kaplan & Norton, 2001). The strategy also displays a vital connection with knowledge as described in the associated literature on organisational learning (Vera & Crossan, 2004). Researchers argue that this association of strategic management with organisational learning is not

only clear but also a vital aspect of the process of thought and action (Marko et al., 2012; Vera & Crossan, 2004). Hence, organisational learning facilitates strategic renewal to explore and learn new ways to undertake processes and procedures while exploiting what is already learnt (Crossan, Lane, & White, 1999; Sirén, & Kohtamäki, 2016). Consequently, an organisation may begin strategic management with a deliberate or definitive plan, but it may be modified or improved as new knowledge is gained, and the final “successful blueprint” can often be seen as fluid and subjected to revision, replanning, implementation and assessment (Graetz et al., 2006).

Many experts have determined that strategic planning is fundamental to other aspects of effective organisational management. For example, in addition to strategic planning, appropriate leadership, human resource management and organisational culture are essential components to establish a stable foundation for effective planning as well as sound implementation leading to successful performance and better change management (Grigore et al., 2009; Guest, 1987; Mintzberg, 2009; Rowe & Nejad, 2009).

Strategic management is also considered imperative for the public sector, including higher education, because of its increasingly uncertain and rapidly changing environment, and to effectively satisfy the demands of its clients and stakeholders (Bryson, 2011). Strategic management involves continuous planning, checking, monitoring, analysis, assessment and replanning to support the essential focus of technological and human resources to meet organisational goals (Bryson, 2011; Liu, 2013). The most important benefit of strategic planning is considered to be forcing the decision makers to undertake more effective and market-orientated planning for the future (Armstrong et al., 2014; Baker, 2014; Kotler & Murphy, 1981). Transforming the higher education sector, while making use of relevant advancing technologies, is also considered to be a crucial aspect of strategic management and planning (Dooris et al., 2004; Löfström & Nevgi, 2007; O’Flaherty & Phillips, 2015). Strategic planning has also been a widely-used method for managing change in university libraries, and it is argued that this approach has helped in providing better customer-oriented outcomes (Konings & Dekker, 2005; Michalak, 2012; Wells, 2007; Williamson, 2008).

2.2.5.2 Client issues

As stated before, the physical library was the centre of the university campus with an ever-expanding warehouse of books, which all students and academics in times past had to visit for information that was packaged in printed or other hard formats (Childs et al., 2013a; Jamieson, 2013). As the library has transformed, and continues to do so, with the advancement of ICT, higher education has shifted from instruction-centred learning to student-centred learning (Jamieson, 2013; Oblinger, 2006). Learning styles in these contemporary times are predominantly linked to learning by reflection, learning by doing, and learning by conversation associated with the learning space (Jamieson, 2013; Oblinger, 2006).

In the context of student-centred learning, the physical library still claims to hold a prominent place in the university for creating knowledge in social contexts involving a variety of active problem-solving experiences through discourse among students and consultation of library staff (Jamieson, 2013). The library is also considered to be the best place for providing its clients, particularly the students, spaces and the necessary technologies for their collaborative engagement and private study (Appleton, 2013; Childs et al., 2013a; Haapanen et al., 2015; Jamieson, 2013; Johnson et al., 2015).

With the advent of the Internet, the higher education environment has been changing rapidly (Baker, 2014; O'Connor, 2007). Vast array of information can now be accessed outside the library, via the Internet (Baker, 2014a; Campbell, 2006; Darnton, 2008; Wood et al., 2007). Various ICT devices are radically improving and impacting on library services (Backer, 2014b). The 'new student' (student of the Internet age) is time poor, fun-loving, social, keen to work in groups, requiring access to information whenever and wherever desired, and keen to learn with focused and relevant activities via the latest technologies available (Frاند, 2000; Murdoch & Hearne, 2014; Oblinger, 2006; Wainwright, 2005). Convenience in accessing information is a critical factor for the new student (Connaway et al., 2011; Kaufman, 2007; Kim & Sin, 2016; Spezi, 2016). Students tend to use the Internet more than the library's resources for academic information (Baker, 2014a; Gibbons, 2007; Kaufman, 2007; Kim & Sin, 2016; Spezi, 2016; O'Connor, 2007; OCLC, 2006). Because of changing learning methods, learning needs, and the preference of the new student in online searching,

fewer visits to the library by academics and students alike are required to find information (Martell, 2008; Martin, 2008; Selwyn, & Gorard, 2016). Because of the popularity of the Internet, academic libraries have reduced number of readers/clients visiting the physical library, and hence libraries are required to take corrective action to stay in business (Gopalakrishnan & Kumar, 2013). Learning spaces designed for the 1950s did not fit well with contemporary students because of their increased high expectations (Oblinger, 2006), and as a result, addressing their needs is a challenge for the library (Roberts, 2005). Because of remedial actions of libraries, such as the use of library space for information commons for collaborative study by students, academic libraries are reporting increasing gate counts (Crump & Freund, 2012b; Truesdell, 2012). Academic libraries are undergoing a profound change to reach clients (Hays & Warner, 2014; Hernon, Alire & Giesecke, 2007; Holmgren & Spencer, 2014).

Universities have become client-driven organisations due to decreasing public funding, globalisation, and the introduction of market forces to the higher education sectors in the West, including Australia (Gupta & Savard, 2010; Sen, 2010; Simmons-Welburn & Welburn, 2006). Therefore, client involvement in service innovation is critical for planning and implementing a client-oriented organisation (Gray & Barker, 2015; Macauley, 2001; Scupola & Nicolajsen, 2010). Librarians need to adapt to the changing needs of clients, for example, the availability of librarians for the immediate help of its clients (Roberts, 2005; Wood et al., 2007). Consequently, libraries are being re-organised as learning spaces acquiring increasingly more digitised materials facilitating ubiquitous access and developing the required skill sets of library staff (Bostick & Irwin, 2014; Pan & Howard, 2010; Piorun, 2013; Smith, 2004; Stokker & Hallam, 2009). The need for change in the library culture, starting with the potential of new technologies benefitting students and library users, is an issue of crucial importance (Glogoff, 2001; Maloney et al., 2010). Therefore, the success of the university library depends on librarians' understanding of traits of students, and teaching and research academics (Macauley, 2001). This understanding necessitates client involvement in service innovation (Carlborg, Kindström, & Kowalkowski, 2014; Kaasinen, 2010; Scupola & Nicolajsen, 2010).

2.2.5.3 People issues

Staff in an organisation are the most important resource for effective change management, and people can be a success factor or an obstacle for change, depending on the effectiveness and organisation's human resource practices (Gilmore & Sillince, 2014; Nankervis et al., 2017; Noel & Dennehy, 1991; O'Leary, 2010). People are a force, change agent, or a multiplier of change effectiveness if their skills and attitudes are well managed to achieve organisational objectives (Fleming, Coffman & Harter, 2005; Kotter, 1990a; Smith, 2004; Wiseman & McKeown, 2010). The human factor is considered significant in the effectiveness of both private and public sector performance (Kim, 2010; Lutfihak et al., 2010; Truss, 2008). When managing change, people need to be well aligned, interdependent (Kotter, 1990a), and positively engaged (Chou, 2014; Fleming et al., 2005; Georgalis et al., 2014). It is also an imperative that knowledge, skills and capabilities are appropriately developed (Delahaye, 2011, Hallam, 2007; Smith, 2004, 2004b; Smith, 2004c) to make staff more adept and changes sustainable (Gilmore & Sillince, 2014; Guerci & Pedrini, 2013; Wiseman & McKeown, 2010). Therefore, people are considered a strategic resource (Georgalis et al., 2014; Nankervis et al., 2017; Viardot, 2005) along with stakeholders of an organisation (Millar, Chen & Waller, 2016; Pierre, 1994).

The importance of the people factor for change management in libraries is also well documented in the LIS literature (Castiglione, 2008; Georgalis et al., 2014; MacLean, 2008; Walton, 2008; MacLean, 2008). LIS literature discusses diverse ways of developing people as a resource to encourage innovation and creativity (Castiglione, 2008; Walton, 2008; Williamson, 2008). The literature suggests methods such as enhancing staff knowledge, skills and capabilities (Smith, 2003, 2004), effective people management (Farley et al., 1998; Hart, 2010; MacLean, 2008; Smith, 2005, 2005c), developing the attitude of library staff (Line, 2004b), inducing team collaboration (Line, 2004), encouraging humanism in people management through effective leadership (Malhan, 2006). People have been considered the most valuable resource in libraries for performance improvement (Pierre, 1994; Smith, 2004), as in any organisation (Nankervis et al., 2017). Managing people for achieving strategic objectives is considered a complex but crucial task in a changing and competitive organisational environment (Caplan, 2013; Delahaye, 2011; Nankervis et al., 2017;

and Wolsey & Whitrod-Brown, 2013).

2.2.5.3.1 Status of the academic librarian

Despite the rapid changes taking place in the university library environment, librarians are still considered to play a vital role in university education by collaborating with the academic staff and adopting new responsibilities and practices that assist universities to achieve a competitive edge (College Online, 2015; Jaguszewski & Williams, 2013; Montiel-Overall, 2016). The appropriate status of librarians in university libraries to effectively perform responsibilities of this position has been a highly-debated topic in the LIS literature (Bolin, 2008; Housburgh, 2011; Macauley, 2001). In the United States of America (USA), academic status for a librarian has the support of professional associations of librarians such as the American Library Association and the Association of College and Research Libraries (Bolin, 2008); however, the implementation of academic status for librarians in the USA, although widespread, is still not uniform (Bolin, 2008).

In Australia, a government report (Ross, 1990) recognised the role of the academic librarian as an educator but experts are divided on the academic librarian's role; some agree with the idea of librarians as educators (Bundy, 2003; Doskatsch, 2007) and some do not (Asher, 2003; Macauley, 2001). Nevertheless, librarians in universities continue to collaborate with the academic staff in educational roles such as information literacy and curriculum development (Bundy, 2003; Doskatsch, 2007). It has been a central responsibility of librarians to engage in resource-based teaching or information literacy (Bundy, 2003; Doskatsch, 2003, 2007; Lawson & Janyk, 2014; Owusu-Ansah, 2004), therefore, some practitioners argue that it is useful for library staff to be considered as academics, in possession of postgraduate qualifications along similar lines to school librarians who are also teachers (Bundy, 2003; Doskatsch, 2003, 2007; Lawson & Janyk, 2014; Owusu-Ansah, 2004). Conversely, Macauley, (2001) argued against treating librarians as academics, expressed caution in case librarians in universities were required to have published research output as required of academics, and reasoned that their role did not necessarily require higher qualifications. Yet, with the changes that are taking place in the university library environment, librarians see an increasing importance of the knowledge factor (such as

disciplinary knowledge, and knowledge of business management) in effectively managing the 21st-century academic library (Grafstein, 2002; Hallam, 2014; Naylar & Karp, 2008; Raju, 2014; Steffen, 2008).

2.2.5.3.2 New knowledge, skills, and capabilities

Ensuring that people remain resourceful to meet respective organisational goals, and to sustain the enterprise, require strategic human resource management (HRM) to develop, or redevelop, necessary knowledge, skills and capabilities among the staff (Boxall & Purcell, 2016, Georgalis et al., 2014; Graetz et al., 2006; Wiseman & McKeown, 2010; Wood et al., 2007). Critical new knowledge (for example, information technology and business management) provides the capacity for organisations to effectively perform within competitive environments (Birasnav, 2014; Meihami & Meihami, 2014; Real, Roldán & Leal, 2014; Wang & Rafiq, 2014). An organisation's ability to implement successful change primarily rests on the quality of its staff (Delahaye, 2011, Georgalis et al., 2014; Wiseman & McKeown, 2010; Wood et al., 2007).

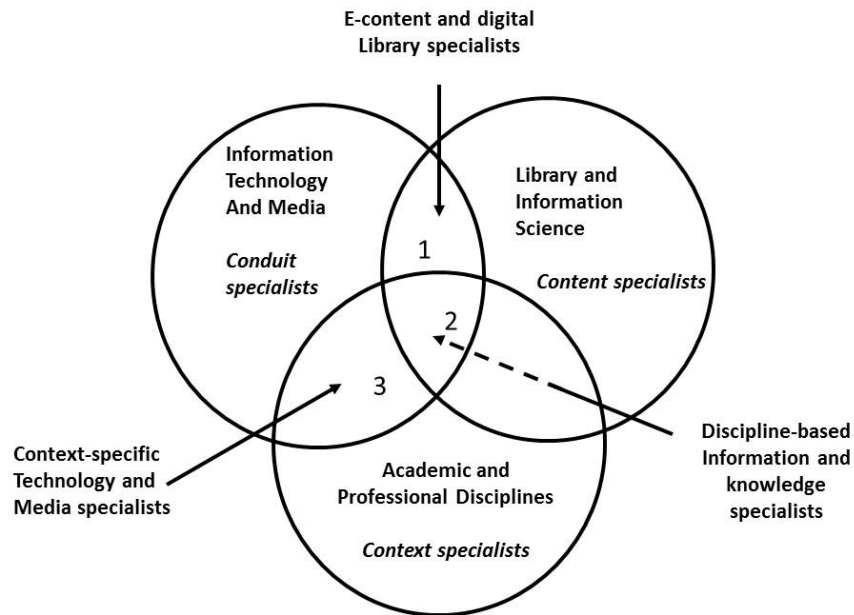
Experts agree that market orientation of public sector institutions, including the non-profit sector institutions, is an effective strategy for creating a better internal work environment and assisting effective organisational performance (Chad et al., 2014; Rodrigues & Pinho, 2010). The market concept is already in force in universities and their libraries in the West (Harvey & Stensaker, 2008; Wood et al., 2007). Market orientation was introduced to the Australian higher education system with the commencement of competitive funding and performance culture (Oakley & Vaughan, 2007; Pierre, 2005). The result is that all sectors of Australian universities, including the libraries, should meet client expectations to address the challenges of market orientation. Necessary knowledge, skills and capabilities are essential for implementing the market concept in an organisation (Cardwell, 2009). Literature suggests the significance of marketing knowledge for libraries because of the explosion of information due to advancement in ICT and the resultant competition from the private sector (Jochumsen, Skot-Hansen, & Hvenegaard Rasmussen, 2017; Singh, 2009).

Rapidly advancing ICT has caused an information explosion (Darnton, 2008) making

information literacy skills critical for librarians to help clients find, retrieve, analyse and use information (Bundy, 2004; Owusu-Ansah, 2004). The requirement of new knowledge and skills for a librarian to perform effectively in the present changing library environment is discussed in LIS literature (Cardwell, 2009; Guest, 1987; Jefcoate, 2010; Piorun, 2013) but experts do not seem to have a satisfactory agreement of the knowledge and skills required (Rossiter, 2007a). A report of the Canadian Association of Research Libraries (CARL, 2010) suggested a list of disciplinary knowledge that is useful for the 21st-century research libraries including foundational knowledge (social, cultural, political, economic and information environment), interpersonal skills, leadership and management, collection development, information literacy, and IT skills.

An examination of library workforce planning by Hallam (2007) in the Australian context, found the significance of knowledge in the business and management areas for the librarian. In the United Kingdom (UK), a study was conducted relating to the new knowledge and skills required of academic librarians in the context of rapid technological advancements and changes (Corrall, 2010). This study found the need for the “blended” (multi-skilled) academic librarian, possessing knowledge and skills in ICT technologies, library and information science (LIS), and the academic and professional disciplines of the university (Figure 2.10) (Corrall, 2010).

Figure 2.10: Sheffield model of blended information professionals
(adopted from Corral, 2010)



Recruiting and developing staff with required knowledge and skills is a strategic function that affects product/service development, customer service and ultimately the performance (Graetz et al., 2006; Sullivan, 1997). Therefore, a skilled workforce and promoting organisational learning is essential within a competitive marketplace to manage change effectively (Altman, 1998; Castiglione, 2006; Crossan & Hulland, 2002; Violante, 2013). Attracting qualified staff to libraries was considered a challenge for the future (Hernon, 2007b) and to universities in Australia (Hugo, 2008) because of unfavourable employment conditions such as competition and availability of better opportunities in other sectors for qualified and skilled people (Naylar & Karp, 2008; Smith & Galbraith, 2012).

Learning organisations belong to a culture requiring necessary knowledge and skill-sets that help organisations to perform, and this is considered indispensable in a rapidly changing environment for any business to stay relevant and perform effectively (Blackman, 2006; Delahaye, 2011; Crossan & Hulland, 2002; Nankervis et al, 2017; Vera & Crossan, 2004). Hence, organisational learning needs to be a continuous process to appropriately update the knowledge and skills base of the library (Delahaye, 2011; OECD, 2013; Simmonds, 2003). The vanguard of team

dynamics is considered the individual learning that leads to team and organisational learning (Murray & Moses, 2005) indicating the value of staff development processes to develop the required knowledge and skills of people within an organisation (Levasseur, 2013). Organisational learning also encompasses the importance of developing and aligning knowledge and skills of older workers (Geissler, 2005), particularly when they constitute a large portion of the workforce in institutions such as academic libraries in Australia (Sayers, 2007). Individual learning is also transforming to organisational learning which involves sharing individual or tacit knowledge (socialisation), which then becomes explicit knowledge (externalisation) turning it to more complex and systematic knowledge (combination), and finally making it part of the organisational knowledge (internalisation) leading to effective performance (Blackman, 2006).

2.2.5.3.3 Staff development, workforce planning and organisational learning

To enhance the resourcefulness of staff, an organisation needs to focus on staff development, workforce planning and organisational learning (APS, 2003; OECD, 2013; Smith, 2004). Some key terms related to learning organisations are listed below:

Staff development or professional development: Process of improving and increasing capabilities of staff through access to education and training opportunities in the workplace.

Workforce planning: Systematic identification and analysis of what an organisation is going to need in terms of the size, type, and quality of workforce to achieve its objectives. It determines what mix of experience, knowledge, and skills is required and it sequences steps to get the right number of right people in the right place at the right time.

Organisational learning: Organisation-wide continuous process that enhances collective ability to accept, make sense of, and respond to internal and external changes. Organisational learning is more than the sum of the information held by employees. It requires systematic integration and collective interpretation of new knowledge that leads to collective action, and involves risk taking and experimentation.

Learning organisation: Organisation that acquires knowledge and innovates fast enough to survive and thrive in a rapidly changing environment. Learning organisations: (1) create a culture that encourages and supports continuous employee learning, critical thinking, and risk taking with new ideas, (2) allow mistakes, and value employee contributions, (3) learn from experience and experimentation, and (4) disseminate the new knowledge throughout the organisation for incorporation into day-to-day activities. (BusinessDictionary, 2017, P. online page).

The issue here is that libraries, like any organisation, are facing enormous change, and therefore need to address the human resource development issues or recruit staff that have the potential to boost productivity (Armstrong & Taylor, 2014). The methods of staff development or knowledge/skill development are considered a strategic function for organisational performance during changing times to ensure the capacity for future successes (Blackman, 2006; Chalofsky, Rocco & Morris, 2014, Crossan & Hulland, 2002; Fiol & Lyles, 1985; Guest, 1987). In addition to hard skills (technical/subject), soft skills (skills relating to behaviour such as communication, teamwork and problem-solving) are widely considered essential for effective performance during changing times (Bourne, 2016; Carvalho & Rabechini Junior, 2015; Fernandez et al., 2015; Levasseur, 2013).

Workforce planning has taken a new direction with the emergence of new skills for effectively managing libraries to improve performance (Huotari & Iivonen, 2005; Mavrincac, 2005; Smith, 2004; Stokker & Hallam, 2009). A study found that skills that librarians needed in the past have now been superseded comprehensively due to the significantly changed environment (Hallam, 2007). The skills needed in this contemporary time, according to Hoffman (2016), include technical library knowledge and capabilities to meet new demands of clients, coupled with responding appropriately to workplace needs, culture and expectations. Soft skills in relation to effective management and leadership, communication and teamwork, as well as lifelong learning, are seen as having a higher priority (Hoffman, 2016).

Table 2.3 demonstrates a finding of Hallam (2007) that technology is the new skill that could make the most positive impact on libraries. In addition, skills in customer

service, management and leadership are also seen as important new skills in library performance management (Hallam, 2007), reflected in the later study by Hoffman (2016). Therefore, keeping up with required knowledge and skills is paramount in organisations in changing times for their performance and success (Noel & Dennehy, 1991; Omotayo, 2015) including libraries (Jefcoate, 2010; Noel & Dennehy, 1991; Patridge, Lee, & Munro, 2010; Raju, 2014). It is also critical to train all staff, including older workers, and improve staff skills for improved performance (Geissler, 2005; Kont & Jantson, 2015; Mavrincac, 2005). Older employees consist of a large percentage of the university library workforce (Geissler, 2005; Kont, & Jantson, 2015; Mavrincac, 2005). As Hallam's (2007) Australian library workforce study found, approximately 25 per cent of the librarians in Australia were over 56 years of age, while over 60 per cent were over 46 years of age (see Table 2.4). After an extensive search for more recent data on the demographics of staff in Australian university libraries Hallam's (2007) data appears to be the most recent. It is arguable though, that with the extension of the retirement age in Australia (AITS, 2014), the percentage of the older librarians in Australian university libraries may have further increased, emphasising the importance of staff development programmes for keeping all staff, older and younger, in tune with required new skills.

Table 2.3: Areas of training in current employment that have had a positive impact on the quality of work performance
(Adapted from Hallam, 2007)

Area of training	Perceived positive impact on work performance (to a considerable or to a great extent)
Technology training	56.8%
Job-oriented skills training (excluding technology)	53.6%
Library issues, subject specific	43.0%
Customer service	33.3%
Management skills	27.1%
Leadership skills	25.5%
Mentoring	11.0%
Job rotation	10.3%
Job share	6.6%
Job swap	5.8

Table 2.4: Comparison of age demographics for librarians: Australia (2006)
(Adapted from Hallam, 2007)

<u>Age group</u>	<u>Percentage of librarians</u>
18-25	2.7
26-35	8.7
36-45	23.5
46-55	40.4
56+	24.7

The work of Senge (1990) (discussed in Section 2.2.3.5) stated that organisations that truly learn or effectively improve the knowledge and skills base will excel in the future. A recent case study to test the strength of Senge's assertion acknowledged the relevance of organisational learning in dealing with changes in an ambiguous environment, but also as a successful change strategy to consider culture, context and situational variables (Chow, 2014). While individual learning is seen as important for learning organisation (Mumford, 1994; Siemens, 2014), team learning is mentioned as vital to routinise and boost the knowledge of the organisation (Murray & Moses, 2005). Although the usefulness of the learning organisation concept is widely acknowledged, it is practised in various degrees in different institutions (Bernfeld, 2004; Cardwell, 2009; Piorun, 2013). In university libraries, there is no consensus about the required skill-sets of academic librarians in an environment of rapid change (Hallam, 2007, 2014; Partridge, 2011; Rossiter, 2007a), yet there seems to be an agreement about the need for new skills for effective performance (Hallam, 2007, 2014; Partridge, 2011; Piorun, 2013). Whilst generic skills are gaining in importance, branches of business and management related knowledge (e.g. strategic management, leadership and marketing), and technology are considered particularly important in effectively managing swift change (advancing technology, declining public funding) and meeting stakeholder expectations (Partridge, Lee & Munro, 2010; Raju, 2014; Williamson, 2008).

2.2.5.3.4 Marketing perspective

Strategic management is the key activity of change management and deals with formulating, implementing and evaluating organisational decisions to achieve organisational objectives (David, 2011). It is of no consequence unless it impacts on clients. This section, accordingly, covers the key aspects of marketing in general, followed by a connection to university libraries.

As Kotler (2001) argued, marketing deals with identifying human and social needs in an environment of globalisation, technological advances and deregulation, which provide many opportunities. Marketing is an important aspect of strategic management to achieve organisational effectiveness (David, 2011; Kotler, 2001; Pope, Isely & Asamo-Tutu, 2009; Sen, 2010).

Marketing has multiple definitions which vary significantly in academic commentary. Definitions provided below emphasise a dispersed view of the concept of marketing:

“Art of selling products” (Kotler, 2001, p.4),

“To know and understand the customer so well that the product or service fits him and sells itself. Ideally, marketing should result in a customer who is ready to buy” (citing Peter Drucker. In Kotler, 2001, p4),

“Process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organisational goals” (American Marketing Association, 2017: p. webpage definition).

[The] art and science of applying core marketing concepts to choose target markets and get, keep, and grow customers through creating, delivering, and communicating superior customer value” (Kotler, 2001, p. 4).

The marketing process is central to the business performance of companies, both large and small, because it addresses the most important aspects of the market. It is about understanding the competitive marketplace and ensuring you can tap into key trends, reaching consumers with the right product at the right price, place and time” (CIM, 2015, p. 3).

The Chartered Institute of Marketing (CIM 2015) also proposed a 7Ps model of marketing to achieve the customer satisfaction and goals of organisations. These 7Ps were the appropriate **P**roduct, **P**rice, **P**lace, **P**romotion, **P**eople, **P**rocess and **P**hysical evidence to continually adapt to changing market conditions (CIM, 2015).

The definitions demonstrate the significance of marketing as a branch of knowledge aimed at satisfying the needs of the customer/client while adding value to the business concerned (CIM, 2015).

The importance of marketing concepts for public and non-profit sectors is widely recognised in a changing and competitive environment for effective performance (Chad, Kyriazis, & Motion, 2014; Kaplan & Haemlein, 2009; Kotler & Lee, 2007;

Pope, Isely & Asamoah-Tutu, 2009; Rodrigues & Pinho, 2010; Serrat, 2010).

Marketing is considered significant for the public sector as it is part of the economic life that requires demonstrating positive returns or creating value (Kotler & Lee, 2007; Kaplan & Haemlein, 2007; Serrat, 2010). Marketing can create value for organisations by using techniques such as developing and enhancing popular products/services/programs, setting motivating incentives, creating and maintaining required brand identity, optimising distribution channels, effective communication with the public, improving client service satisfaction and forming strategic partnerships (Kotler & Lee, 2007).

Value creation is a challenge for university libraries because of a rapidly changing environment. Marketing has become a significant aspect of library management to enhance strategic outlook and operational tactics to build partnerships with clients and the stakeholders. (Chandratre & Chandratre, 2015; Gupta & Savard, 2010; Patil & Pradhan, 2014; Sen, 2010). Marketing is a critical aspect for university libraries and considered as the art and science of keeping the client at the centre of the library (Chandratre & Chandratre, 2015). Considering university libraries as not-for-profit organisations, Chandratre & Chandratre (2015) called for the analysis of activities of the library from a marketing perspective; for example, engaging in market research and customer analysis, development of new services, service distribution, promotion, and evaluation of services. Chandratre & Chandratre (2015) emphasised the importance of a strategic planning process for sustainability of an effective management process by understanding and identifying the client, and the strengths of the business, understanding what clients want, developing effective procedures and systems, developing staff skills, and effective communication. A number of researchers pointed out the necessity to understand user needs and obtain user feedback, adopting appropriate technology for service improvement and marketing for effective management and performance improvement of the university libraries (Chandratre & Chandratre 2015; Sen, 2010; Sigh, 2009). All these factors come under the broad umbrella of marketing.

While the interest in marketing within the Library and Information Science (LIS) field is more recent (started about the 1980s) (Gupta & Savard, 2010; Wood et al., 2007), and considered critical in the present rapidly changing and competitive environment,

the concept and its practices seem to be unknown to many in the field (Chandratre & Chandratre, 2015; Gupta & Savard, 2010). Barriers to the implementation of marketing concepts considered applicable in the business/private sector but unsuitable for the LIS sector include the nature of the library service and the lack of affiliation with marketing concept; these barriers were considered problematic on occasions (Singh, 2009; Wood et al., 2007). The importance of marketing knowledge and skills for the library to meet client and stakeholder needs during a time of competition in higher education is becoming critical. Therefore, the need for more effort in education and skill development in marketing for library staff for effective performance improvement is considered a high priority for the survival and relevance of university libraries (Chandratre & Chandratre, 2015; Sen, 2010; Singh, 2009).

2.2.5.3.5 Organisational culture

Suitable organisational culture is another characteristic that relates to managing change or performance improvement of organisations (Cadden, Marshall & Cao, 2013; Kaarst-Brown et al., 2004; Levin & Gottlieb, 2009). Experts considered organisational culture as the “glue” that holds the organisation together and inspires employee commitment to the organisation and stimulates performance (Brief & Motowidlo, 1986; Kumari, 2012; Martin, 1992; Robey & Boudreau, 1999). Gardner (1995) and Kahn (2005) considered the binding staff culture factors (or glue) to be the shared perceptions of organisational practices and sets of principles focused on how people should behave within the organisation that leads to productivity.

Various definitions of organisational culture take into account the following aspects:

- *The dominant values that are espoused by the organization,*
- *The philosophy that guides the organization’s policy toward employees and customers,*
- *The way things are done in the organization,*
- *The basic assumptions and beliefs that are shared by members of an organization, and*
- *The set of important understandings, such as norms, values, attitudes, and beliefs, shared by organizational members.*

(Kumari, 2012, p. 292).

Appropriate organisational culture is adaptive, accepts diversity, and responds to change proactively (Kirby, 2005; Levin & Gottlieb, 2009; Rogers, 2014, Yap et al., 2010). Therefore, such culture acts as a catalyst for effectively managing performance in university libraries in a rapidly changing environment (Kaarst-Brown et al., 2004; Lakos & Phipps, 2004; Maloney et al., 2010; Vinopal & McCormick, 2013). Rapid advancements taking place in ICT underpin changes happening in the library sector. Libraries need a responsive culture that appreciates the benefits of technology to meet challenges of change in their organisational environment (Glogoff, 2001; Dale, Beard & Holland, 2011).

Effective teamwork creates a suitable culture within an organisation to also stimulate staff interpersonal attributes, including collaboration, communication, motivation, commitment, improved learning and development among staff, creativity and innovation, all aimed at achieving organisational goals (Carley, 1992; Edwards, 2009; Gilson & Shalley, 2004; Katzenbach & Smith, 2005; Parker, Bindl & Strauss, 2010). The relevance of these skills for library staff in effectively managing change or performance is well documented in the LIS literature (Castiglione, 2007; Guerci & Pedrini, 2013; Huotari & Iivonen, 2005; Martin, 2007; O'Connor, 2006; Smith, 2006).

While effective organisational culture is a vital factor in managing change, the related literature suggests two critical issues that need consideration. Firstly, a single generic (one size fits all) organisational culture that suits libraries globally does not exist (Bouzguenda, 2013; Kirby, 2005; Seymen, 2006; Smith, 2001). Cultural variance in a society, based on its values, can affect the organisational culture; that is, organisational culture that fits one country may not fit another (Kirby, 2005; Smith, 2001). Secondly, leadership and organisational culture have joint effects due to the symbiotic interdependence (Chang & Lee, 2007; House et al., 2002; Ogbonna & Harris, 2000). To place this in greater perspective, ineffective leadership adversely impacts on organisational culture. Barriers created obstruct consultative communication and hinder contribution from staff, regardless of the levels at which they operate (Maloney et al., 2010). Similarly, the culture of an organisation may also have an impact on leadership style of the organisation (Chang & Lee, 2007; House et

al., 2002). Any adverse or unfit relationship may hamper effective organisational cultural elements such as motivation, teamwork, innovation and creativity, demonstrating the importance of the right leadership for managing change (Harvey & Stensaker, 2008; Herson, 2007a). In addition, appropriate culture promotes involvement of all stakeholders (i.e. students, staff and management in the higher education sectors) to support and sustain satisfactory performance (Harvey & Stensaker, 2008; Herson, 2007a).

2.2.5.4 Resource issues

This section reviews the literature relating to buildings/space, information resources and funding. Technology is discussed separately in Section 2.4.

The function of the present university library building has changed dramatically (Cornell University Library, 2011; UQ, 2013; Sinikara, 2013). As stated above, the library was a space where knowledge was systematically collected, recorded and stored, where students and academics visited physically for all necessary information for their teaching, learning and research (Darnton, 2008). Cyber visitors to university libraries are now in the vast majority (Childs, 2013, Dale et al, 2011). Today, library building space planning encourages collaborative learning with facilities such as information or learning commons to maximise learning (Childs, 2013; Wainwright, 2005). The university libraries consist of facilities for interaction, stimulation, reflection/quiet study, collections, self-service, informal interaction and cafes (Childs, 2013; Wainwright, 2005). Library buildings are no longer the primary storehouses of knowledge but places facilitating access to information and collaboration in cyberspace (Beatty & White, 2005; Kranich, Lotts & Springs, 2014; McRobbie, 2003). Whether it is a new building, a renovated library, or an existing space, the library building should meet its clients' needs (Bostick & Irwin, 2014). Gone are the days when libraries were places of silent reflection; this philosophy is now replaced by areas where discussion is encouraged to foster collaboration to use collective wisdom for a new dimension of learning (Bostick & Irwin, 2014, Froyd & Simpson, 2010; Jamieson, 2013).

Learning among present-day students has been transformed from an instruction paradigm to a student-centred learning paradigm in which learning occurs by reflection, doing things and conversation (Froyd & Simpson, 2010; Jamieson, 2013;

O'Neill & McMahon, 2005). Such informal learning could be supported by a wide range of physical environments such as spaces for group study and discussion, and meeting spaces within the library or the university campus (Harvey & Stensaker, 2008; Jamieson, 2013). University libraries have taken this changed role seriously and are making efforts to attract their clients by providing collaborative spaces within modern new buildings, or by renovating the old relics (Abbasi et al., 2012; Childs et al., 2013b; CLIR, 2005; Duderstadt, 2009; Watkins & Kuglitsch, 2015; Wells, 2014).

A change in physical library buildings also accompanies modifications to collections and associated development policies. Academic library collection policies have changed from ownership to access - a collection of knowledge sources without a physical home, to cyberspace (O'Connor, 2007; Johnson, 2016). Electronic resources are, simply stated, the dominant formats (Pan & Howard, 2010; Levine-Clark, 2014).

The access to information provided by academic libraries to information in this contemporary era is in sharp contrast to the resources used earlier this century and certainly the last (Rossmann & Arlitsch, 2015). Rather than owning "e-resources" university libraries subscribe to electronic products and packages (McRobbie, 2003; Rossmann & Arlitsch, 2015). University libraries also have access to a wide range of free information through the Internet providing access to a vast array of organised information in the cloud or the Internet (McRobbie, 2003; Rossmann & Arlitsch, 2015). The Internet has become the most popular information source for students (Deniz & Geyik, 2015; Gibbons, 2007; OCLC, 2006). Libraries are challenged more than ever with the control over information resources due to the Internet, electronic publishing and the reliance on university libraries' subscriptions to prearranged packages and services through publishers and other brokers, employing the concept of outsourcing (Levine-Clark, 2014, Pan & Howard, 2010; Pierre, 2005). The change in libraries since the 1990s is profound; library space has taken on a sense of space beyond physical walls (Baker, 2014a; O'Connor, 2007). Nevertheless, library leaders have, despite the complexity of imagining the future, shown capabilities to an extent by predicting and foreseeing changes (Baker, 2014a, O'Connor, 2007). University libraries have adapted services to take advantage of changing environments for the benefit of stakeholders (Baker, 2014a, O'Connor, 2007).

Funding is an important resource that is affecting all aspects of library services. The Australian federal government played the prime role in funding higher education from the 1940s to the earlier part of the 21st century (Emmanuel & Reekie, 2004). During the last three decades, significant changes in Australian higher education policies have ushered in the gradual but increasing withdrawal of government funding replaced by a partially subsidised system (ABS, 2004; Guthrie & Neumann, 2007; Knott, 2014, Department of Prime Minister and the Cabinet, 2015). Consequently, higher education has been adversely affected by withdrawal of full funding in 1974 to about 40 per cent by 2002 (ABS, 2004), to about a third in 2007 (Guthrie & Neumann, 2007), and yet another 20 per cent reduction from 2016 (Carrington, O'Donnell & Rao, 2016; Conifer, 2016).

Universities were increasingly faced with generating their incomes from commercial sources including the demand-driven student places in Australian universities, which resulted in operating the higher education institutions on business principles (Guthrie & Neumann, 2007; Kemp & Norton, 2014; Oakley & Vaughan, 2007). This change of management principles gave rise to greater fiscal pressures on Australian universities, which have been understandably passed on to cost centres of universities (Emmanuel & Reekie, 2004; Oakley & Vaughan, 2007).

In addition to factors like advancing ICT, changing student culture, the nature of dispensation of higher education and the reduction in funding impacted the libraries as well. The commencement of declining public funding for Australian university libraries occurred with the introduction of the competitive market-driven higher education system (ALIA, 2014).

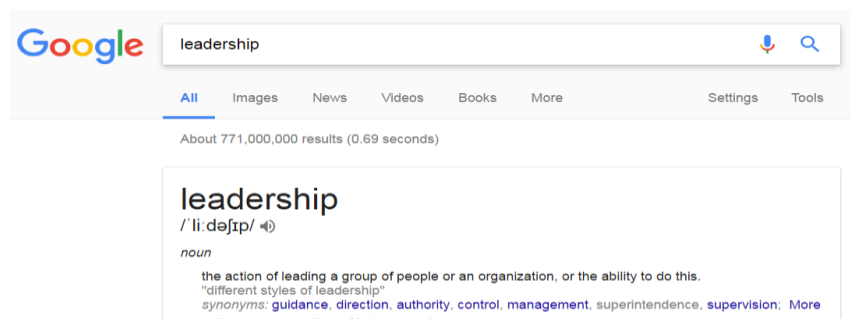
2.3 Leadership

[Leadership] gives purpose, meaning, and guidance to collectivities by articulating a collective vision that appeals to ideological values, motives, and self-perceptions of followers... (House 1995, p. 413)

The academic commentary claims broadly that leadership is widely considered as a force or critical aspect that results in effective change management and satisfactory performance as it establishes organisational direction, aligns people with

organisational goals and motivates and inspires people as part of a strategic process (Basu, 2015; Fullan, 2001; Gomathi, 2014; Higgs, 2009; Huy & Mintzberg, 2003; Jiang, 2014; Kotter, 1990b; Walker, 2009). Effective leadership brings out the best in people by creating a strong organisational culture promoting commitment, strategy, decision making and execution of talent (Boyatzis, 2008, 2011; Bratton & Gold, 2017; Cloke & Goldsmith, 2002; Wiseman & McKeown, 2010), and can even transform a good organisation into a great one (Collins, 2001). Experts agree that leadership is critically important in managing libraries in the 21st century, a time when rapid change is predominant (Malhan, 2006; Martin, 2015; O'Connor, 2014; Riggs, 2001; Schreiber & Shannon, 2001). Leadership has commonly been recognised as both critical and complex due to rapid and continuing change and the uncertainty due to swift technological advancements in combination with ever increasing client demands, and the resultant complexity of organisational affairs (Comfort, 2013; Daloz, 2015; Linburg & Schneider, 2012; Marion, 2002; Pulley, 2001; Obolensky, 2014).

2.3.1 Defining leadership



Leadership is a most widely written about concept. The caption above provides a notion of how the commentary on leadership is overwhelming: it took just a few seconds to obtain about 771 million references to leadership in Google.

Leadership is not an exact science that has a formula to provide a concise, accurate, meaningful explanation or predictable outcome (Goleman, 2000, Goleman, Boyatzis & McKee, 2002) despite being one of the most observed phenomena (Giesecke, 2007). The concept of leadership is explained or defined on the basis of perspectives, expectations of what an effective leader does, or the characteristics of an effective

leader (Giesecke, 2007; Stephens & Russell, 2004, Yukl, 2013). Therefore, much is written about leadership providing differing perspectives. For example, an analysis of more than than 100 definitions has been undertaken with no agreement about its true meaning (Giesecke, 2007; Stephens & Russell, 2004). As Yukl (2013) argued, ‘leadership’ is a term taken from the common vocabulary without a precise definition or meaning, and therefore possesses as many definitions of leadership as attempts to define this complex term. Each theorist has given prominence to their individual perspectives of leadership when defining it. Hence, leadership is considered a poorly understood concept (Burns, 1978; Ciulla, 2014; Riggs, 2001; Rosenbach & Taylor, 2006, Yukl, 2013). Consequently, like other concepts in social sciences, defining leadership is considered to be arbitrary and subjective. Some definitions are considered more useful than others, but none seems to capture the essence of leadership (Yukl, 2013). Some of the examples in defining leadership are cited below.

Leadership is a set of processes that creates organisations in the first place or adapts them to significantly changing circumstances. Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen despite the obstacles (Kotter, 1996, p. 25).

Researchers in social and organisational psychology have come to accept leadership as a group or organisational phenomenon. The phenomenon is observed as a set of ROLE behaviours performed by an individual. Leadership occurs when situation demands that an individual INFLUENCE and coordinate the activities of a group of members of an organisation towards the achievement of a common goal. This individual is called the "leader", and the focus on his or her behaviours characterizes a behavioural perspective on leadership. It is also possible that several individuals could share leadership roles within a group setting (Conger, 2005, p. 207).

Leadership is the process of influencing others to achieve group or organisational goals (McWilliams & Williams, 2010, p. 277).

Leadership is all about getting people to work together to make things happen that might not otherwise occur or to prevent things from happening that would ordinarily take place (Rosenbach & Taylor, 2006, p. 1).

After examining the leadership definitions of different times during the twentieth century, Northouse (2013) concluded that leadership scholars were not able to establish a definition acceptable to all academics. However, Northouse (2013) developed common components central to the concept of leadership that encompasses a process, involves influence, occurs in groups, and includes common goals. Hence, Northouse (2013, p. 5) defined leadership as ‘a process whereby an individual

influence a group of individuals to achieve a common goal.’

While there is no agreement on the definition of leadership, experts outline and promote characteristics beneficial for effective leadership. The current research gathered prominent characteristics identified by experts discussed in the literature detailing what leadership entails within tabular form (see Table 2.5). These leadership characteristics that various experts have stressed, listed in Table 2.5, are mentioned below under groups. Different proponents of leadership, named in Table 2.5, have identified a number of common characteristics of leadership:

- Is linked to a common purpose - performance improvement.
- Is concerned with motivating people. People need to be aligned with organisational goals.
- Is about creating a learning organisation. Staff need to have necessary skills to perform their duties, and add value to the organisation.
- Creates an effective team environment within the organisation for people to work together harmoniously, learning from each other, helping each other to perform effectively and continuously to be creative and innovative, and to get the best of people.
- Involves a person with effective interpersonal competencies - being willing to listen to others’ views, respectfully as well as being fair, with empathy and compassion.
- Is characterised as exhibiting open minded, watchful and tune into what is happening outside the organisation, always challenging the status quo for improvements, and problem solving.
- Is concerned with good communication and negotiation and is useful in organisational affairs when dealing with its stakeholders.
- Embraces conviction, enthusiasm, and perseverance.
- Is a set of processes, behaviours or people driven actions, and risk-taking aims at achieving performance goals of an organisation.

Table 2.5 : List of positive leadership characteristics discussed in the literature

Leadership characteristics	Theorist & Reference
Result centeredness/Cost effectiveness/Performance	Robert E Quinn (Quinn, 2005), Ronald J Walker (Walker, 2009), Richard E. Boyatzis (Boyatzis, 2011)
Internally directed	Robert E Quinn (Quinn, 2005)
More focused on others	Robert E Quinn (Quinn, 2005)
Open to outside signals/Open minded	Robert E Quinn (Quinn, 2005), Steve O'Connor (O'Connor, 2007)
Clarity of vision	Robert E Quinn (Quinn, 2005), John P Kotter (Kotter, 2005), Susan Jurow (Jurow, 1990)
Empowerment	Robert E Quinn (Quinn, 2005), Bruce J Avolio & Bernard M Bass (Avolio & Bass, 1999), Susan Jurow (Jurow, 1990)
Empathy/Compassion	Robert E Quinn (Quinn, 2005), Jane E Dutton et al (Dutton, Frost, Worline, Lilius, & Kanow, 2002)
Creative thinking & innovation	Robert E Quinn (Quinn, 2005), Lee Lacocca (as in McElrath, 2009), Matzler Kurt et al. (Kurt, Franz, Markus, & Susan, 2010), Florence M Mason et al. (Mason & Wetherbee, 2004)
Be proactive & persistent/energetic/Enthusiasm /Curiosity	Robert E Quinn (Quinn, 2005), Ray Evernham (Evernham, 2005), John P Kotter (Kotter, 2005), Fullen (Fullan, 2001), Lee Lacocca (as in McElrath, 2009)
Aligning people to organisational goals/ Good people person/ Managing relationships/ Brings out the best in people	John P Kotter (Kotter, 1990a), (Walker, 2009), Joan R Giesecke (Giesecke, 2007), Liz Wiseman & Greg McKeown (Wiseman & McKeown, 2010), Kenneth Cloke & Joan Goldsmith (Cloke & Goldsmith, 2002), Jim Collins (Collins, 2001), Philip B Crosby (Crosby, 1996), Bruce J Avolio & Bernard M Bass (Avolio & Bass, 1999)
Be good listeners	Ray Evernham (Evernham, 2005)
Able to evaluate people	Ray Evernham (Evernham, 2005)
Fair	Ray Evernham (Evernham, 2005)
Good communication	Ray Evernham (Evernham, 2005), Lee Lacocca (as in McElrath, 2009), Susan Jurow (Jurow, 1990)
Managing timelines	John P Kotter (Kotter, 2005)
Building strong coalitions	John P Kotter (Kotter, 2005)
Quest for learning/Managing tacit knowledge	John P Kotter (Kotter, 2005), Michael Fullan (Fullan, 2001), Bruce J Avolio & Bernard M Bass (Avolio & Bass, 1999), Susan Jurow (Jurow, 1990)
Challenging the status quo/ Thinking about the future/Global in outlook	John P Kotter (Kotter, 2005), Lee Lacocca (as in McElrath, 2009), Philip B Crosby (Crosby, 1996), Steve O'Connor (O'Connor, 2007)
Motivating staff, mentoring & reward	John P Kotter (Kotter, 2005), Michael Darling (as in McElrath, 2009), Bruce J Avolio & Bernard M Bass (Avolio & Bass, 1999)
Conviction	Lee Lacocca (as in McElrath, 2009)
Charisma and inspiration	Lee Lacocca (as in McElrath, 2009), Bruce J Avolio & Bernard M Bass (Avolio & Bass, 1999),
Competent	Lee Lacocca (as in McElrath, 2009)
Common sense	Lee Lacocca (as in McElrath, 2009)
Able to handle crisis	Lee Lacocca (as in McElrath, 2009)
Good negotiator	(Walker, 2009)

Leadership characteristics	Theorist & Reference
Leadership is a process/ behavioural perspectives/ people driven actions/ relationship between leaders and followers	(Cameron & Green, 2012; Conger, 2005; Crosby, 1996; Giesecke, 2007; Kotter, 1996; McWilliams & Williams, 2010; Northouse, 2013; Rosenbach & Taylor, 2006; S. Wilson & Fien, 2015)
Trust	Susan Jurow (Jurow, 1990)
Risk-taking	Susan Jurow (Jurow, 1990)

2.3.2 Leadership theory

Researchers have attempted to explain how leadership theory is useful for effectively managing organisations. Northouse (2013) critically examined approaches of leadership, explaining and providing the strengths and weaknesses based on the existing literature and research. Northouse (2013) grouped theories of leadership under twelve approaches – trait, skills, style, situational, contingency, path-goal, leader-member exchange theory (LMX), transformational, servant, authentic, team leadership, and psychodynamic approach. Northouse’s (2013) approaches are summarised in Table 2.6. which provides the focus or the emphasis of each approach and its strengths and weaknesses. The advantages of approaches such as style, contingency, LMX, and transformational, are that these theories have the backing of prominent researchers (Northouse, 2013). Although there are weaknesses within leadership theories, the traits approach (visionary and charismatic leadership styles of leadership) still attracts researchers’ attention as these components are considered effective in motivating people and achieving the goals of organisations (Rowe & Nejad, 2009; Walter & Bruch, 2009).

Among leadership styles, strategic leadership is the most common form of leadership. It helps create value by influencing others for effective decision making, promotes long-term viability of an organisation through clear vision, and maintains short-term financial health (Rowe & Nejad, 2009). As Rowe and Nejad (2009) explain, it is a leadership style that encourages satisfactory relationship with employees and customers, empowers employees, creates value for shareholders, sustains tight fiscal control, and maintains competent organisational management. As employees are empowered with day-to-day operations, a strategic leader devotes time to concentrate on issues such as adapting the organisation to change of all kinds (Rowe & Nejad, 2009).

Table 2.6: Theories of leadership (adopted from and based on Northouse, 2013)

Theory	Focus	Strengths	Criticisms
Trait approach (e.g. visionary and charismatic leaderships)	Focuses exclusively on the leader, not on the followers or situation. Concerned with what traits leader exhibits.	1) Traits approach intuitively appealing 2) A century of research to back up 3) Highlights the leader 4) Gives some benchmarks for one who wants to be a leader.	1) Failure to delimit a definitive list of leadership traits, 2) Failed to take situation into account, 3) Highly subjective determinations of the most important leadership traits, 4) Failure to look a trait in relation to leadership outcomes, 5) Not a useful approach for training and developing leadership.
Skills approach (e.g. Robert Katz's skills of an effective administrator, and Zaccaro Mumford and his colleagues' new skills-based model of organisational leadership)	Leader centred approach. Emphasises three basic competencies of the leader – technical, human, and conceptual.	1) Leader centred. Stresses the importance of leader's skills and abilities and places learned skills at the centre of leadership performance. 2) Leadership skills can be developed and improved, so it is available to everyone. 3) Explains how effective leadership performance can be achieved.	1) Extends beyond boundaries of leadership, e.g. for conflict management, critical thinking, and motivation, 2) Skills model is weak in explaining how a person's competencies lead to effective leadership performance, 3) Claims not to be a trait approach, yet personality plays a large role, 4) Constructed using data only from military model and therefore weak in general application.
Style approach, e.g., Leadership Behaviour Description Questionnaire (LBDQ) of Ohio State University, Leadership behaviour studies of University of Michigan in the 1960's, and Blake and Mouton's Managerial (Leadership) Grid.	Focuses on what leaders do rather than who leaders are. Two primary types of leader behaviours – task and relationship. Focus is about how leaders combine these two.	1) Broadened scope of leadership research to include the behaviours of leaders, 2) Supported by wide range of research, 3) Two important dimensions of leadership behaviour – task and relationships, 4) Broad conceptual map useful for understanding one's leadership behaviour.	1) Not associating leadership behaviours with outcomes, 2) Not identifying set of leadership behaviours for effective leadership, 3) Fails to support the importance of task and relationship dimensions.

Theory	Focus	Strengths	Criticisms
Situational approach, e.g., situational leadership models developed by K. Blanchard et al (1985),	Prescriptive approach suggesting how leaders should behave based on the demands of a situation.	1) Frequently used in training leaders. 2) Practicality, easy to understand and easily applied in variety of settings, 3) Prescriptive value. Tells what should and should not do in various contexts, 4) Emphasises leader flexibility based on the situation. Recognises that there is no one best style of leadership.	1) Ambiguous conceptualisation of subordinates, 2) No theoretical/research basis, 3) not clear in explaining how model matches with subordinate development levels.
Contingency theory, e.g. contingency theory leadership styles	Focusing on leader in conjunction with the situation leader works.	1) Backed by a large amount of research and has made a substantial contribution to the understanding of leadership process. 2) Emphasises the impact of situation on leaders. 3) Predictive of leadership effectiveness.	1) Does not adequately explained the link between styles and situations. 2) Not easily used in ongoing organisations. 3) Does not fully explain how organisations can use the results of this theory in various situations.
Path-goal theory	Basically, about how leaders motivate subordinates to be productive and satisfied with their work. Basic principle is that employees will be motivated if they feel competent, efforts rewarded.	1) Provides theoretical framework for explaining the effectiveness of different leadership styles; 2) Integrates motivation principles to leadership theory; 3) Gives a practical model for how leaders could help its subordinates.	1) Too many assumptions making application difficult, 2) Research findings do not fully support claims of the theory 3) Does not show clearly how leaders behaviour support subordinate motivation

Theory	Focus	Strengths	Criticisms
LMX theory (Leader-Member Exchange theory)	Conceptualises the leadership as a process. Leadership is centred around interaction between leaders and followers	1) Strong descriptive approach to how leaders use some subordinates more than others. 2) Leader-member relationship as a focal point, 3) Emphasises the importance of communication in the leader member relationship, 4) How to be even-handed in how we relate to subordinates, 5) Supported by many studies.	1) Vertical linkage run counter to the principle of fairness and justice - special attention to some. 2) Does not explain how to create high quality exchange. 3) Does not explain contextual factors of LMX relationships, 4) Doubt about researcher's measurement methods.
Servant leadership	Offers unique perspective. Emphasises that leaders' attention to concerns of followers first, empower them, help to develop their full personal capacities to the greater good of the organisation, community and society at large. Serve first over the self-interest. Attend fully to the needs of followers. Promising model of servant leadership	1) Unique as it makes altruism the main component of the leadership process, 2) Leaders give up control rather than seek control, 3) Shown that under certain conditions it is not the preferred kind of leadership, 4) Sound measures.	1) Paradoxical nature of the title "servant leadership" diminishes the value of the approach, 2) No consensus on a common theoretical framework, 3) Conflicts with traditional approach, 4) Not clear why conceptualising is a defining characteristics of servant leadership.
Authentic leadership	Focuses on whether leadership is genuine and real. No one definition. Leaders to be true to themselves. Because of leadership failures in the public and private sector, authentic leadership is emerging in response to societal demand for genuine, trustworthy, and good leadership. It is transparent, morally grounded, and responsive to people's needs and values.	1) Providing an answer for the search for good leadership, 2) Prescriptive and give lots of information about how to become an authentic leader, 3) explicit moral dimension of what leaders need to do, 4) framed as a process	1) No substantial research, 2) moral component of the theory is not fully explained, 3) lack of evidence.

Theory	Focus	Strengths	Criticisms
Team Leadership	<p>The team leadership model places emphasis on leadership needed for team effectiveness. The model provides a mental road map to help the leader/leadership to diagnose team problems and take appropriate action to correct these problems.</p> <p>Leader's job is to monitor the team and then action to ensure team effectiveness. Effective team performance begins with the leader's mental model of the situation.</p>	<p>1) It is practical and focus on real-life organisational teams and their effectiveness. 2) Emphasises the functions of leadership that can be shared and distributed within the team. Offers guidance in selecting leaders and team members. 3) Model is appropriately complex in providing a cognitive model for understanding and improving organisational teams, 4) Offers guidance in selection of a good team leader.</p>	<p>1) Lists some of the many skills that leadership might need. Therefore, a team might need to modify the skills based on their needs. 2) The model itself is quite complex, 3) Because there are many team leaders in an organisation, every one of them need to have a wide range of leadership skills.</p>
Psychodynamic approach	<p>There is no single model/theory. Fundamental concept underlies is personality. Team means consistent pattern of ways of thinking, feeling and acting about the environment or other people. Personality is characterised by a list of tendencies or qualities. This approach is based on the assessment of personalities of leaders and followers. Begins with identifying personality characteristics</p>	<p>Emphasises the relationship of leaders to followers. Encourage the awareness of personalities and thereby reduces the degree of manipulation and control by the leader.</p>	<p>1) Early works were based on dealing with disturbed people and therefore some of it does not apply to average or normal person at work. 2) Problems with the measurement and assessment of ego state and personality type. 3) Go counter to the ideals of rational and objective leader. 4) No emphasis for training because there are no skills or behaviours to learn.</p>

Rowe and Nejad (2009) also assert that it is the leadership that encourages building organisational resources, knowledge and capabilities to achieve a competitive fit between the organisation and its environment. They consider people as a resource in innovation and creativity and give importance to organisational learning. Strategic leadership boosts the cognitive activity of the leaders to anticipate, create and update vision for the future, enables innovation, creativity in products and services, redefines the marketplace and redraws industry boundaries (Dubrin, Dalglish & Miller, 2006). However, Northouse (2013) posits that providing autonomy and protection for people to think and implement strategies alleviates rigid control from managerial leaders, promoting organisational learning, innovation and creativity (Northouse, 2013).

Strategic leadership styles include visionary, managerial, transformational and transactional leadership styles (Crossan et al., 1999; Rowe & Nejad, 2009; Vera & Crossan, 2004). Transformational leadership influences strategy, structure, values and the future of the organisation and promotes learning and greater commitment from employees by bonding individuals for collective interests. On the contrary, transactional style concentrates on control, standardisation, formalisation and efficiency. For example, transformational leadership encourages organisational learning and challenges the status quo, while transactional leadership concentrates on institutionalising and putting into practice what is learnt (Bass, Waldman, & Avolio, 1987; Pawar & Eastman, 1997; Rowe & Nejad, 2009; Singh, 2008; Vera & Crossan, 2004; Yukl, 2013). Despite experts predominantly agreeing on the direct association between learning organisation and the effective leadership, not all leadership styles devote satisfactory attention to learning organisation (Castiglione, 2006). For example, task-oriented transactional leadership has an aim to foster employee commitment through employee rewards and punishments (Castiglione, 2006; Odumeru & Ogbonna, 2013). Alternatively, organisational learning values transformational styles to inspire people through motivation, the encouragement of strategic renewal, empowering staff to question the status quo, as well as to think, innovate, and be creative to build a collective vision (Castiglione, 2006; Chou, 2014; Gwyer, 2009; Yukl, 2013).

Strategic leadership differs from other leadership styles (Crossan et al., 1999; Rowe & Nejad, 2009; Vera & Crossan, 2004). For example, managerial leadership primarily

focuses on day-to-day operations while visionary style emphasises long-term vision and bases decisions on beliefs and values, but ignores day-to-day operations (Rowe & Nejad, 2009). The advantage of a strategic leadership style is that it not only concentrates on strategy, but also on managerial, visionary, transformational and transactional styles as well as learning organisation concepts (Crossan et al., 1999; Rowe & Nejad, 2009; Vera & Crossan, 2004). Given the present fast-changing and competitive environment, the strategic leader is required to be ambidextrous, and switches between leadership styles fostering exploratory and exploitative behaviours in employees to get the maximum benefit for organisational performance (Rosing, Rosenbusch & Frese, 2010; Vera & Crossan, 2004; Zacher & Rosing, 2015).

A review of relevant literature revealed a disagreement on the one best style of leadership (Chemers, 2014; Fullan, 2014; Shao, Feng & Hu, 2016). Leadership theory has been considered as complex, scrappy and inconsistent, making the study of it exasperating and application problematic (Chemers, 2014). As stated above, no single leadership approach suits all situations (Chemers, 2014; Gregory, 2015; Shao, Feng & Hu, 2016), and this notion is expressed clearly from the strategic and situational approaches to leadership (Rossiter, 2007a). Leaders of organisations claim to develop leadership styles that suit their organisations but remain dependent on various environmental contingencies, including ethical and cultural issues (Rossiter, 2007a; Shao, Feng & Hu, 2016) suggesting the benefit of using a mix of theories for best results, and demonstrating the complexities of leadership (Chemers, 2014; Fullan, 2014; Goleman, 2000; Hannah et al., 2014; Uma, 2010).

A study involving qualified librarians from all universities in Pakistan found that librarians in that country favoured a result-oriented autocratic form of leadership (Awan & Mahmood, 2010). Another study found strong alignment with transactional leadership in Malaysia but respondents in Australia favoured the transformational style (Uma, 2010). This literature backs the argument that permeates the discourse on leadership, that there is no single leadership style that suits all cultures (Awan & Mahmood, 2010, Uma, 2010) illustrating the complexity of leadership in a multi-cultural country like Australia.

A study on leadership across many industry sectors involved 459 private and public-

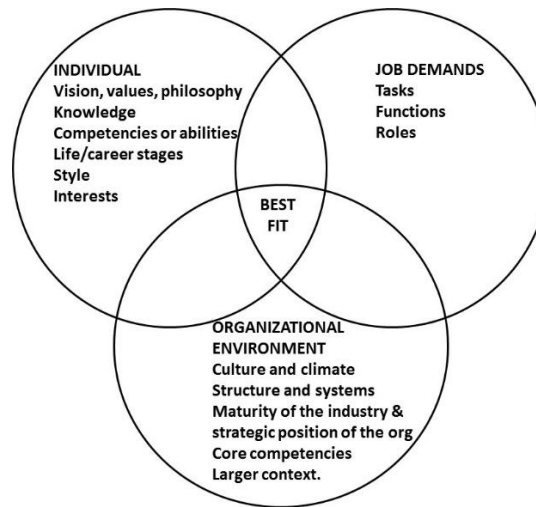
sector leaders in Sweden (Anderson, 2010). This research revealed a difference between the leaders in the the public and private sectors (Anderson, 2010). Private sector managers exhibited an intuitive and power-motivated form of management, while public sector managers were intuitive and achievement motivated (Anderson, 2010), further illustrating the complexity of leadership.

Research findings from prominent theorists in this area conclude leadership as a complex process (Anderson, 2010; Awan & Mahmood, 2010; Rossiter, 2007a; Uma, 2010; Van Wart, 2014). The use of the right leadership style, at the right time, in the right measure, in the right situation, is claimed to be the most effective for satisfactory performance (Goleman, 2000; Hannah et al., 2014). Such flexibility is complex but possible if leaders learn about different styles and change the leadership approach to suit circumstances (Goleman, 2000; Hannah et al., 2014). The complexity of leadership is expressed in relation to libraries as well because of the need for complex sets of leadership skills (such as perseverance, creativity, integrity, honesty and innovation) to manage the challenge of rapid changes in the higher education environment (Hernon, 2007a; 2007b) while no one leadership style fits all situations (Rossiter, 2007a) due to individual, social, or cultural factors.

2.3.3 Leadership and performance

Many experts have stressed the need for appropriate knowledge, skills and capabilities for managing change (Armstrong & Taylor, 2014; Cummings & Worley, 2014; Giesecke, 2007; Rossiter, 2007c; Thach & Thompson, 2007). Table 2.5 summarises and present these as leadership characteristics found within the literature reviewed for this study. Maximum performance of people or leaders is considered to occur when they have required competencies (knowledge, skills and capabilities) for the role (Boyatzis, 1982, 2011). The theory of action and job performance proposed by Boyatzis (2011), demonstrates the significance of knowledge, competencies and abilities for organisational performance (see Figure 2.11).

Figure 2.11: Theory of action and job performance: best fit
(adopted from Boyatzis, 2011, p.92)



Boyatzis (2011) argued that organisational leaders appear to require three clusters of competencies. Maximum performance seems to occur when there is a best fit between the competencies of the person who has the leadership role, job demands, and the organisational environment (Boyatzis, 2011). Boyatzis (2011) further describes the three clusters of competencies as:

- a) Individual - Values, vision, personal philosophy, knowledge, competencies, life and career stage, interests, and style;
- b) Job demands – Role responsibilities and tasks need to be performed; and
- c) Organisational environment – Environmental factors that can have an impact on the demonstration of competencies and/or the design of the job and role, for example, culture and climate, structure and systems, maturity of the industry and strategic positioning within it, and aspects of the economic, political, social, environmental, and religious environment of the organisation.

The theory of performance espoused by Boyatzis (2011) is compelling as it is seen as beneficial in assessing the leadership effectiveness of an organisation in a changing environment (Chemers, 2014).

2.3.4 Leadership in university libraries

Academic libraries have identified the significance of developing leadership for transforming their libraries (Duren, 2013; Jeal, 2014; Williamson, 2009). However, developing leadership has been considered a complex issue because of the highly individualised nature of leadership and the also the complexity of managing change (Chemers, 2014; Linburg & Schneider, 2012; Obolensky, 2014). The complexity of leadership has also been mirrored in university libraries, and consequently, the non-existence of a consensus about the required skills of academic librarians has been expressed by a few (Davis, 2015; Rossiter, 2007a). Fast ageing academic library leadership is also stated to be a common problem for universities in developed countries such as the USA (Rossiter, 2007b) and Australia (Bradley, 2008; Hugo, 2008). It is not only that there is less renewal of workforce in the Australian library profession, but as Hallam (2007) finds, the ageing Australian population also adds fuel to the problem. Thirteen per cent of Australians were aged 65 years and over in 2004, and this could double to 26-28 per cent by 2051, demonstrating a future dimension to the library workforce renewal problem (Hallam, 2007).

Leadership in libraries is argued to be of high complexity due to the reduced funds provided by government to the 37 universities considered part of the public sector (Bradmore, 2007). The declining government funding for Australian public-sector universities and its libraries, as discussed in Section 1.2, was signalled by many as problematic (Carrington, O'Donnell & Rao, 2016; Conifer, 2016; Bradmore, 2007).

A study by Hansen and Villadsen (2010) relating to the public sector in Denmark found that public sector manager/leader jobs appear to be more complex and have some profound dissimilarities from the private sector. For example, private sector managers follow a more directive style because of the low job complexity, whereas the public-sector managers follow a participative style due to high complexity of the job (Hansen & Villadsen, 2010). While public sector leadership evolves as a distinct sphere of management to the private sector, this knowledge about the leadership in the public sector is at the infant stage in comparison to the private sector (Orazi, Turrini & Valotti, 2013). These studies reflect another angle of complexity of leadership in public sector AULs.

Evolving library skills are needed in a rapidly changing university library environment for effective performance (Corrall, Kennan & Afzal, 2013; Cox & Pinfield, 2014; Hallam, 2007; Piorun, 2013). A study done in 2006 found that the leadership style of Gen X seems to differ from academic library directors/chief librarians who might be baby boomers; Gen X individuals (including the subsequent generation) revealed some important differences from baby boomers where they particularly valued employee oriented workplaces with characteristics such as teamwork and fairness (Young, Herson, & Powell, 2006). Findings of research on library workforce planning in Australia (Hallam, 2007) and another relating to public libraries in Victoria (Australia) (Hallam, 2014), stated that skills or knowledge of management, including leadership, were extremely useful for public libraries. This is also a compelling argument applicable to university libraries.

Leadership training and lifelong learning are of prime importance as leadership is a critical force for meeting the challenges of rapidly changing times (Feldmann et al., 2013; Kotter, 1990b, 1996; Thach & Thompson, 2007). It is important to recognise that the knowledge of theory and advanced methods of management, including performance evaluation, are necessary for managing the increasing complexities of university libraries (Fagan, 2012; Farley, Broady, Preston & Hayward, 2013; Gilstrap, 2009; Wong, 2017).

University libraries also need innovation and creativity and to move outside their comfort zone (ALIA, 2013; Jantz, 2012). Because of the complexities arising from rapid changes in the university library environment, and the resultant challenges, more research in the areas of leadership as well as innovation in the university library arena was viewed by some experts as crucial (Jantz, 2012; Young et al., 2006).

2.4 Technology

Technology is considered as the overriding driving force of changing university libraries (ALIA, 2014; Gregersen, 2013; Levien, 2011; Michalak, 2012; Pors, 2003). Management of libraries in this century is also dominated by complexities of implementation and management of advancing technologies (Johnson, 2014; Lynch, 2000; Michalak, 2012) such as network technologies, search engines, social

technologies, and digitisation (Michalak, 2012).

Revolutionary technological advancements impacting on libraries, particularly in the ICT area, are enabling transactions faster than ever before and facilitating communication anytime anywhere (Baker, 2014; Barton, Grant, & Horn, 2012; Gardner, Avolio, Luthans, May, & Walumbwa, 2005;) and loosening a physical presence with cyber transacted communication forms (Delaney & Bates, 2015; Kaufman, 2007). Technologies such as voice recognition software can create or record information as text, allowing workplaces to operate faster and more conveniently (Fassbender & Mamtora, 2013). Other digital technologies such as video conferencing (Messenger, Facebook, Google Hangout, Skype., MP4s, WMAs, Lynda.com, YouTube) combined with video instructions and email, each add other perspectives to satisfactorily delivering services, instructions, discussion, collaboration and content (Antoni, 2009; Clark & Mayer, 2016; EdTech, 2009; Sergis, Sampson & Pelliccione, 2017). Experts describe this pace of change of ICT as breathtaking, unstoppable or incomprehensible (Darnton, 2008; Shateri & Baghiabad, 2016; Watanabe, Naveed & Zhao, 2015). ICT in which information and knowledge is created and disseminated (e.g. Internet, cloud, email) is undergoing an extraordinary transformation (Baker, 2014; Kaufman, 2007). It has fundamentally changed the way students and scholars meet their needs across the time and distance barriers (Kaufman, 2007; Lu, Chang & Sung, 2016). The Internet and the Web have become the most important information technologies today where most people prefer to visit for information for research, health, business, and entertainment with the massive transition from print to digital and the convenience of access (Kaufman, 2007; McMaster et al., 2016).

Five rapidly advancing technologies are claimed to disrupt and transform life, business, and the global economy (MGI, 2013). These five technologies are the Internet, mobile ICT devices, automation of knowledge work, Cloud technology and advanced materials (being all new materials and modifications to existing material compounds and products to obtain superior performance) (MGI, 2013). These technologies have a decisive impact on higher education business (MGI, 2013) including its libraries. Additionally, new gadgets including mobile phones and iPads, have penetrated the global market (Griffey, 2012a, 2012b). Due to the rapid

advancement of ICT, 90 per cent of the information in the world (at the time) was stated to be created within the two years prior to 2013 (SINTEF, 2013), ushering further prospects with regard to the volume and the speed of information creation in the future and the complexity of managing change in university libraries.

The advancement of these technologies is outstripping the needs of institutions (Nair, 2004; Shateri & Baghiabad, 2016; Wantanabe, Naveed & Zhao, 2015) while organisations are slow to adopt these technologies due to the barriers such as attitudes, uncertainty, or caution of the organisational leadership (Proctor & Marks, 2013; Qureshi, Shahzadi, Iqbal & Islam, 2012; Siamagka, Christodoulides, Michaelidou & Valvi, 2015). Yet, ICT is a major influence on the 'Net generation' where the use of computers, the Internet and mobile devices is widespread (MGI, 2013; Roberts, 2005; Sadaf, Newby & Ertmer, 2016). Advancement of the Internet for information continues to grow swiftly as Google also continues to digitise existing library print (out of copyright) collections (Kaufman, 2007; Modiano, Dutta & Qian, 2016) evermore influencing the information seeking behaviour of the "Net generation".

The use of ICT is increasing at an unprecedented pace (Byrne & Corrado, 2016; Kramer, Jenkins & Katz, 2007, WEF, 2016). A survey by the Internet Society (2015a) predicted that 71 per cent of people in the world would access the Internet using mobile devices by 2019. Meanwhile, another survey of the Internet Society (2016) found that more than 80 per cent of the population in developed countries already use the Internet (83 per cent in Australia), and it continues to grow. Also, more and more organisations use internet-linked devices as learning tools (Aho, 2014). Among higher education students in the USA, about 89 per cent claimed to use mobile phones and other mobile devices (Lukanic, 2014) and it is possible to argue that this may be closely related to the Australian situation as well.

Libraries are also recognising the benefits of incorporating the use of mobile devices, popular with stakeholders (mainly students), for the access and delivery of information (Fassbender & Mamtora, 2013; Felts Jr, 2014; Murdoch & Hearne, 2014). The relevant literature acknowledges the importance of social software and social media for collaboration for education purposes (Corrado, 2008; Kwon, Park & Kim, 2014; Xu et al., 2015). A study of the 'Net generation' university students

revealed that they define technology to include all digital devices, but the application of these new technologies for learning purposes in universities is slow in comparison to students' expectations (Anderson, Boyles & Rainie, 2012; Andrews & Tynan, 2011; Roberts, 2005).

Understanding and meeting the needs of clients are critical to the satisfactory performance of institutions. A set of options established soon after the turn of the century proposed that meeting university library clients' needs included customer culture, 24/7 customer service, use of new technology, staying connected 24/7, providing access to necessary information resources and facilities for group learning (Oblinger, 2003). These needs prevail in more contemporary times (Allen & Taylor, 2017; Chu, 2014; Gonzalez, 2014; Seal, 2015). Making connections with global information resources is convenient through the use of hand-held ICT devices (Corrado, 2008; Gikas & Grant, 2013; Pegrum, Oakley & Faulkner, 2013), and by using social and communication media such as the Internet and wikis for academic purposes (Corrado, 2008; Gikas & Grant, 2013). The use of various technologies enable libraries to communicate conveniently and deliver the information/resources to their clients instantly, anytime, anywhere (Corrado, 2008; Gikas & Grant, 2013). Due to the volume of digitised information, and convenience of connectivity, Wainwright (2005) argued that an "invisible college" had emerged. Therefore, university libraries must effectively address the challenges arising without delay to stay relevant to stakeholders who may not understand the library's role (Wainwright, 2005). As Oblinger (2013) aptly stated, barriers to this connectivity at the connected age are not conceptual, technological or economic but political, psychological and cultural.

The utilisation of ICT technologies, along with appropriate human resource skills, is essential for satisfactorily meeting issues that institutions have identified in response to client demands (Susman, Jansen & Michael, 2006). One of the challenges for educators today is harnessing credible information from a vast array of information sources readily available to students through thousands of websites (Casares et al., 2011). Due to the increasing importance of the Internet as a source of information, and also the advancements in mobile technologies, the major change has been the realisation that the purpose of the academic library has transformed from its

traditional approach of a physical collection in a building managed closely by staff (Brophy, 2005; Darnton, 2008; Gregersen, 2013; Johnson et al., 2015; J. Martin, 2008; Riggs, 2001; Sandhu, 2015).

Advancing new technologies presents many transformative challenges to libraries and higher education including the improvement of traditional library websites for meeting clients' needs (Denison, 2007; Li, 2014; Nair, 2004). It is essential for libraries to keep pace with technological advancements, demand for resources, and to be adaptable to the needs of the future (Denison, 2007; Li, 2014; Nair, 2004). New ICT devices that are popular with students (mobile and social software/media) need to be also employed by staff who possess necessary skills to effectively connect with students (Ducan, Miller & Jiang, 2012; Oblinger & Oblinger, 2005; Violante, 2013). Such planning requires staff knowledge, continuous innovation, and ongoing consultation with the university library clients (Culen & Gasparini, 2013).

Future advancement of ICT can be very exciting (Naughton, 2015). Discovery of "graphene" is one such example as it is a material claimed to be able to revolutionise ICT greatly, producing thinner, lighter, and even more flexible technologies with superior communication speeds (Kinaret, 2011; Macguire & Knight, 2013). The discourse among experts includes consideration of other likely ICT advances in the near future, for example, intelligent Visitor Guiding Systems to guide library users, and building ICT integrated communities to better facilitate collaboration among students, further revolutionising the library profession by impacting on the library workers' role (Bishop, 2011; Pallinger & Kovacs, 2011).

To place in perspective the possible changes that libraries will experience due to the march of technology, some comparative and analogous issues need to be raised. Predictions that difference between the human soul and the silicon chip increasingly blur due to the advancement in ICT represent mind-boggling possibilities (Kaufman, 2007; Pangracious, Marrakchi & Mehrez, 2015). A report by McKinsey Global Institute (MGI, 2013) predicted that life, business and the global economy will be transformed even further with radical developments due to advances in ICT by the year 2025 – only eight years into the future from the time of writing this thesis.

Technological advancement relevant to LIS include technologies such as inexpensive

and efficient mobile computing devices, knowledge work automation, cloud technology, advanced materials which would make great advancements in higher education and its libraries. “The Internet of Things” also has an impact on libraries as more objects use the Internet to connect to the cloud (Geng, 2017). MGI (2013) predicts the probability of quantum computing presenting a transformative, if not disruptive, alternative to digital computing; however, the possibility of the timing of its wider application is not yet known (MGI, 2013). Advancements such as video cameras and mobile phones may enable the convenient and speedy capture of an enormous amount of data that is likely to present new challenges for libraries in recording and preserving this ‘big data’ (Griffey, 2010, 2012b).

Based on the “Fifth Age of Work” framework (Jones, 2013) the next period of work is stated to be dominated by the rise of advanced cloud-based technology enabling remote computing, storage, retrieval (i.e. Dropbox, Google Drive), advanced communication facilities, and working remotely, radically changing what, where, when, and how we work (Jones, 2013).

2.4.1 The theory of disruptive technologies

A report by the Australian Library and Information Association (ALIA) stated that it was unimaginable to think of the capabilities of the future technology (ALIA, 2014). Experts predicted that future technology could have a considerable impact on libraries in terms of management, provision of services, and growth potential (Heron & Matthews, 2013). In the technology arena, Bement (2007) predicted a second ICT revolution transforming the power and the scope of technology as never experienced before. Another prediction was related to a third industrial revolution initiated by the Internet technology and green energy technology advancements that would fuel an unprecedented growth of the global economy resulting in the globalising of education and the information profession (Rifkin, 2011), consequently opening doors for the virtual library.

Christensen’s theory of disruptive technologies (2000) was an attempt to explain how new technologies can affect the future performance of an organisation. Christensen’s study focused on the success and failures of some well managed and customer

focused organisations invested in skill development as well as in new technologies for sustaining or improving existing products or services (Christensen, 2000). Despite satisfactory management, these companies lost market supremacy through early inattention to certain types of new technologies. He termed these technologies as “disruptive technologies” that bring new products/services to the marketplace that are cheaper, convenient or more effective. Once adopted, disruptive technologies begin with slow improvement in performance and take time to realise full potential. Organisations that do not adopt new disruptive technologies can find that it is then too late to take remedial actions when they see that they are falling behind. This theory is relevant to higher education libraries as these bodies also need to understand the impact of disruptive technologies for their future survival given the radical breakthrough innovations that find new markets or services to meet future clients’ needs and add value to university business (Gibbons, 2007; Gibson, 2000; Lafferty & Edwards, 2004; Leifer, O’Connor & Rice, 2001). The theory of strategic inflection point (discussed in Section 2.2.3.7) also complements the theory of disruptive technology to explain the importance of prompt adaptation of new technologies for achieving fundamental advancement in organisations, including universities and its libraries, to sustain performance advantage in a competitive marketplace.

2.4.2 The rise of information and communication technologies (ICT)

ICT applications and devices (e.g. computing, and communication technologies such as the Internet, computers, mobile devices and software innovations) are advancing rapidly complementing human capital (David, 2001; Michaels, Natraj & Van Reenen, 2014). Consequently, these technologies can profoundly transform the information industry, including libraries (Darnton, 2008; Duderstadt, 2009). The Internet started to be widely used from the beginning of the 1990s (Greenstein, 2015) and paved the way for arrival and popularity of other ICT such as the Web, social media, and mobile communication (Greenstein, 2015). Consequently, a significant shift has taken place within university libraries along with the rise and adoption of ICT in library service improvement (Darnton, 2008; Duderstadt, 2009). Therefore, for the purpose of this research, the 1990s is considered the approximate beginning of a paradigm shift in university libraries discussed later (Chapter 5).

2.5 Future of the university library

Due to the swift advance of cyberinfrastructure (information technology systems that provide powerful and advanced capabilities) and the “tech savvy” Net-generation, student learning habits have dramatically changed, bypassing library resources for the convenience of the Internet and the abundance of information it provides. These factors have induced major shifts in student learning behaviours, challenging the traditional system of learning including the services provided by the library (ALIA, 2014; Cribb & Hanken, 2014; Duderstadt, 2009; S. O'Connor, 2007). Libraries have lost centrality on campuses as the academic information resources have become increasingly accessible through the Internet (Campbell, 2006; Gibbons, 2007; Johnson, 2014). As the Internet gains the supremacy for access to information, libraries require an enhanced realignment of its services to meet the educational needs of their clients to sustain the relevance of the library within the university (Campbell, 2006; Gibbons, 2007; Johnson, 2014).

Based on a study of the views of presidents and provosts of American universities, libraries have been under enormous pressure to perform effectively and therefore librarians cannot continue to simply do what has always been important to them, such as collection building (particularly of hard copy resources), information provision, and circulation services (Lynch et al., 2007). Both patrons and librarians are uncertain about the role of the library in the future (Popp, 2012). The role of the library has traditionally been important for university teaching, learning and research. It should continue to be so, but it is equally important that it adapt quickly and effectively if it is to survive in this fast changing library environment as the information world has been turned upside down by the Internet and linked technological advances (Lafferty & Edwards, 2004; Levien, 2011; Lynch et al., 2007; Wood et al., 2007). Libraries that succeeded in maintaining their role within universities and their physical presence on campuses are those that have successfully refocused their roles, resources, space and activities based on the teaching and learning needs of clients (Mitchell, 2008; Wood et al., 2007).

Advancing ICT has increasingly fragmented information environments resulting in a move away from traditional roles of libraries around books and buildings to

facilitating learning and knowledge creation in their communities (Lankes, 2011). The responsibility of academic librarians should be to facilitate and enrich the student experience through capturing, storing, and disseminating optimal academic resources to underpin quality university outcomes (Lankes, 2011). Because of rapidly advancing technologies and declining public funding, libraries are starting to feel that their place is unsafe within the university (Farley, Broady-Preston & Hayward, 2013; Hernon & Matthews, 2013; Steffen, 2008). Therefore, the future challenge for the libraries is to be more adept and agile in redefining and redesigning the library services to add value to their stakeholders (Campbell, 2006; Levien, 2011; Stephens & Russell, 2004).

The research literature suggests a number of areas for consideration to effectively manage changes in the library of the future. Skill development is crucial to library staff, ensuring that they are mindful of changes taking place in their workplace and able to adapt promptly (Cervone, 2014; Popp, 2012; Vinopal & McCormick, 2013). Many researchers consider that librarians need new fields of expertise or skills in areas such as information technology, understanding the structures of the disciplines, knowledge and skills in business and management, ability to evaluate content, appropriate teaching skills, and the ability to redesign work to maximise service relevance (Hallam, 2014; Jefcoate, 2010; Jones, 2013; Michalak, 2012; Raju, 2014; Steffen, 2008). These new skill-sets also include the ability to work autonomously, self-motivation and self-monitoring, life-long learning, complex communication skills using a variety of media and working remotely in virtual teams (Herman, 2011). For university libraries, staying in touch with the needs of clients and meeting those needs is considered the only way forward to remain relevant (Bell, 2014). Librarians not only need new fields of expertise or skill sets (Jefcoate, 2010; Steffen, 2008) but also the ability to appropriately redesign the work of the organisation to maximise the use of available resources (Jones, 2013; Michalak, 2012).

2.5.1 Future leadership skill needs

Effective leadership skills help articulate vision to suit the changing environment and implementation necessary to realise the vision. Such leadership in libraries should be global in outlook, flexible in nature, open to the views of others and able to embrace change, and redefine the future (O'Connor, 2007; Popp, 2012; Sandhu, 2015). The

library leadership group should also engage in critical future-oriented exercises such as environmental scanning, strategic planning and implementation, and staff skill building. Therefore, leadership is considered a prime force necessary for meeting the challenges of change in libraries (Basu, 2015; Drucker, 2007 ; Jiang, 2014; Jurow, 1990). Library business models are undergoing changes in the rapidly evolving library environment yet there has not been an agreement on the leadership skills required to manage libraries in that complex environment (Arabella, 2015; Skinner & Krabbenhoef, 2014).

2.5.2 Changing role of the academic library

A re-assessment of the role of the academic library and the academic librarian is critical in creating a customer-driven academic library (Bell, 2014; Campbell, 2006; Cuillier, 2012; Lankes, 2011). Observing and studying the behaviours of the academic community and adapting accordingly for the future would help the library to facilitate teaching, learning and research – core responsibilities of the university (Bell, 2014; Campbell, 2006; Cuillier, 2012; Gibbons, 2007; Lankes, 2011; Young, 2007). Crump and Freund (2012a) and McRae, (2010) considered that having a clear understanding of a mission, and “sensitivity” to the marketplace, is essential for efficient performance of the library within its volatile and rapidly changing environment. To regain or maintain relevance, it is essential that librarians satisfactorily engage with their clients, for example, through social media, to keep pace with their evolving needs and create innovative services unique to the library (Crump & Freund, 2012b; Culen & Gasparini, 2013).

Some experts (Frey, 2013; Peet, 2017; Shapiro, 2016) believe that the physical library will have no future as a repository or centre of information but will be a centre of culture or hub where people come to meet, converse and collaborate. Consequently, since about the 1990s (as discussed in Section 2.4.2), academic libraries have been concentrating on physical library space planning to meet the needs of students and facilitate collaborative learning into the future (Chan, 2014; Mitchell, 2008). The challenge of an uncertain future necessitates that librarians find new ways to reach out to the needs of students and other clients (ALIA, 2014; Bryant et al., 2009; Duderstadt, 2009; Gayton, 2008; Lankes, 2011; Martin, 2008).

2.5.3 Impact of advancing technology

Rapidly advancing and disruptive technologies will influence the whole higher education sector in numerous ways radically transforming knowledge work and providing new opportunities to the sector (Bement, 2007; Duderstadt, 2009). The rapid advancement in ICT in a second revolution has been predicted to cause transformation and power not experienced to date (Bement, 2007; Duderstadt, 2009). Technologies will help revolutionise university education, digitise and open the content of library collections to the world through the Internet and make online teaching and learning spread widely (Antoni, 2009; Duderstadt, 2009; Mahmoud, Barakat & Ajjour, 2016; Tapscott & Williams, 2010). Providing access to information, virtually and instantly, online teaching and learning and virtual universities, will open up more new opportunities and raise the expectation that librarians will also be contactable independent of time and place (Kaufman, 2007; OEDB, 2013; Pujar et al. 2014).

If libraries fail to take advantage of those technologies in a timely manner and meet the expectations of clients, experts believe that libraries will inevitably become irrelevant organisations (Darnton, 2008; Lafferty & Edwards, 2004; Lankes, 2011; Mitchell, 2008). Libraries, therefore, need to use these technologies to facilitate better access to information, conversation and collaboration for learning, and knowledge creation (Darnton, 2008; Lafferty & Edwards, 2004; Lankes, 2011; Mitchell, 2008).

2.5.4 New library responsibilities

The literature reports a decline in traditional library services such as acquisition, processing, loans services and reference services because of the advancements in ICT (Gibson & Mandernach, 2013; Gremmels, 2013; Martell, 2008; Webster, 2016). With the shift in the role that the university library plays in higher education, the library is required to take up increasingly new and non-traditional responsibilities, e.g. dealing with licences for electronic resources, research data management, facilitating open access to university research and publishing university publications (Campbell, 2006; Chadwell & Sutton, 2014). In a higher education environment of decreasing funding, deregulation, globalisation, advancing technologies and non-traditional student populations, libraries must move away from traditional roles of collection

management to new roles that facilitate access to information, support student-centred learning for knowledge creation, and provide support for universities to achieve goals by reinventing the library for the future (Bostick & Irwin, 2014; Darnton, 2008; Grabowski, 2016; Hays & Warner, 2014; Popp, 2012).

The focus of the academic library has moved towards knowledge navigation presiding over dynamic facilities reinforced by advanced and advancing technologies (Dempsey, 2015; Miller, 2010). This shift of library roles is prioritised by return on investment based on the changing environment (Dempsey, 2015; Miller, 2010). Prominent literature in this field suggests that for library services to remain relevant as a fundamental process within higher education, it is critical that library structures, roles and staff adapt accordingly (Wawrzaszek & Wedaman, 2008).

Though researchers do not seem to consistently agree about the future of university libraries, they do agree about the uncertainty of the future (Carroll, 2016; Jefcoate, 2010; Popp, 2012; Wu, 2013). Contemporary literature also suggests that 'library' as a term might be construed to be old fashioned and out-dated in the future (Chan, 2014; Frey, 2013). Chan (2014) contemplated three possible scenarios for academic libraries in the future: the library will go out of business, be less visible or less necessary; will exist only virtually with no physical presence; and, will further transform and include classrooms and auditoriums where students learn experientially through images and sound in addition to text. Chan (2014) also predicted that libraries that do not satisfy clients' evolving learning needs will disappear completely. Frey (2013) recommended that libraries find their own best solutions for future existence by evaluating their experience and finding what matters most to their clients, embracing new technologies, preserving records created by their clients and experiment with creative spaces. However, Chan (2014) stressed the difficulty in providing definitive recommendations for managing rapid change but indicated the importance for libraries to be watchful and be willing to experiment to provide better value for stakeholders.

2.6 Conclusion

This literature review confirms the significance of this research in the face of changing university library environments. Changing higher education environmental factors, such as changing government policies and the introduction of market force to higher education, fast advancing ICT technologies, changing stakeholder needs and changing university andragogy, critically impact university library management while looking for new opportunities in the present competitive environment. Therefore, university libraries need to reinvent themselves for effectively meeting challenges from other competitors, and to add value to university business. The research questions outlined in ‘Chapter 3 – Research methodology and research design’ are based on the conclusions of the literature review. The following observations summarise conclusions from this chapter.

2.6.1 Changing academic library

Because of the dominance of electronic publishing, changing student characteristics, clients’ priorities and rapidly advancing ICT, library resources have changed dramatically (discussed in Section 2.2.4.1). Use of the physical library by academics and students as an information resource has decreased as they remotely access most materials they need (discussed in Section 2.2.5.2). The physical library is largely used by students as social or learning spaces (Beatty & White, 2005; Duderstadt, 2009; McRobbie, 2003; Sasaki, 2016; Wainwright, 2005).

2.6.2 Library as a space for collaborative study

The purpose of the library space has changed from a space for collection management to support teaching, learning and research, to a space for collaborative learning (as discussed in Section 2.2.5.4). Library spaces require comfortable facilities to attract students. These include facilities like computers and other useful technologies, spaces for collaborative study and individual study, meeting areas and canteens (Beatty & White, 2005; Bostick & Irwin, 2014; Bryant et al., 2009; Johnson et al., 2015; Seal, 2015; Wainwright, 2005).

2.6.3 Need for swift adaptation to rapidly advancing ICT

Libraries are challenged by increasingly rapid advancements in ICT, disrupting the traditional information industry centred on the physical library while facing new competitors in the marketplace (discussed in sections 2.4 and 2.5). Some ICT solutions (e.g. mobile devices running social media apps) are also very popular with library clients, especially new students. The advancement of these technologies within the next few decades can be spectacular. Adopting these technologies, without delay, is critical for attracting clients to use the library and licensed databases in the current competitive information environment in which library does not own the monopoly as an information provider anymore (Barton et al., 2012; Jones, 2013; Kaufman, 2007; Oblinger, 2013). Therefore, University libraries need to adapt swiftly to the changing environment, causing a threat to continuity, to satisfy stakeholder needs or else become irrelevant institutions (Gilstrap, 2009; May, 2014; Wood et al., 2007).

2.6.4 Need for new knowledge and skills in managing change

New knowledge, skills, and capabilities are required to effectively manage rapidly changing university libraries, and to meet the needs of stakeholders (Dorskatsch, 2003, 2007; Hallam, 2007; Lawson & Janyk, 2014; Macauley, 2001; Partridge et al., 2010; Partridge, 2011; Piorun, 2013). These include competency in business and management, ICT and other disciplinary knowledge (as discussed in Section 2.2.5.3.2).

2.6.5 Leadership

Leadership is a critical skill and force for managing change. There are some useful theories, styles and necessary characteristics suggested by many researchers (see Section 2.3). Each theory/style has its strengths and weaknesses and some researchers suggest that leadership style depends on each situation (Hannah et al., 2014; Northouse, 2013; Rossiter, 2007b; Uma, 2010).

2.6.6 Theories of managing change

There are different theories, models, and methods that attempt explaining managing change in organisations (Graetz et al., 2006). University libraries are implementing

different methods/models for effectively managing change. Nevertheless, there appears to be no successful method available for measuring the performance of change efforts adopted by public institutions, including university libraries (see Section 2.2) (By, 2005).

2.6.7 Factors affecting managing change

Researchers (Burnes, 2004c; Graetz et al., 2006; Kotter, 2012; Scott, 2005) have identified many factors affecting effective change management as discussed in Section 2.2.3. The significant factors in change management include policy, processes, technology, client/stakeholder needs, higher education needs and people factors (as discussed in Section 2.2.4.1).

2.6.8 People as resource

People play an important role in managing change. Librarians require new skills to effectively serve clients and stakeholders. These skills need continuous updating. Therefore, adopting a learning organisation concept is essential for university libraries (see Section 2.2.5.3) (Castiglione, 2006; Kim, 2010; Kotter, 1990a; Wood et al., 2007).

CHAPTER 3. RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

Chapter 2, the Literature Review, provided the context for the research by offering an overview of the issues pertinent to this research through an examination of the published relevant literature, relevant theories, definitions of key terms and prominent literature, and the design of this research. The first section outlines theoretical aspects of the research, which includes a constructivist approach, a conceptual framework, and undepinning theories. The second section covers the research questions guiding the entire investigation pertaining to effective change management in Australian university libraries. The next section refers to the research design that justifies the qualitative methodology approach involving triangulation, sample selection, interview method and data collection and analysis. The next section covers ethical considerations. The chapter concludes with an overall summary.

3.2 Theoretical foundation

The debate on theoretical perspectives (paradigms) of an inquiry is of considerable importance but lacks both definition and consensus (Annells, 1996; Cohen, Manion & Morrison, 2013; Holloway & Galvin, 2016; Patton, 2002). The literature reflects this view with extensive debates among theorists and researchers (Patton, 2002). Patton (2002, p. 570) stated that the debate is ‘intense, divisive, emotional and rancorous’. The concept of a paradigm is considered as a core set of beliefs that guide an investigator ontologically, epistemologically and in the choice of a research method (Guba & Lincoln, 1994).

Guba and Lincoln (1994) identified four paradigms of inquiry to guide research - positivism, post-positivism, critical theory, and constructivism; these are common to qualitative and quantitative research methods. All paradigms are human constructions as all inquiry propositions are human inventions and subject to human errors (Denzin & Lincoln, 2013a; Guba & Lincoln, 1994). The underlying beliefs that define each paradigm differ depending on responses to three basic questions. These are ontological, epistemological, and methodological questions. The ontological question

relates to the form and nature of reality and what can be known about the reality. On the other hand, the epistemological question is concerned with the relationship between the knower and would-be knower regarding what is possible to be known (Guba & Lincoln, 1994). The methodological question relates to the answers to the first two questions, and is about how the 'would be knower' (researcher) goes about finding out what can be known (Guba & Lincoln, 1994).

3.2.1 Constructivist approach

This research follows the qualitative constructivist approach. Answers to the three questions (ontological, epistemological and methodological) in a qualitative constructivist approach differ from other approaches. As discussed by Denzin, Lincoln (2013a) and Guba and Lincoln (1994) the ontological question in a constructivist paradigm relates to the nature of reality and what is known about it. It adopts a relativist ontology with social and experience-based multiple realities, which are intangible mental constructions. The answer to the epistemological question is both transactional and subjectivist. It relates to what can be known from the relationship between the knower (the respondent), and the would-be knower (the researcher). Thus, the researcher and the respondent together create findings as investigation proceeds. The methodology in a constructivist approach is hermeneutical/interpretive and dialectical. Hence, individual constructions are evoked and refined only through interactions between or among the investigator/ researcher and the research participants/respondents.

3.2.1.1 Constructivism as a theory

Constructivism is a term used in many different fields with different meanings and therefore a debate exists about what it means (Ertmer & Newby, 1993; Jonassen, 1991; Sjøberg, 2007). However, constructivism is presented as a theory that creates meaning (knowledge) from experiences in which the mind is the source of meaning and knowledge (Ertmer & Newby, 1993; Karagiorgi & Symeon, 2005). In this process, both the individual (the researcher) and direct experiences with the environment of the research participants, are considered critical (Ertmer & Newby, 1993; Karagiorgi & Symeon, 2005). Thus, the constructivist research approach asserts

that interaction between these two variables organises individual experiences of the world, creating knowledge (Ertmer & Newby, 1993; Karagiorgi & Symeon, 2005). Accordingly, the informants within this research, for example, are believed to actively construct knowledge in the process of attempting to make sense of the world through experiences, goals, curiosities and beliefs (Karagiorgi & Symeon, 2005). Therefore, the elementary and most central notion of constructivism is that knowledge does not occur independently from the learner (Vrasidas, 2000). One of constructivism's most significant philosophical and epistemological assumptions is considered to be having multiple truths/realities, that is, the world can never be known in one single way. Constructivism involves interaction with the world to interpret and create knowledge (Vrasidas, 2000). Hence, human thoughts are imaginative and develop from perception, sensory experiences, and social interactions (Vrasidas, 2000). Constructivists agree about the relativist nature of truth in qualitative research because of the highly dependent nature of individual perspectives (Aliyu, Bello, Kasim, & Martin, 2014; Baxter & Jack, 2008; Guba & Lincoln, 1994). Guba and Lincoln (1994, p. 111) explained this relativist nature of the truth as below:

*Constructions are not more or less **true**, in any absolute sense, but simply more or less informed and/or sophisticated. Constructions are alterable, as are their associated realities.*

There appears to be two prominent schools of thought in the constructivist paradigm: personal, and social. The personal constructivist believes that knowledge is constructed in the head of the learner (Vrasidas, 2000). The social constructivist believes that knowledge is constructed through social interaction (Vrasidas, 2000). Both of these are considered typically associated with the qualitative research process (Creswell & Clark, 2011; Riege, 2003; Sobh & Perry, 2006; Stake, 1995).

3.2.1.2 Justification of constructivist theory

One of the major philosophical assumptions of constructivism, which is reflected in this research, is that there are no universal truths and knowledge is constructed through the researcher interacting with the real world and interpretation (Mills, Bonner, & Francis, 2006). In a constructivist research design, the chosen research design must be consistent with the researcher's beliefs about the nature of reality –

ontologically, epistemologically and methodologically (Mills et al., 2006).

As mentioned above, ontology relates to the nature of reality and what can be known about it (Annells, 1996; Guba & Lincoln, 1994). Constructivists consider the nature of reality as local, personal and relative and therefore the constructions may not be true in an absolute sense but are alterable with changing related realities (Guba & Lincoln, 1994). In this research, the ontological question underpins the research concerning Australian university libraries (AULs), which are undergoing a period of rapid change, and what can be known about the effective management of such change.

The epistemological question relates to the nature of the relationship between the research participant (knower) and the researcher (would-be knower), and the construction of new knowledge (Annells, 1996; Guba & Lincoln, 1994). Therefore, the research participant/s subjectively and the researcher methodologically participate in the construction of new knowledge (Annells, 1996). In this research, an experience of the research participants (chief university librarians from AULs) is used by the researcher, employing appropriate qualitative research methodology, to construct new knowledge with regard to managing change in AULs.

Methodologically, the constructivist researcher attempts to discover new knowledge based on research objectives (Annells, 1996). The appropriate methodology here is inductive, emerging and shaped by the researcher's experience in interaction with the participants and the construction of knowledge (Creswell, 2013). The methodology also reflects characteristics such as collecting data in a natural setting, reflecting the participant's voice, complex data analysis and a holistic perspective (Creswell, 2013). Qualitative methodology is also selected for this study as the research design involves the researcher interacting and obtaining information about the experiences of chief university librarians of AULs who are the interview participants. The interviews sought understanding of managing change in the participants' respective libraries, analysing collected information and constructing new knowledge.

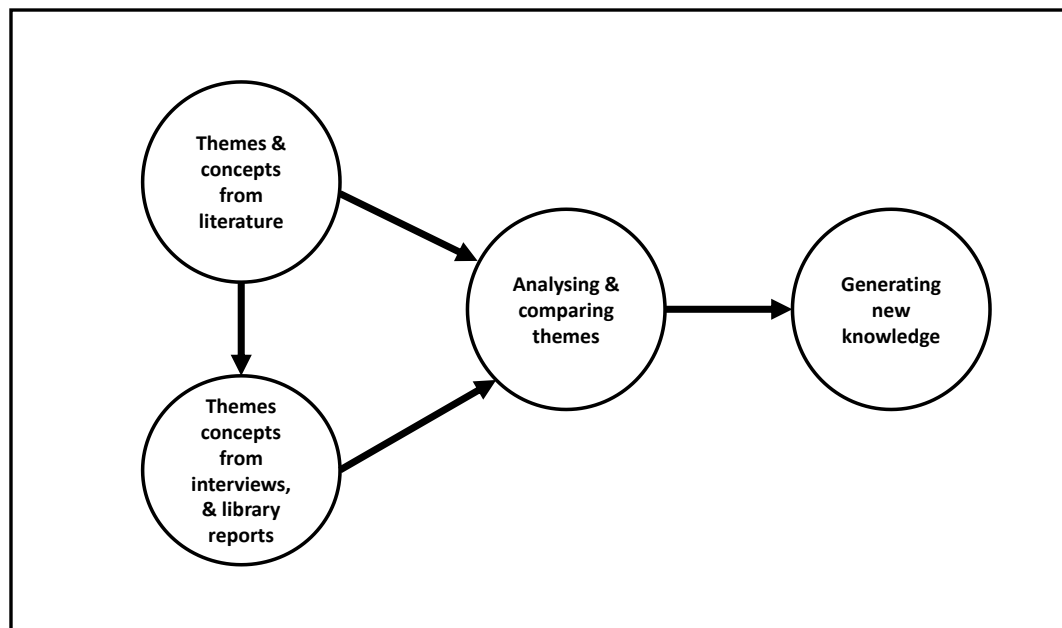
As Guba and Lincoln (1994) argued, there are practical issues important to the constructivist approach. In a constructivist paradigm, knowledge is an individual construction or reconstruction based on understanding gained through informed and vicarious experiences. Quality is preserved through internal validity, external validity,

reliability, and objectivity. Yet, consensus does not exist on the issue of quality criteria (Guba & Lincoln, 1994). Values and ethics are two other significant issues. Researchers within the constructivist paradigm believe that what they hear and say may be influenced by ethical and value issues of both the respondents and the researcher (Guba & Lincoln, 1994).

This qualitative research relates to the key factors that contribute to effective change management in Australian university libraries from the perspective of chief university librarians. To achieve this the study adopts the constructivist approach and generates new knowledge by analysing, comparing, and contrasting themes and concepts in the relevant literature, library reports (secondary data) and data gathered from qualitative interviews involving chief university librarians in Australia (primary data).

Constructivism is an aspect of qualitative research in which knowledge is considered largely constructed by interpretation of information gathered (Creswell & Clark, 2011; Denzin & Lincoln, 2005; Riege, 2003; Stake, 1995). Figure 3.1 presents the constructivist approach to this research.

Figure 3.1: Constructivist framework



3.2.2 Data collection

In qualitative studies, a variety of data are collected to help deepen the understanding of the research questions, and these data may include information from interviews, observations and document analysis (Corbin & Strauss, 2008; Eisenhardt, 1989; Patton, 2002; Petty, Thomson & Stew, 2012; Soy, 2006). Interviews, library reports, and document analysis are key methodology frameworks that underpin the theoretical approach to this qualitative research. While no specific method of data analysis is associated with qualitative study methodology (Eisenhardt, 2007; Petty et al., 2012; Rowley, 2002), this research used the constructivist approach to understand the complexities leaders face due to constant changes in their university library environments.

Libraries face swift and constant change and therefore require effective leadership to utilise the allocated resources to maintain a quality service for their academic communities into the future (Frey, 2013; Lowry, 2001; Starke et al., 2011). There are elements of futurology, which is seen as useful to “construct” a pathway and strategy to confront inevitable changes in the foreseeable future by talking to and collecting data from the leaders of libraries and comparing and contrasting their information with available literature in the field (Cuillier, 2012; Frey, 2013; Stephens & Russell, 2004).

This research consists of both primary and secondary data. Primary data are essential for empirical research to construct new knowledge on a research topic. Qualitative research can choose several methods such as interviewing, observation, artefacts, and documents for collecting empirical data (Denzin & Lincoln, 2005). Interviews are one of the most frequent sources of data in qualitative research (Roulston, 2010).

Face-to-face interviews also include observations; observation data from library visits were also sparingly considered in this research. The physical library was observed from library tours organised or by voluntarily seeing and observing the libraries visited for interviews. These observation data relate to elements such as attractiveness of the library building, space and ICT facilities available, print collection areas of the library. Additionally, reports/plans/policies relating to the management of the library concerned, can also be considered primary materials. Library reports such as strategic

plans, performance reviews, and development policy documents provided empirical data about management. Most of the library reports were accessed from web pages of AULs or the Internet.

Secondary data used consists of journal articles, books, websites and reports that have been used in the literature review. These secondary materials were recorded with necessary bibliographic and content information using EndNote bibliographic software. To complement the EndNote database, the researcher has also used Excel software to record this material in a matrix format using relevant concepts and themes, including appropriate information such as brief bibliographic data, more detailed notes relating to theme/concepts and data codes/symbols to facilitate sorting and mind mapping.

Interviews were recorded with informants' permission. Interview records were immediately copied and saved in three devices for safety before transcribing. Transcription of the recorded interviews was done by the researcher using "Express Scribe" software. Recorded observation notes were consulted during interview transcription to ensure data objectivity and context. Transcribed texts by the researcher were sent to the informants for their comments and to add any new information and validation of transcripts. A few informants read the transcripts, and responded back indicating their satisfaction.

3.2.3 Conceptual framework

The conceptual framework is a guide for choosing the concepts for investigation, for suggesting research questions, for framing the research findings (Corbin & Strauss, 2008), and provides explanations about experiences in the world (Moore, 2012). The terms "conceptual framework" and "theoretical framework" are found to be used interchangeably in the literature to depict the same concept (Green, 2014; Jabareen, 2009). A conceptual framework is neither an empirically tested nor a well-developed theory (Berg, 2007), or well-explained theory (Green, 2014) but is mostly developed and then tested through theory linked research (Grafstein, 2002). It may include inputs from experiential knowledge and literature review but the researcher provides the structure of the framework (Vaughan, 2008).

As Green (2014) argued, a conceptual framework is not critical for good qualitative research, but it is used as an academic exercise in doctoral research to provide the necessary focus. It helps researchers frame the research coherently to achieve completion in a manner that is logically communicated to the intended audience. Corbin and Strauss (2008) also asserted that the use of a predetermined conceptual framework in qualitative research is not a common or preferred approach because it examines human behaviour, which is unpredictable. However, a conceptual framework is useful in the selection of methodology and the research focus (Corbin & Strauss, 2008). A conceptual framework provides a version of the researcher's map of territory that the researcher plans to study. This map evolves and becomes clearer as the research progresses and the researcher's knowledge develops (Green, 2014; Miles, Huberman & Saldana, 2014).

The conceptual framework of change management that has been developed for this research (see Figure 3.2) closely complements the experiences of the researcher and knowledge from the literature reviewed in this study. These concepts are taken into consideration in the construction of interview questions and therefore in data analysis and discussion. Thus, the framework is relevant to the methodology used and in the verification of data obtained from both primary and secondary sources.

As the framework displays, managing changing university library environments requires taking into consideration some main factors, such as technological advances and their adoption in libraries, addressing client/stakeholder needs and behaviour, changing university teaching, learning and research and decreasing public funding for higher education. Effective leadership is essential to successfully manage change and recruit appropriate staff. Therefore, effective leadership is also critical for addressing clients' needs by appropriately providing access to information resources, developing appropriate library skills, implementing appropriate strategies and acquiring appropriate technology for providing sustainable quality services. Thus, university librarians may introduce services relevant to universities' strategic goals and bring value for money to their organisations. This research follows this conceptual framework to investigate the research problem of this study by answering its research questions.

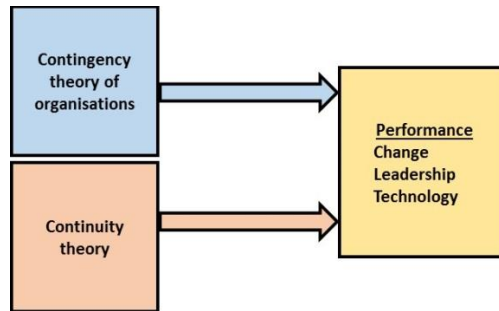
Figure 3.2: Conceptual framework



3.2.4 Overview of the underpinning theories

Two theories, contingency theory (see Section 2.2.3.2), and continuity theory (see also section 2.2.3.6), underpin this research (see Figure 3.3). The essence of contingency theory relates to organisational performance which results from the “fit” between organisational characteristics, (i.e. structure, environment, strategy) and organisational size (Donaldson, 2001). The theory contends that there is no one best way of managing or leading an organisation. It is dependent on various constraints of the organisation such as structure, size, environment, resources, operations, strategies, and use of technologies influencing effective performance (Value Based Management.net, 2017). Thus, the theory encourages organisations to adapt well to new organisational environments by adopting new organisational characteristics to boost performance (Battilana and Casciaro, 2012; Donaldson, 2001; Graetz et al., 2006). Therefore, the contingency theory is considered appropriate for understanding challenges of a changing organisational environment by appropriately dealing with contingencies, including effective leadership and advancing technologies.

Figure 3.3: Theoretical underpinnings of the research



Continuity theory (discussed in Section 2.2.3.6) explains or helps to understand the change management processes (Feather, 2013; Musselin, 2005; Sushil, 2013b). The process of continuity of organisations in a rapidly changing environment is not uniform, but varies considerably. Based on this finding, organisations are identified under four different categories – i.e. change masters, synthesisers, quick encasers, and stabilisers – based on their probability of survival in the face of rapid change (Sushil, 2013). It is possible to argue that university library fits best in ‘high change low continuity’ category as it continuously adopts ICT enabled services and outsources the processes involved to purchase ICT functionality useful to AULs. What is important for universities is to provide effective access to information irrespective of the structure identified as library or otherwise (Feather, 2013). Continuity theory is also relevant to this research because of the highly volatile nature of the sector due to a rapidly changing environment. Therefore, both theories fit well to study the future of university libraries and are complementary to each other.

3.3 Research Design

This research reflects Soy’s (2006) description of qualitative methodology as it provides “*an understanding of a complex issue*” and can “*extend experience or add strength to what is already known through previous research*” by “*detailed contextual analysis of a limited number of events or conditions and their relationships*” (Soy, 2006, p. 1). It also reflects a constructivist methodology within a qualitative study

and aligns to Yin's (2009) qualitative research concepts (rigorous research methodology for understanding and acknowledging strengths and weaknesses). Experts also agree that there is no perfect research design as research involves trade-offs. A research project starts with limiting the research question. Social reality requires the researcher to work within certain boundaries because of limited resources such as funds, time, and human abilities (Patton, 2002).

The process of a good research project brings its components harmoniously together for the successful completion of the research (Maxwell, 2013). Maxwell (2013) also argues that a research design without a strict sequential model fits well with qualitative research. A sequential model establishes essential steps in advance in the order in which they should be carried out. Steps in a qualitative research design need reconsideration or modification as the research progresses and to change some components of it based on new developments or as new information becomes available. Therefore, qualitative research design is flexible (Maxwell, 2013; Yin, 2010) and inductive, as there is neither a strict sequence nor is it based on a prior decision (Patton, 2002). There are various stages of qualitative research such as: data collection, reviewing or sorting, and analysing (Yin, 2010). This research design is considered a "do-it-yourself" method, not an "off-the-shelf" design. It involves assessing and mixing components as necessary, representing an interactive model (shown in Figure 3.4), based on Maxwell's proposition (2013). The design of this research is also an inductive, flexible and interactive model as shown in Figure 3.5, and thus is devoid of a hypothesis or theory to be tested. According to Maxwell (2013) and Yin (2009), the design of qualitative research is not to test a hypothesis but may be designed for the purposes of exploring a field of inquiry that may be tested using mixed methods, including drawing in a quantitative approach.

Figure 3.4: Interactive model of research design
(adopted from Maxwell, 2013)

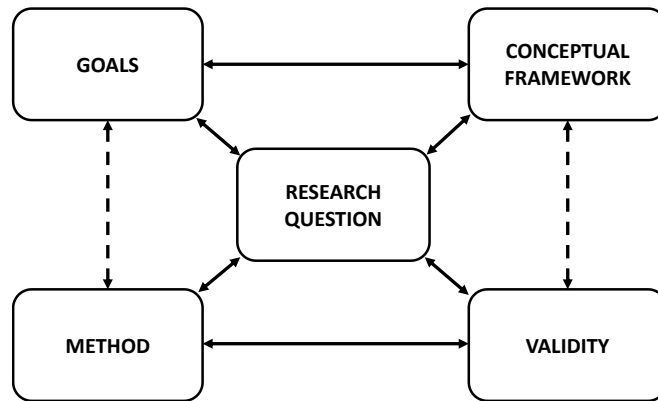
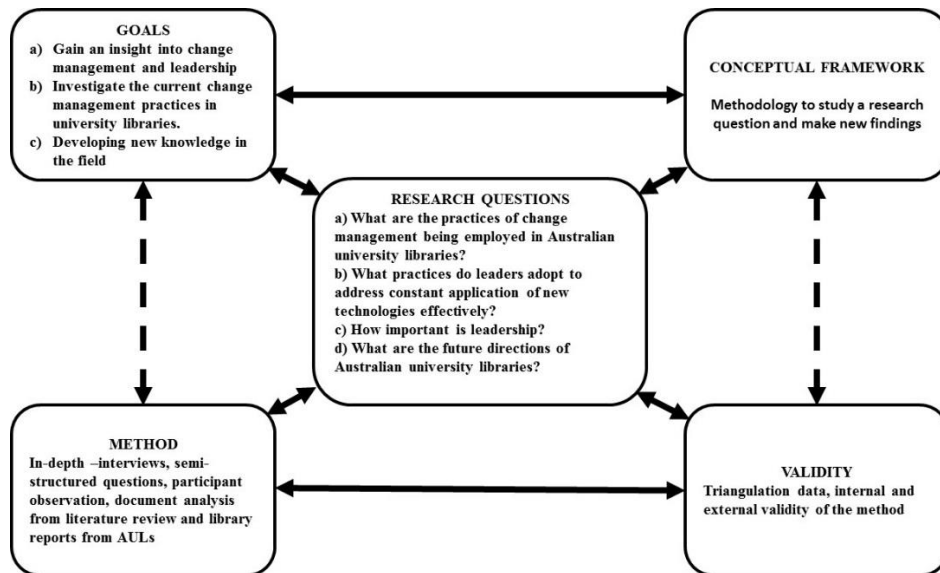
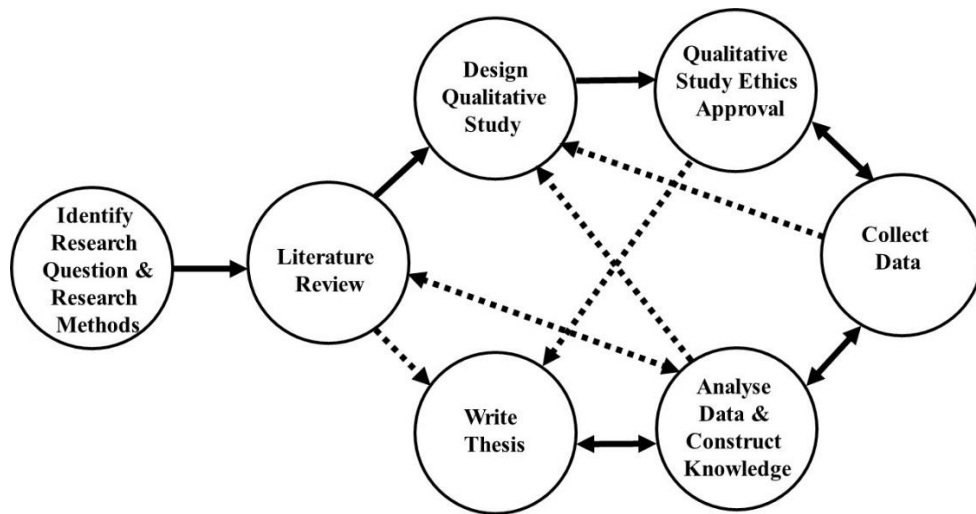


Figure 3.5: Design map of the research
(adapted from Maxwell, 2013)



Furthermore, the flexible process of this research represents Yin’s (2009) steps as a methodological framework with minor modifications for rigorous qualitative research, as shown in Figure 3.6 below. It reflects the flexibility of this process as there is no strict sequence that is followed, but a process that enables the researcher to go back and forth to achieve rigour.

Figure 3.6: Steps followed in the research process (adapted from Yin, 2009)



3.3.1 Justification of the qualitative methodology

While there is a debate about qualitative and quantitative methods (Berg, 2007) researchers argue about the suitability of qualitative research methods for social issues that have multiple realities. Qualitative research methods facilitate the researcher’s immersion in the situation, obtain information and describe/explain the state of affairs using codes and analysing concepts and themes (Braun & Clarke, 2006; Firestone, 1987; Minichiello, Aroni, & Hays, 2008; Neuman, 2011). Therefore, researchers are of the view that these two methods – qualitative and quantitative – can be complimentary (Denzin & Lincoln, 2013b; Firestone, 1987) and the qualitative method can be a suitable method for research relating to social behaviours (Auerbach & Silverstein, 2003). This research selected a qualitative methodology in preference to a quantitative methodology based on a number of factors, some of which are discussed below.

The qualitative research methodology is applied to explore real-world issues and collect data in natural settings on issues such as how people cope with everyday issues by tapping into their inner experiences and boundless possibilities, and learning about them and their behaviours (Corbin & Strauss, 2008; Merriam, 2009; Yin, 2010). This research is about a real-world situation: the way Australian university libraries manage change.

Quantitative studies use numbers for analysis, but qualitative studies analyse words and their meanings and complex relationships (Sobh & Perry, 2006). Qualitative data is words (Flick, 2009) rather than figures as certain social experiences cannot be expressed properly with numbers (Berg, 2007). This research also uses words from in-depth interviews for analysis, justifying the qualitative method.

Qualitative studies are satisfactory when doing in-depth studies on a range of topics (Yin, 2010). For in-depth studies of social issues, a good relationship between the researcher and the participant is important to obtain reliable information (Denzin & Lincoln, 2013a) and for sharing true stories (Creswell, 2013). In this research, the researcher visited the participants and conducted in-depth interviews in participants' own libraries. Prior to interviews, a good relationship has usually already been established by communicating with participants to get their consent for interviews, scheduling interviews, sending information regarding the research topic, research questions, and relevant information about the researcher.

Qualitative studies are suitable when the researcher is representing the views and perspectives of the participants (Creswell, 2013; Minichiello et al., 2008). The purpose of this research was to learn from the experiences of chief librarians of AULs.

Examining existing or emerging concepts for explaining social behaviour (Creswell, 2013) was crucially important to this research by examining the existing concepts from the literature review and emerging concepts from interview records and library reports.

Using multiple sources of evidence or the triangulation of data is an approach for studying the research topic in question and enhance confidence in the subsequent findings (Bryman, 2017; Creswell, 2013). Primary data for this research come from interviewing chief university librarians. During the interviews, the researcher visited the participants' libraries to observe the adaptations to changing environments. Documents such as annual reports and strategic plans from participating libraries and the other AULs were also used as primary data. Document analysis (literature review) is used in this research as secondary data. Therefore, triangulation is achieved by using data from these three sources: interviews, library reports, and published

literature.

Merriam (2009) provides a comparison of characteristics of qualitative and quantitative methods (see Table 3.1) in a tabular form, which also helped in understanding the suitability of the qualitative method for this research. The appropriate qualitative characteristics such as quality centeredness, constructivist nature, flexible and emergent strategy, researcher as a primary instrument and inductive method explain and justifies the appropriateness of qualitative method for this ressearch.

Table 3.1: Characteristics of qualitative and quantitative research
(after Merriam, 2009)

Point of Comparison	Qualitative Research	Quantitative research
Focus of research	Quality (nature, essence)	Quantity (how much, how many)
Philosophical roots	Phenomenology, symbolic interactionism, constructivism	Positivism, logical empiricism, realism
Associated phrases	Fieldwork, ethnographic, naturalistic, grounded, constructivist	Experimental, empirical, statistical
Goal of investigation	Understanding, description, discovery, meaning, hypothesis-generating	Prediction, control, description, confirmation, hypothesis testing
Design characteristics	Flexible, evolving, emergent	Predetermined, structured
Sample	Small, non-random, purposeful, theoretical	Large, random, representative
Data collection	Researcher as primary instrument, interviews, observations, documents	Inanimate instruments (scales, tests, surveys, questionnaires, computers)
Primary mode of analysis	Inductive, constant comparative method	Deductive, statistical
Findings	Comprehensive, holistic, expansive, richly descriptive	Precise, numerical

The approach to qualitative research is dependent on the research questions. Creswell (2007) saw five approaches of qualitative inquiry enhancing the rigour and sophistication of a qualitative study. A narrative approach begins with the experiences of individual(s). It can be a spoken or written text of a chronological event/s or action/s. In studies with a grounded theory approach, the researcher produces a theoretical explanation of actions, interactions or processes shaped by views of participants (Creswell, 2007). An ethnographic approach studies the shared patterns of

a cultural group usually larger than 20 (Creswell, 2007). Case study approach studies a research question/issue using one or more cases (Creswell, 2007). The fifth approach, phenomenology, examines human experience by collecting data from persons who have experienced it (Creswell, 2007). This research studies the phenomenon of managing change in AULs.

3.3.2 Use of triangulation in research methodology

Triangulation is a method used in surveying to map out an area accurately. The same term is used to identify employing more than one approach in research to achieve confidence in its findings and enriching knowledge (Berg, 2007). Further developing the idea of triangulation in research experts distinguished four forms of the method (Denzin, 1989b; Berg, 2007; Bryman, 2017; Flick, 2009):

- 1) Data triangulation which includes use of data from several sources;
- 2) Investigator triangulation uses more than one researcher to collect and interpret data;
- 3) Theory triangulation refers to use of more than one theory to interpret data; and
- 4) Methodological triangulation uses more than one method for collecting data.

This research uses data triangulation to satisfactorily achieve rigour in its research process.

3.3.3 Sample selection

“Theoretical sampling is concept driven. It enables the researcher to discover the concepts that are relevant ... and ... to explore the concepts in depth” and *“allows discovery”* (Corbin & Strauss, 2008, p. 145). In theoretical sampling, data analysis starts from the time of commencement of collecting data and builds the sample until the point of data saturation (Corbin & Strauss, 2008). The theoretical sampling method is concept-driven; interviewing stops at the point of achieving a sufficient sample with the saturation of information (Corbin & Strauss, 2008). Hence, theoretical sampling has been selected for this research.

Planning for interviews for this research commenced with the selection of twenty AULs from different states and territories except for the Northern Territory and Tasmania. It was the intention of the researcher to continue interviewing until data saturation occurred with a sufficient sample of interview participants. Also, chief university librarians from both older universities and newer universities (includes some G8 universities) were selected. These selected universities were as follows:

Victoria -	Eight Universities (Only seven interviewed)
New South Wales -	Four universities
ACT -	Two universities
Queensland -	Two universities (Only one interviewed)
Western Australia -	Two universities
South Australia -	Two universities

The AULs were initially selected (as above) to obtain a representative sample to facilitate obtaining a comprehensive view of chief university librarians. Although the majority of the samples were from the researcher's home state of Victoria, having sixty per cent of AULs from five of the other states and territories was considered satisfactory to avoid possible bias. The chief university librarians from selected AULs were contacted after obtaining ethics approval from RMIT University. The ethics approval consisted of the notice of approval (see Appendix 1) and the approved invitation letter (including the interview participant's consent form) for the selected chief university librarians to participate in the research project (see Appendix 2). Emails were sent introducing the researcher, research project, interview questions, participant consent form, expression of appreciation, and of the possible value of the research project for university libraries (see Appendix 3 for the list of questions). Selected interview participants responded positively, and interviews were conducted over a period of three months from the middle of July to middle of October 2014. Chief university librarians of Victoria were the first to be interviewed with the remainder of the interviews conducted state by state (or territory).

3.3.4 Semi-structured interviews

This research is a qualitative inquiry that involves semi-structured interviews. This

interview method is considered a sound method to construct an understanding of a complex issue using in-depth interviews and qualitative data (Creswell, 2013; Richards, 2007; Sobh & Perry, 2006; Yin, 2010). This view reflects a well-established opinion of qualitative research. This research is also a study of issues leaders confront in AULs in the context of an ever-changing environment. Denzin and Lincoln (2013a) stated that qualitative research holds advantages as there can be comments espoused by informants helping the rich description of the social world that may never be stated in a survey.

Creswell (2013) discussed the suitable steps of qualitative interviews. In addition to appropriate interview questions, these included steps such as identifying suitable interview participants who can best answer interview questions, an appropriate type of interview, use of satisfactory recording of interviews, use of a satisfactory interview protocol, pilot testing interview questions, a suitable place for interviews and obtaining consent for interviews.

3.3.5 Selection of interview participants

Interview participants were the key informants of this research. The term ‘key informant’ (cited as ‘informants’ here on) is mostly linked to qualitative research and they are a critical aspect of the method of investigation as they are knowledgeable persons in the subject under investigation (Rieger, 2007). Chief university librarians in AULs were selected as informants as they were the most experienced to answer questions in relation to their change management practices. After obtaining consent for interviews (see Appendices 1 and 2), a list of interview questions (see Appendix 3) was also sent to selected informants to consider prior to the interviews if desired. Interviews in this research were face-to-face, and held in a suitable place of the informant’s choice within their library. At the beginning of the interview, the researcher thanked them for their time, and indicated to them the usefulness of their participation in this research.

All informants were keen to participate in the research project. They also appreciated the timeliness of the research, and expressed interest in seeing the completed thesis. Most interviews were more than one-hour long. Some interviews were approximately

two hours because of the interviewees' keenness to provide detailed information. The list of interview questions the researcher took to the interview also contained prompts of interest under each question (see Appendix 4), in case the informant did not address the questions and/or digressed. Also, prior to the list of questions were prompts for the researcher to get the informant consent form signed, to turn the voice recorder on, and record the interviews with the permission of the informant. Similar prompts were also at the end of the questionnaire for the researcher to conclude the interview with steps such as thanking participants and turning off the voice recorder (see Appendix 4 for a list of questions with prompts). Such prompts were useful, especially in recording the interviews. Transcriptions of interviews were also sent to informants for any corrections, additions and comments.

As early as the second interview a small amount of information gained was repetitive to a minor extent but new information resulted until interview number twelve and then repetition continued with elements of saturation. It was decided, in consultation with the research supervisors, that 18 interviews were sufficient to obtain necessary primary data for the research. Though a larger number of informants (seven) were interviewed from Victoria and a lesser number from other states, experiences of the informants appeared to be uniform. More importantly, having noticed some data saturation occurring early in the interviews, scheduled interviewing continued until the eighteenth for the purposes of confirmation, and addressing the fact that selection of interview informants from most states/territories and diverse universities addressed the issue of potential bias.

Library tours were arranged for the researcher in five universities by respective chief university librarians and steps that were employed to address the challenges of change were explained during the tours. In other universities, the researcher spent time touring on his own to observe adaptations of those libraries to the changing university library environment.

3.3.6 Interview questions

Constructing appropriate interview questions was based on themes and concepts from the literature review. These interview questions (see Appendix 3) relate to the

research questions, concepts in the conceptual framework and the relevant concepts derived from the literature review. Based on the experience of reviewing the literature relating to the research question, it was found useful to categorise the interview questions under four headings. These headings were: change, technology, human resource development (HRD), and leadership. As mentioned before, the list of questions the researcher used in the interviews included some prompts for the researcher (see Appendix 4), which were intended to cover peripheral issues and more specific areas of research interest.

3.3.7 Data coding and analysis

Generally, “coding” is considered a data reduction exercise (Richards, 2005b). In qualitative research, the aim of coding is to introduce symbols or descriptive labels for data to help the researcher understand patterns and explanations generated from the collected data (Richards, 2005b); this is known as thematic analysis. Thus, coding is the first step to qualitative data analysis and for generating new knowledge. Coding begins with selecting relevant concepts and themes. While a concept can be words that represent an idea in data, themes or categories are considered higher level concepts under which lower level concepts are grouped (Corbin & Strauss, 2008; Miles et al., 2014). Coding is one initial way of working with qualitative data for constructing knowledge. It is an abstract representation of a theme with a label, topic or concept (Bazeley & Jackson, 2013). Corbin & Straus (2008) fittingly considered coding of data as ‘mining of data for hidden treasures’ which is a meaningful explanation. Transcripts of interviews are records of oral accounts from the semi-structured interviews. They were studied for themes and concepts relevant to the research question (Minichiello et al., 2008; Neuman, 2011; Patton, 2002). The transcripts from semi-structured interviews reflect the complexity and the raw nature of the data and therefore it is necessary to bring understanding or order out of chaos by means of coding (Bazeley & Jackson, 2013), or assigning symbolic meaning (symbols or descriptive labels) to selected information (Miles et al., 2014). Coding is done in three stages. Firstly “open coding” – initially assigning codes to themes and concepts; secondly, “axial coding” – examining and reviewing initial coding towards organising ideas or themes and identifying axis/relationships of concepts analysed. Thirdly, “selective coding” – looking selectively at data and codes assigned for

illustrating and comparing themes (Corbin & Strauss, 2008; Neuman, 2011).

Therefore, the researcher continues to be involved in further coding/re-coding of data as the data analysis progresses.

Data analysis is considered laborious and time-consuming as the researcher has to go back and forth between data analysis and re-analysis (Petty et al., 2012); it is also considered the craft that gives researcher meaning to data. Data analysis requires thinking critically without rushing into conclusions but working comparatively with different parts of data to observe any deviations and persevere for answers. Therefore, data analysis is infinitely creative and constructivist (Denzin & Lincoln, 2013a) and requires achieving fairness, accuracy, and credibility in data interpretation (Corbin & Strauss, 2008; Silverman, 2013; Yin, 2010). As Miles, Huberman, and Saldana (2014) stated, qualitative data analysis involves tactics such as appropriate clustering of data noting patterns in themes, use of counting or statistical techniques, making contrasts/comparisons/relationships, building a logical chain of evidence, and to conclude with making conceptual or theoretical coherence of the steps.

Qualitative research methodology does not have distinct methods or practices such as textual or statistical methodology of its own for interpretation of data. The researcher may also use tables, statistics and numbers if it helps to interpret data to determine findings (Nelson, Treichler & Grossberg, 1992). Thus, a researcher who understands the strengths of qualitative and quantitative methods may mix both methods in developing a better understanding and explanation of the social world, making use of what each style can offer (Neuman, 2011).

In this research, finding themes and concepts in the transcribed interviews and library reports was done manually by the researcher without the assistance of qualitative data analysis software NVivo. Based on the themes and concepts found in primary data, the researcher prepared a matrix using Excel software to facilitate data analysis. The researcher also made use of a matrix using Excel software to record secondary literature based on relevant themes and concepts with more materials added as he came across the relevant new materials. The Excel matrix used for interviews and other primary and secondary data analysis were useful as this computer software facilitates convenient data recording, sorting, and analysis. Usefulness of such a

matrix for data analysis is shown by many theorists (Corbin & Strauss, 2008; Miles et al., 2014; Patton, 2002; Richards, 2005b). The matrix prepared for this research consists of columns for the informants' interviews and library reports, in addition to interview questions and themes. A matrix helps systematic data analysis, but the actual data analysis is underpinned by the researcher's analytical and interpretive thinking. Consequently, manual data analysis assisted the researcher to be absorbed in the complete process of sorting and thinking about data and constructing knowledge (Minichiello, 2003).

3.3.8 Research rigour

There seems to be a debate about research rigour in qualitative research within some quantitative ranks. Qualitative researchers, however, argue that the term rigour itself does not add value to their research method in the same way as in quantitative research (Caelli, Ray & Mill, 2003; Denzin & Lincoln, 2013a; Maxwell, 1992; Yin, 2010). Yet, there is a general understanding among the research community that research is worthless without rigour (Morse et al., 2012), and hence, it is emphasised by many experts as essential for qualitative research (Corbin & Strauss, 2008; Denzin & Lincoln, 2013a; Maxwell, 1992; Yin, 2010).

Scholars have used different terms to define the meaning of rigour in research. Some of these terms are trustworthiness, credibility, representativeness, and authenticity (Creswell & Miller, 2000; Winter, 2000). However, the term "rigour" is used here to re-emphasise the objectivity and quality of data collection and analysis and their use in this research.

From a range of typologies (Creswell & Miller, 2000), this research uses the four criteria commonly used in empirical social research for establishing rigour (Yin, 2009). To ensure the rigour internal to qualitative design, use of validity and reliability assists acceptance of qualitative methodology by the wider research community (Table 3.2). The table records the four measures of research rigour, and provides relevant information in three columns under headings: criteria, research tactic, and phase of research in which tactics occur. These criteria have been followed in this research to achieve research rigour.

Table 3.2: Qualitative study approach for design criteria
(adapted from Yin, 2010)

Criteria	Research study tactic	Phase of research in which tactic occur
Construct validity	* Use multiple sources of evidence * Researcher as the research instrument * Have key informants review transcripts	Data collection Data collection & analysis Data composition
Internal validity	* Data coding * Theme pattern matching * Critical questioning * Construct explanations	Data analysis Data analysis Data analysis Data analysis
External validity	* Valid research method	Research design
Reliability	* Use qualitative research protocol * Use of Express Scribe for transcribing interviews * Use of Excel for coding and recording interview data. * Save secondary evidence based on themes/concepts in an Excel spreadsheet	Data collection and analysis Data collection Data collection Data collection

Construct validity:

As presented in Table 3.2, the construct validity of this research is achieved by obtaining evidence from multiple sources. This process is known as “triangulation” in qualitative research. There are multiple ways to achieve triangulations in qualitative research (Jeffbloom.net, 2017). Some examples are:

- 1) Use of three separate observers for data collection
- 2) Use of theoretical framework, data source & observer
- 3) Use of three separate data sources
- 4) Two separate theoretical frameworks and a data source
- 5) Two analytical frameworks and a data source.

In this research, triangulation takes place between primary data sources (semi-structured interviews), library reports (annual report, strategic plans/reports) and secondary data sources (published literature relating to the research topic).

The researcher as the research instrument (Merriam, 2009; Yin, 2010) was another method for construct validity in this research. The researcher not only conducted the informant interviews, but also transcribed the recorded interviews, coded and analysed the collected data. This process enabled the researcher to maintain focus and consistency in the investigation. The informants’ review of the transcribed data

facilitated in the authentication of the information to further improve the construct validity of the research.

Internal validity:

A suggestion often offered for achieving internal validity in qualitative research is the analytic tactic of pattern matching, explanation building and addressing rival explanations (Yin, 2009). Thematic analysis is considered a theoretically flexible approach to the analysis of qualitative data (Braun & Clarke, 2006). Checking and re-checking data, thematic coding, constant comparison of research resources, critically thinking about the analysis and avoiding unwanted biases or acknowledging them help in achieving internal rigour (Yin, 2010).

External validity:

External validity of a research project is judging the rigour of the research by the rest of the research community (Corbin & Strauss, 2008; Maxwell, 1992; Morse et al., 2012). As shown in Table 3.2 a valid method of the research design preserves external validity. The research relating to complexities of change, leadership, and technology in AULs is a social behavioural issue. It examines the perspectives of AUL leadership (the chief university librarians) using semi-structured interviews to listen to their stories in-depth. Initially, twenty public university libraries, old and new, were selected from different states and one territory. As in theoretical sampling, informant interviews were carried out exceeding the point of saturation of data. In the process of the research, the methods indicated in the research design such as interviews, transcription, use of library reports, use of secondary sources, thematic coding for analysing data and constructing knowledge were followed rigorously. Thus, the external validity of this qualitative research was achieved.

Reliability:

Reliability is concerned with the notion of replicating the same findings if the research is carried out again (Merriam, 1995; Yin, 2010). However, when studying issues relating to social behaviour, findings may not be the same as human behaviour and perceptions might change over the time. Therefore, the research findings in qualitative research are 'not more or less true in any absolute sense' (Guba & Lincoln, 1994; Vrasidas, 2000). Consequently, reliability in qualitative research cannot be

judged in the same way as in a positivist approach in research, or in quantitative research (Merriam, 1995; Morse et al., 2012). Quantitative research sets limits as to what can be quantified or measured using numbers, whereas qualitative research is not limited in this way but tries to ‘pick up the pieces’ of immeasurable individual experiences of the world (Winter, 2000). Therefore, measuring reliability in qualitative research needs guidelines to follow, with as many research design steps as possible to ensure reliability of the research (Yin, 2009). This research follows the three steps suggested in Table 3.2 to achieve reliability: firstly, to adhere to qualitative research protocol and observe the accepted research design steps; secondly, the method of data collection and analysis not only followed data triangulation while collecting primary and secondary data but also used computer software (Express Scribe) for transcribing interview audio-records and a matrix of Excel for recording and analysing coded data. The Excel spreadsheet was also used for recording themes and concepts in published literature relevant to this research.

3.3.9 Ethical considerations

This research followed the ethics guidelines of RMIT University (RMIT). Ethics approval from the RMIT Human Research Ethics Committee (HRDC) was obtained before collecting data through semi-structured interviews (see Appendices 1 and 2). As a requirement of this ethics approval, informants’ identities have been kept confidential, and interview records are being stored for five years at a secure RMIT University location before being destroyed. The National Statement for Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct Of Research has been strictly adhered to in all aspects of the research.

3.4 Conclusion

This thesis investigates the complexities relating to change, leadership and technology in AULs from the perspective of selected chief university librarians. The examination of social behaviour becomes an integral component while determining the personal and professional experiences of the informants, all of whom are chief librarians. It was therefore considered imperative to use the constructivist epistemological paradigm as part of constructing meanings from experiences and perspectives of the

professionals who participated in this research. The inductive approach, also known as inductive reasoning, creates meanings and their implications from the observable facts and experiences of the informants.

Due to the complex nature of the research issue, a survey was inappropriate as the information collected for this research was difficult to measure or quantify. Hence, qualitative methodology with semi-structured interviews was considered appropriate to adopt in obtaining rich data from the informants, enabling the emergence of concepts/themes/ new knowledge in an inductive manner. The qualitative methodology facilitated obtaining information from multiple sources of data as words, rather than numbers, to examine why, how and what decisions and practices the informants have taken and implemented.

This chapter explained the research design. However, being qualitative research about social behaviour, it is unlikely that the findings in this research would be repeated if a similar research project is undertaken. Nevertheless, it is not considered a weakness of the methodology because of the complexity and the changing nature of social/human behaviour.

The theoretical sampling method was used in interviewing the informants, and collecting and interpreting data in this research. A purposeful sample of Australian university libraries was initially selected comprising both old and new universities from different states and one territory of the country. This method of sampling was found to be appropriate in obtaining comprehensive perspectives of chief university librarians in Australia.

The next chapter (Chapter 4) presents an analysis and findings of data obtained from informants' interviews, library reports, and the extant literature.

CHAPTER 4. DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the data analysis and the findings of this research study based on the research design discussed in Chapter 3. These findings stem from analysing data gathered from semi-structured interviews with chief university librarians, or senior staff at the equivalent level, from AULs. Analysing the collected data was done manually. Interview questions, themes and concepts, and the relevant sections from the interview transcripts were entered in a Microsoft Excel matrix that was classified, sorted, and accessed under interview questions or concepts and themes pertinent to this research study.

4.2 Demographics of informants

Eighteen informants interviewed had diverse qualifications and experiences (see Table 4.1). Age groups varied, which is reflected to an extent in their years of experience. Most had substantial experience in the library field in general. Six informants had 10 or more years' experience in the chief university librarian position. Four had five to nine years' experience, and the experience of the other eight informants was less than five years in the position. The difference in the experience of informants in the university librarian position ranged from one to 24 years.

Educational or professional qualifications were also diverse among informants. Of the 18 informants, two did not possess educational or professional qualifications in librarianship. They had experience only in university libraries and less than five years' experience as chief university librarians. Six informants had a first degree in librarianship while two of them had postgraduate qualifications in librarianship. Nine informants had a first degree in another discipline plus postgraduate qualifications in librarianship. Six informants also had postgraduate qualifications (Graduate Diplomas, Masters or PhDs) in another discipline. Three held a Master of Business Administration (MBA), and another completed some components of an MBA; each of these had up to 10 years' experience in their positions. Furthermore, before joining the library profession, three informants stated that they were employed in non-library areas in the public and private sectors.

Table 4.1: Demographics of interview participants

<u>Qualifications/Experience</u>	<u>Number of participants</u>
Chief University Librarian > 10 years	6
Chief University Librarian 5-9 years	4
Chief University Librarian < 5 years	8
No librarianship qualification	2
First degree in librarianship	6
First degree + Postgraduate degree in librarianship	2
First degree in another discipline plus postgraduate qualifications in librarianship	9
Postgraduate qualification in another discipline	6
Previous employment in non- library areas	3

4.3 Significant changes in Australian university library environments

All informants were interested in major changes that are taking place within the university library environment. Four informants (U2, U6, U11, U16) specifically mentioned the swift and massive changes that are occurring. Though other informants did not use the same terminology they identified many such changes, as outlined below, that are influencing library performance demonstrating that adaptation to swift change has been a common issue for all participant university libraries.

4.3.1 Amalgamation of higher education institutions

One of the changes pointed to by one informant (U11) was the large-scale amalgamation of universities and colleges a quarter of a century ago, or when institutes of technology were proclaimed as universities by the Federal Education Minister, Dawkins under the Hawke Labor government. The informant mentioned it as a major structural change that has affected university libraries. Due to the amalgamation of a number of institutions under one umbrella, student numbers in

universities increased sharply and, in at least one case, doubled (U11). International student numbers were also stated to have increased dramatically due to this structural change by the Hawke government (U11). This amalgamation of higher education institutions motivated many universities to have library services delivered in a multi-campus arrangement resulting in university libraries becoming more complex organisations to manage (U2, U6, U10).

4.3.2 Move from transaction to engagement

Three informants (U10, U16, and U17) mentioned the transition of university libraries from structures heavily based on transaction-focused models (i.e. collection development, circulation and reference service) to engagement processes, which include support services such as information literacy and curriculum preparation, teaching, learning and research. This move is considered in this research as a shift from a transaction-oriented management model to an engagement-oriented management model. This shift is stated to have influenced institutions to move towards distributed networks blurring the boundaries between other services or businesses in the information industry (U10, U16, U17). Australian universities are increasingly outwardly focused regarding their core business of teaching, learning and research (U1-U18). In parallel, library core business has also shifted from providing content to facilitating teaching, learning and research by engaging with stakeholders in information literacy education and other responsibilities to add value to the productive goals relevant to university business. Table 4.2 shows the shift of the university library roles to an engagement model in core responsibilities. This shift facilitates access to information, teaching, learning and research and adds value to stakeholder outcomes by engaging with them. All informants (U1-U18) endorsed the importance of this shift signifying the need for new skills for librarians and providing resources for engagement in areas such as virtual access, learning spaces, creativity and innovation, engagement in non-traditional responsibilities and value creation for stakeholders.

Table 4.2: Evidence for management of AULs shift to engagement with stakeholders

Evidence of shifts	Informants
Need of new skill	U1-U18
The mindset of a person with library qualification can do anything in the library has no value	U1-U18
More resources to the area of engagement	U1-U18
Virtual access to information resources and services through the Internet	U1-U18
Providing library learning spaces	U1-U18
Engagement in non-traditional responsibilities	U1-U18
Engagement in learning/teaching/research	U1-U18
Positive stakeholder outcome/value	U1-U18
Creativity and innovation in university library business	U1-U18

4.3.3 Move to online resources

All informants (U1-U18) agreed on the high impact of electronic publishing on university libraries and its capacity to provide convenient access to information online. For university libraries, the shift of journal publications from print to electronic, the explosion of online information resources along with open access policies of universities, where clients access these resources or information through their computers or other mobile devices from a location of their choice, were considered to have revolutionised the library operations (U1-18). Australian university libraries, especially those that did not have significant research collections, willingly followed this path in building their electronic collections (U10).

Three informants (U5, U6, U16) stated that about 85-90 per cent of their acquired information resources were electronic. However, all informants acknowledged that electronic versions of publications are now the first preference of university libraries. AULs continue to acquire some printed resources as not all publications are available in electronic format. Some hard copy resources are essential to meet the need and demand from scholars for such resources (U11). The changes occurring in university library collections are not confined to the shift to electronic materials but also the move away from a mediated selection role of the librarians, effectively handing over that role to the end users (U9). In other words, the “self-service” concept has gained considerable inroads, changing the role of librarians through automated technology (U9). Another major shift is that some electronic databases have the capacity to

recommend purchasing decisions based on statistics regarding the usage of e-books (U8, and U10). Libraries have effectively been introducing systems allowing AUL clients to suggest e-books and print materials for purchase in multiple ways; for example, the need for resources verified statistically or through formal requests (U8, and U10).

With the move of library information resources to a predominantly electronic format, libraries endeavour to make the access more intuitive and seamless (U4).

Furthermore, some libraries are also digitising their special and unique print collections to encourage global availability on open access (U1) enabling wider and convenient user access. The explosion of electronic information resources also presented several complexities that needed effective solutions:

- 1) Many university libraries today have an e-preferred collection development policy (U5, U6, U8, U10, U16). This policy has resulted in complexities while dealing with acquisition, cataloguing, licences, access, and the need for new staff skills to perform these new tasks (U4, and U7). Essentially, devices or the range of technologies libraries required to provide access to electronic information resources has expanded, for instance, from dedicated terminals to desktops, laptops, iPads, and mobile phones to support the client anywhere anytime. The informants U5, U7 and U16 mentioned that currently electronic resources constitute a significant part of the library information resources – as high as 85-90 per cent of the information content. In the past, printed material was a commodity of the library and available only from the library, but much more than ever information is now easily accessed in electronic/digital format and is available virtually from Google or other search engines, and this is increasing (U16). Consequently, access to information once confined to print, is not limited to access within the “physical library” as AUL clients now have expanded access modes, and also can access other library services from anywhere, anytime (U16). AUL clients also assume that access to a whole range of other resources (e.g. web pages, blogs, discussion forums and instructions) are available through various search engines (U4, U5).

- 2) Libraries have experienced a decline in print usage with increased acquisition of a high proportion of electronic material and their high usage (U3, U8, U17). Hence, some libraries have discarded or moved most of print materials to remote storage (U3, U4, U6, U8) or on-site compact storage facilities (U5, U17). Therefore, the large number of staff needed for managing the print collections (i.e. acquisition, cataloguing, processing, shelving, lending) are no longer needed (U6). Journals are mainly electronic, though monographs are also increasingly available in electronic formats (U17). Library clients prefer using electronic resources because of convenience of access and the capacity to manipulate the information into their scholarly pursuits, and as a result, libraries audit their print collections and house low-use materials in remote storage (U4, U8). The use of the print collections in one library was said to have dropped by about 35 per cent during the previous two years alone (U4). On the contrary, some other informants (U6, U17) stated that some of the materials (such as in humanities) are less reliable in electronic format, and hence, they need to keep at least one print copy of such materials for research and inter-library-loans. One of the informants (U17) confided that a few clients still preferred print to digitised materials as they were not convinced that electronic format is able to satisfactorily replace print format. Informants U7 and U11 stated that the print collections, particularly the extensive print journal runs held by the established universities and once held in high esteem, have now become a legacy for them so that they are in the process of an audit to determine which publications would be best housed in storage facilities. One informant (U7) observed that being a younger university, they did not have a legacy or historical collection in need of auditing to determine usage and subsequent storage. This meant less use of staff resources for their management in contrast to the time, energy and costs required in established universities with extensive collections (or legacy) of print publications. All informants (U1-18) stated that they had been reducing the on-site print collections to accommodate students' collaborative study spaces to attract students, and to support the new

modes of student-centred learning.

A reduction in the print collection was not difficult for some libraries (U3, U4, U5, U17) but for others, it was not an easy task as clients had voiced opposition to this move (U7). One informant (U16) acknowledged that the long runs of print collections of established universities, built over the years, had little value anymore due to convenience of access to digitised materials and, therefore, libraries are on a more “even-playing field” today (U16).

- 3) Increasing application of digital technology has also impacted various aspects of the library management. Virtual access to information, including library materials, has extensively eliminated the need for visiting the physical library to access resources (U4, U8, U13). The processes also have changed and impacted on jobs in libraries (U4, U8, U13). For example, technology induced libraries to modify the loan processes, relax penalty systems, as well as to introduce patron-driven book purchasing requests underpinned by easily accessible statistical data to guide expenditure (U4, U8, U13). These represent significant changes. As a participant observer in the current research, the researcher notes that most of the libraries have implemented convenient and automatic loan renewal systems. This reduces the need to visit the physical library by patrons as loan renewals can be done online through borrowers’ desktops, laptops, iPads, or other handheld devices, without attending library in person. Library users now employ self-use electronic devices to borrow books or other materials when present physically. In U8’s library renewal has become automatic unless the book is requested by another patron. Either way, staff presence to physically handle these transactions has been minimised.

According to some informants (U1, U3, U5-U7, U10, U13, U15), digital technology, in combination with other ICT developments, has brought significant changes in the academic library workforce. The use of technology has considerably reduced the number of library staff in

processing, shelving, circulation of print materials, reference service, face-to-face assistance and teaching sessions for students. Libraries, now are able to perform those functions differently and often more efficiently with the help of technology (U1, U3, U5-U7, U10, U13, U15). Overall, the use of technology has enabled the patron to be indirectly involved in performing certain library tasks while using the library services. The patron-driven acquisition model, considered by university libraries as a ground-breaking process, was largely influenced by the rise of the e-book. Use of an e-book by patrons in certain databases automatically triggers the selection role and increases the value of the resources added to the library collection (U3, U9). Similarly, other common services that have changed libraries have been the self-services such as for book loans and loan renewals which libraries are using wherever they can to improve client satisfaction as well as provide cost effective services (U14).

- 4) Under the changed circumstances, driven by the increasing use of technology, the libraries are under pressure to justify their need as a value adding service unit for universities. Traditionally, the library was attached to books and held a prominent place within the university. As one informant pointed out, it is not a satisfactory position for the library at present because of the dominance of digital technology and therefore the need for the library to reinvent itself within the university to find its place in the future (U3). To adapt to the changing university library environment libraries require different skill sets (i.e. metadata, and IT skills) to record and provide access to electronic information resources they acquire (U12, U13, U18). Moreover, the profession of the librarians in universities also has changed to emphasise research skills development of students, which includes information literacy skills (U6) and other disciplinary skills such as business management, including leadership for improving performance (U16).

4.3.4 Library budget

Policy around allocating funds for university libraries has changed leaving some libraries in a disadvantaged position. One informant (U7) thought that academic libraries are most fortunate to get at least some increase in their budgets compared to special libraries (a special library provides specialised information resources and services to the clients of specialised institutions, e.g. law libraries, medical libraries, government departmental libraries). Because of lack of funding, some special libraries are now completely closed in Australia (U7). The interviews revealed that it is not the same story of funding for all university libraries. All informants revealed that library budgets had essentially increased due to the strong Australian currency during the ten years or so prior to 2014. For one (U8), funding had proportionally increased with the cost of living index. Due to the strength of the Australian currency during the period from approximately 2005 to 2014 (based on the Forex index see <http://www.canadianforex.ca/forex-tools/historical-rate-tools/yearly-average-rates>) at least one library had about a 30 per cent increase in their budget (U8). Some felt that the issue was not the declining public funding, but fluctuating exchange rates. Financial acumen is said to have become a critical area for university librarians in adapting to the tightening financial environment (U2). Therefore, developing good relationships with financial officers and explaining and educating them about library business was considered critical in “winning” the necessary funding (U2, U4, U6, U10). One informant’s (U15) experience was that they were well funded for a new building as well as for digital resources because they successfully negotiated for some of the building funds to go towards information resources. Yet, the direction of that university has changed with the appointment of a new vice-chancellor, which resulted in redirecting funds to other areas of the university, leaving library funds static for some years (U15). No funds were allocated to purchase resources for the university’s new study programmes initiated after the appointment of the new vice-chancellor (U15). Another library informant (U18) explained the severity of its declining funding by stating that they used to receive three per cent of the total university budget but by 2014 this went down to two per cent. In dollar terms that was equal to the funding in 2008, although the total university funding increased during that time.

Universities are expecting libraries to do more with less, to demonstrate the value the

library adds and to innovate, to do things differently (U18). For another informant (U16), negotiating funding was such a difficult issue that the informant stopped attending budget meetings. The informant (U16) did however keep the university informed of itemised funding needs e.g. separately itemising funding needs for information resources, staffing and a range of other administration and maintenance issues. Though the Australian currency was strong during the time interviews were conducted (2014) the majority of informants (except U8) were of the view that they had not benefitted from the strength of the currency due to relatively large funding cuts that forced them to further reduce spending. One informant clearly summed up that situation in the following words:

Australia is an interesting example in the way higher education is funded. It is up in the air and changing. It is a dynamic situation, so funding is no longer certain. So, there is fund pressure because of the types of funding increase we get annually. It does not match the price increases of publishers. We would be lucky to see a per cent increase in our budget. Publishers are increasing prices by 5-30 % a year, so there are some ridiculous price increases. So, our budget has less fat in it each year. We get our budget directly from the university, and its changes are based on government policy changes. So, the libraries are asked to do more with less. So, we need to be smarter with what we get (U3).

Another change in library funding raised by some of the informants was the Australian federal government policy resulting in decreasing public funding of universities and, as a result, tightening and streamlining the funding of various cost centres of the universities including libraries. All branches of universities were affected as they endeavoured to maximise the return on investments (U4, U5, U10, U11, U13). Most libraries said they faced more financial pressures than others while a few have shown stability (U4, U8, U14). Nevertheless, all AULs (except U8) resorted to reducing costs by restructuring and reducing staff to manage the forthcoming (after 2014) federal government's funding cuts to higher education. All informants were aware that library funding is attached to the value the library adds to their university's business and, therefore, libraries should continue to adjust to demonstrate their ongoing relevance and importance with productivity that underpins universities' goals.

4.3.5 Learning and teaching in the university

All informants (U1-U18) stated that their universities are increasingly providing

teaching and learning services online, and the libraries support that by providing easy remote access to 'e-resources'. The libraries also reformed some of their services, for example, patron-driven book acquisition, self-help loans and renewals and online help services (U2, U3, U4, U13, U12). One informant (U3) believed that a paradigm change was occurring in regard to teaching and learning within universities. With the major changes in higher education, teaching and learning are becoming less about attending lectures and more about online or blended learning (U2, U3, and U10). In a few years' time, one of the universities (U3) planned to have all their teaching online. For some universities, most of their international students are offshore and, as a result, these participant libraries informed that they are increasingly delivering their services online (U2, U3, U4, U7, U13, U12).

4.3.6 Changes in staffing requirements

Some informants stated that the number of staff in their libraries has been reduced since the beginning of the 1990s (U3, U4, U6, U10, U13, U18). In one university library staff reduction was about 30 per cent (U10). These changes were initially a result of library funding cuts during that time but later the libraries reduced the number of staff because of the application of ICT devices and the rapid move to online resources (U1-U7, U9-U18). At the same time, participant libraries acknowledged the need for different skill-sets, e.g., in metadata for processing and providing access to electronic material, research data management, publishing, information technology, business, management and leadership. These new skills are required to effectively perform new library responsibilities such as introduction of ICT devices, managing increasing electronic resources, online teaching, learning and research and satisfactorily managing libraries as a value adding service to universities (see also Sections 4.3.10 and 4.3.14).

4.3.7 Changing significance of library space

Some of the informants (U2-U8, U17, U18) stressed the increased significance of university libraries for student learning experiences and the increasing user population in library learning spaces. The university library, according to U18, is not primarily for the storage of print materials any longer. It is both physical and digital as library journals, and other library information resources are primarily e-resources at present.

This trend is increasing over time, and therefore, most academics claim to be not using the “physical” library (U3-U8, U10, U14, U15, U17). Postgraduate students were also said to be mostly using their school/college/faculty spaces for study rather than using the library as a physical space (U4, U6, U8, U14). All informants stressed that undergraduate students do not come to the library for resources, but for the learning spaces and technologies (e.g., computers and interactive screens). Some of the informants noted that students have other learning spaces on campus, but they preferred the library because of the student-centred learning oriented spaces and its suitability for the needs of their learning experience (U3, U4, U10, U13). Use of the library space today has been a result of the shift in the way in which students study and learn, be it collaborative or individual study (U10). One informant summed up this change as follows:

The pedagogy has changed as well; the way students are taught, and the way students learn is different. Similarly, we have so much material online. The library has re-emerged; it is a place for students, not so much for academics. So, we had to make massive changes around that. And I think, one of the other big changes is around the service. In the old days when I went to the university, you had to queue up to get services; operations were very manual, and you were almost treated like you were at school and that you should not complain. Now, students are paying they feel they are customers and deserve to be treated like customers. So, the expectations have risen considerably. For students, learning is more collaborative, and they need different places for study. There is still a lot of independent learning, but obviously collaborative learning, research and study, and doing a lot of their assessments are now done in groups (U14).

Consequently, libraries have received funding for a variety of reasons. Some received funding for completely new buildings, including other infrastructure items to provide environments suitable for students’ study with a welcoming ambience, attractive, comfortable spaces, and availability of food nearby (U3, U5, U7, U8, U10, U15). Some sections of a number of libraries are kept open 24/7 and these libraries intend to open more spaces because of heavy use (U3, U15, U18). A few other libraries alleged that they had such facilities but were delaying 24/7 opening for various reasons such as security of the students or the very limited use of library space during ‘out of hours’ times (U6, U7, U14). One library had gone to the extent of providing sleep pods for students to rest when needed (U3). One informant informed that their university library spaces were developed during the last seven years as a result of the changes induced within the digital age (U2). According to some participants (U5,

U10, U17), it is a move towards learning commons/spaces that encourages and provides necessary facilities for collaborative study. New or improved library spaces provide attractive and user-friendly environments with appropriate technologies, comfortable seating with canteen facilities (U3, U10). Due to the learning-friendly environments, all informants found that students have been heavily using their renovated and technology-equipped physical library spaces (U1-U18).

The available information from the primary data suggests that the contemporary university libraries have undergone changes both in terms of physical arrangement and facilities, plus digital and online dimensions. Today many researchers and academics prefer to access library resources online rather than physically going to libraries (U2, U3, U5, U14, U15, U17) (see also Sections 4.3.10 and 4.3.14).

4.3.8 Changing client behaviour

Students and academics are the two main groups of university library clients. The informants covered several changes in the student body in terms of their library usage practices. Previously, there was a relatively coherent body of students (U2, U3, U6-U8, U10, U13, U15). Now, the student cohort has become large and extremely diverse because of a wider range of disciplines, diversities such as off-campus students, onshore as well as offshore international students, undergraduate as well as postgraduate students, young as well as mature-age students (U6, U7, U13, U15). Some higher degree by research offshore students are online and said to be exclusively using e-resources and e-books from the U8 library.

Needs of the student population were found to be diverse in Australian universities. One informant pointed out that their international students needed help with English language (U15). Another noted the low level of English language knowledge or the literacy of both their domestic and international students (U17). As another informant (U10) stated, students of that university were 'less academic' and therefore needed more help with their studies. These were two interview participants observations that reflects elements of change in government and university policies in Australia to increase recruiting students of lower SES (socio-economic status) in higher education enrolments as a result of the Bradley report recommendations. On the contrary, some

informants from the Group of Eight universities (G8 – a coalition of leading universities in Australia) and research universities claimed their student population to be high achievers (U2, U4, U12, U13, U18). This diversity of students also affected the library operations. Informants from universities with high achieving students claimed that their libraries had to meet high demands of students (and academics) for prompt access to information, resources and services when they are wanted and wherever they are (U4). Informants from libraries of universities with low achievers informed that they run additional services such as help with English language as well as assignments. Both categories of libraries are found to be providing a client-centric library service for improving the value the library adds to university education.

The postgraduate student population was increasing for some universities (U13, U11, U18); for others, it is claimed there is both a change in the student body as well as more interest in research (U2, U3, U10). The massive shift to online resources is readily embraced by both groups of libraries to provide remote access to library information resources and services to all categories of clients, anywhere, anytime supporting study and research in an online environment (U4).

New students are IT savvy, and most of them are familiar with new ICT devices when they enter the university. They are familiar with the use of the Internet for finding information and use of basic software, such as Microsoft Word and Excel. They generally possess mobile technologies and use various social media for communication (U2, U10, U12, U18). However, some of the informants are of the opinion that students still need help for using technologies for academic purposes; a service that libraries provide in both face-to-face and remote modes (U10).

Library usage is less about visiting the physical library to access information and to study (U3, U8, U10). Many students engage in paid work and access information and study mostly in an online environment (U3, U8). Students want information faster, read smaller sections of books or articles, study faster and collaboratively (U5). University libraries are attempting to meet the students learning needs by providing suitable library spaces, facilities and technologies. Therefore, the physical library is mainly used by some students for their study (U1-U18).

Most journals are available in electronic format and therefore libraries provide access

to those journals considered important for higher education by subscribing to aggregate databases or individual titles (U1-U18). This trend is increasing with e-books as well (U3, U8, U10, U15, U17). Libraries also have services to acquire and supply electronic books and journal articles requested by their clients on inter-library loans or on document delivery and the resources are delivered to them in the same medium (U3, U8, U10). Consequently, not many academics are seen in physical libraries (U2, U3, U5, U6, U14, U15).

Some libraries provide information through Google-like search interfaces for easy access (U3, U8). One of the impacts of increasing use of technology by libraries has been that, very often, library clients, including academics, visit a virtual library not knowing or not realising the fact that they are in the library 'space'. This view, which may be considered to be counterintuitive was expressed by all of the informants, except two (U3 U14). Such lack of visibility is said to have compromised essential recognition for the library (U4, U6, U16, U17). On the contrary, some other informants thought that academics in their universities were fully aware when they use electronic library resources from remote locations. They consider that providing remote access to the majority of library resources to be the most important responsibility of the library (U3, U14). One informant was of the view that academics visit the physical library if it happens to fall on their pathway (U2). According to another informant (U5), the popularity of the library canteen is an incentive to the academics to visit a library in person.

4.3.9 Impact of advancing technologies

Advancements in technologies, including developments in related standards, have influenced university libraries to progressively introduce microfiche files, floppy discs and CD-ROMs from the 1970s (U14). Technologies facilitated automation of library catalogues, acquisition, and circulation, and the changing the nature of library jobs and the way libraries work (U11, U12, U13, U14). Some of the informants (U1, U3, U9, U8, U10, U13, U14, U17, U18) noted the critical impact of advanced technologies driving changes in the information profession. Dial-up access to online databases such as Dialog, Australian Bibliographic Network (ABN) commenced in 1981, and the advent of the Internet and the beginning of the information explosion in

the 1990s effectively caused a revolution in providing convenient and ubiquitous access to digitised information, significantly changing the way university libraries respond to the needs of higher education (U1, U12).

Informants revealed, or this researcher has observed, some of the technologies used in interview participants' libraries at the time interviews were conducted in 2014 (see Table 4.3). As the table demonstrates, technologies that replaced traditional library functions such as library systems, digitised information resources, computers, and the access to those from anywhere, anytime, are now provided by all participant libraries. But the use of new devices, particularly of mobile phones with an app (a specific application software designed to run on a mobile device to provide a specific service), for providing convenient access to these resources were to be expedited to full capacity by many libraries. Only one informant (U3) mentioned that their library was using a specific mobile apps to provide access to the library catalogue through mobile phones; while another (U8) revealed their reluctance at the time stating that the small screen of mobile phones was a hindrance. All informants' libraries were using some social media technologies but the use of Skype (a software for real time and cost free one-to-one or group conversations over the Internet), or similar technologies, seems to be limited to communication among colleagues, neglecting the use of this technology to provide an instant and face-to-face conversation to help clients anytime anywhere.

While all AULs are showing interest in the use of advancing ICT, some seem to be taking a heightened leading role (U2, U5, U7, U15, U17). Informants from these libraries cited some technologies that they had in place for efficiency improvement in services provided to their clients. For example, interactive screens and gaming labs were mentioned to be used by two new university libraries (U7, U17), data visualisation technologies by one (U2), and a customer relations management system by another (U12). Two informants from relatively new libraries also enthusiastically talked about some recent technologies such as Apple Watch (U5) and Google Glasses (U12). One of them talked of the possibilities of emerging new technologies to be "mind-blowing" (U2). All informants (U1-U18) were aware of the importance of emerging new technologies and hence focused themselves and their staff on learning about new technological products in human resource development strategies, such as reading, discussion, attending conferences, talking to vendors, visiting other libraries,

and attending exhibitions.

Table 4.3: Use of diverse technologies by participant libraries

Participant	Technologies
U1	E-resources, The Internet, ILL technology, Library management system, use of mobile devices, emails, Twitter, Facebook, self-service technologies
U2	Library management system, computers, e-resources, the Internet, data visualisation, discovery technologies, self-service technologies, Microsoft Lync.
U3	Library management system, e-resources, the Internet, mobile devices, self-service technologies, Skype, Twitter, Chat
U4	Library management system, computers, e-resources, the Internet, self-service technologies, Mobile devices, Twitter, Facebook
U5	Library management system, computers. E-resources, the Internet, self-service technologies, sleep pods
U6	Library management system, e-resources, the Internet, computers, mobile devices, social media, self-service technologies
U7	Library management system, computers, e-resources, the Internet, interactive screens, games labs, social media, Skype, mobile devices, self-service technologies
U8	Library management system, computers, e-resources, the Internet, Skype, Twitter, Facebook, self-service technologies
U9	Library management system, computers, e-resources, the Internet, social media, self-service technologies
U10	Library management system, computers, e-resources, the Internet, mobile devices, social media, Chat, self-service technologies
U11	Library management system, computers, e-resources, the Internet, self-service technologies, social media
U12	Library management system, computers, e-resources, the Internet, Chat, social media, self-service technologies
U13	Library management system, computers, e-resources, the Internet, mobile devices, Skype, Facebook.
U14	Library management system, computers, e-resources, the Internet, mobile devices, Skype, Facebook and other social media
U15	Library management system, computers, e-resources, use of mobile devices, Facebook, Chat, Self-help technologies
U16	Library management system, computers, e-resources, the Internet, social media, Skype, mobile devices, Chat, Facebook, Twitter, experimenting Second Life.
U17	Library management system, computers, mobile devices, e-resources, the Internet, gaming technologies, social media, Skype, self-help technologies
U18	E-resources, the Internet, library systems, computers, mobile technologies, social media, self-help technologies

4.3.10 Knowledge, skills and capabilities of staff

In response to an open-ended question, informants reiterated the significance of knowledge, skills and capabilities other than librarianship for performance improvement in a rapidly changing environment of university libraries (see Table 4.4). The statements made by the informants were neatly embodied in these two quotations, ‘Librarians today are not masters of everything like in the past’ (U2); ‘what we look for in new librarians is completely different to what we looked for ten years ago’ (U3). These statements emphasise the need for diversity of new knowledge, skills and capabilities required for effective management of libraries, clearly stressed by most of the informants (U1-U8, U10-U16, U18).

The drive for new knowledge, skills and capabilities can be considered as a direct or indirect result of the impact of ICT technologies, declining funding for university libraries, and the changing andragogy of higher education (U1-U18). Some informants (U2-U8, U10-U18) cited some new skills as critical. These skills are effective communication, data analysis, research capability, business management, leadership, teamwork, interpersonal and problem-solving skills. The majority of the informants (U2-U13, U16-U18) considered specific aspects of business and management-related knowledge and skills to be of special significance, identifying marketing, client service, strategic thinking, project management, event management, people management and conflict management, creativity and innovation, as well as embracing change. A few informants (U1-U5, U11, U13, U14, U16, U18) underscored the need for digital competencies, learning design skill, disciplinary knowledge, publishing, and graphic design skills. The following informant responses further exemplify the need for such diverse knowledge and skills base for libraries:

Table 4.4: New knowledge, skills, and capabilities required by Australian University libraries (* Critical)

Knowledge/skills/Capabilities	Participant
Digital competencies, metadata	U1, U5, U14, U18
Knowledge about library business	U2
IT and web skills*	U2, U3, U5, U7, U8, U11, U12, U14, U15, U18
Learning design	U2, U3, U16,
Multi-media	U2
Communication*	U2, U4, U5, U6, U11, U13, U18
Data analytic skills/research skills*	U2, U3, U5, U11, U18
Disciplinary knowledge	U2, U5, U11, U13
Marketing	U2, U4, U18
Client service	U14,
Strategic thinking	U2
Publishing	U3
Business management*	U3, U4, U6, U7, U10, U16
Project management	U16
People management, Conflict management	U16
Team work/Collaboration/Inter-personal skills*	U4, U5, U12, U16, U18
Leadership*	U2, U3, U4-U10, U13, U17, U18
Curiosity	U5
Problem solving*	U6, U18
Creativity and innovation	U12
Event management	U13
Graphic design	U16,

Some noteworthy statements of informants on required new knowledge and skills are:

One of the things harder to get is good data analytic skills. They do not normally come to libraries. They are harder to attract. But you can find those capabilities and encourage. It is a very mixed set of skills we are looking for. It is like strong disciplinary skills in some areas but it is not easy to get, and that is why we have a cadetship programme (U2).

First of all, we need to know if new people embrace change and enjoy working in an environment under that changing pressure. We cannot recruit more people who have issues with change. We need people comfortable in that space. We also recruit the new type of people because we do new types of tasks. We still like people to have librarianship qualifications to show the commitment to the industry but not always (U3).

Business and management skills are very important. We have librarians who have not done project management. So, we have to train them. The reality is you work in

project teams in libraries. MBA or something else with different skill-set is useful for libraries. That gives strength to us because we are doing so many non-traditional things. MBA is very useful. It gives you management skills (U3).

We want to get people on board who have the capacity to do something new, capacity to move into other areas in the future. The sort of people that we are looking for are people who have the ability to learn, to learn new things, have strong communication skills, the ability to work in teams and collaborate, and the ability to understand their place in the library and the contribution to the university. So for example, in our new job descriptions which we have just written it caused a bit of concern for staff because it is not a list of things that they will be doing, it is a list of a general understanding of what they will be doing. For example, you are doing interlibrary loans but it is about ability to work across campus teams, the ability to communicate effectively, strong interpersonal skills etc. (U4).

We are increasingly looking for people with special skills around library applications, and we also need people who have the capacity/capability of technology other than existing skills. So, we started a graduate library officer scheme where we go out and seek recent graduates in any discipline other than librarianship to come and work for us so they bring some subject knowledge (U15).

I see it as absolutely critical. In some ways, very traditional library skills are less important than once was (U18).

These statements demonstrate the requirement of university libraries for a mix of skills because of new or non-traditional tasks performed. Traditional type of tasks are now less significant in libraries because of the impact of changing circumstances (U2-U8, U10-U18). However, recruiting some of the new skills has become a difficult task for libraries due to a lack of attraction to working in university libraries compared to the business sector (U10, U12, U16). Therefore, the libraries of a couple of informants make use of a graduate library scheme (similar to traineeships in the business sector) in which they look for graduates in disciplines other than librarianship to attract some subject knowledge to that library (U15, U16). Some other university libraries made use of non-traditional methods such as cadetships, studentships, or rover programmes to attract those skills, after which they may obtain library qualifications if they are to remain in the library profession (U2, U4, U10, U13).

4.3.11 Non-traditional work of university libraries

Other than the traditional responsibilities of university libraries, many informants enthusiastically discussed the non-traditional work they were performing that added

value to the university library business in the market-driven environment (U1, U3, U6, U9, U10, U17). These non-traditional responsibilities were seen as the growing areas of the business of university libraries. One (U10) of the informants cited publishing journals or books for the university as one of their important new responsibilities. Libraries have started working as publishers for print or electronic publications and assist universities in their scholarly or research outputs in addition to their open access campaigns (U1, U2, U3, U6, U10). A few were even in the business of curating their information databases (U8, 17). University libraries had also taken up the responsibility of managing research repositories (U1, U6, U17) and the institutions' research data. The informants think that they were best placed to do so because of their expertise in bibliographic records management (U1, U6, U10). One of the informants stated that they were working in collaboration with research services and assist in curriculum development, blended learning and running the university learning management system (U10). University libraries performing non-traditional responsibilities show that they cannot limit themselves to performing traditional tasks if they are to remain relevant and to secure a future within the university in a rapidly changing higher education environment. They need to look for new opportunities that make them perform competitively in the new marketplace (U2).

4.3.12 Change of focus

Some informants spoke of a changed management style of libraries, from a collegiate style to a more corporate style. Libraries need to be accountable and are required to maximise the value of the dollars they spend in an environment of declining public funding and return on investment is expected (U,10-U12, U14, U17). Universities are being increasingly managed as businesses in a competitive higher education market. They are competing against each other for funding and student intakes (U10, U11, U12, U17). In this changing environment, the focus of university libraries has shifted mostly from students to a faculty/school/department/ college focus (U8-U10, U16). One of the informants (U10) stated that irrespective of the significantly increased student numbers in universities, libraries were not matched by fiscal resources to support students to the extent they had been previously. Consequently, libraries were focusing on contributing to learning and research by helping in curriculum development and information literacy in collaboration with the academic staff (U10).

4.3.13 Change in the management style

Changes in government policies in relation to reducing budgets and introducing market forces, or competition, to the higher education sector are affecting all Australian universities, including their libraries (U3, U13, U15). It is an open market (U2) in which competition has become an intrinsic feature within and between higher education institutions, as well as with other information providers. Many informants (see Table 4.4) stressed the significance of business management practices to introduce ongoing value creation for the institution using ongoing planning and increased reliance on quality measures. Only one informant (U8) did not agree with the business focus in Australian university libraries – a library that had a gradual increase in funding to date, based on the Australian consumer price index (CPI). Today libraries are challenged with efficiency, hence have to measure performance (U2, U10). Therefore, all libraries were introspectively considering what they do, how they do it, and their priorities to ensure that they continue to have only the resources and services that are in demand (U6). In this new environment, administrative language too has changed. University students and staff are no longer considered scholars, but clients (U11). Two informants noted that the library was an expensive branch of a university and had to clearly demonstrate the value for money it adds to the university in relation to its overall business (U5, U10). Hence, university libraries have been challenged with efficiency, and consequently need to measure performance to demonstrate the value contributed to the overall university business (U5, U10). Accordingly, strategic planning and strategically positioning the library in the university was considered a critical factor (U1, U2, U5). One informant (U1) pointed to the annual planning process as critical in strategically positioning the library within the university in two ways: firstly to bring library staff together to discuss, workshop and plan the strategies; and secondly, to put the strategic plan in writing, aligning everyone to the strategic goals and to report a story of success. Additionally, marketing the services provided by the library to stakeholders, particularly the academic staff and the senior university management, has become essential to demonstrate the importance of the contribution the library is making towards university business, in order to secure satisfactory funding and to safeguard the library's place within the university (U2, U4, U6).

4.3.14 Workforce planning and staff development

Workforce planning for university libraries is of significance to build a workforce with the required skill base for the future in a rapidly changing higher education environment, with decreasing public funding, rapidly advancing ICT technologies, and competition for the higher education market share (U1, U12). Consequently, workforce skill-sets required by university libraries, as well as the management style, have changed. In an environment of such rapid change, librarians cannot be masters of everything as in the past but need a more diverse set of skills to effectively manage and demonstrate the significance of libraries for university performance improvement (U1, U2). Libraries need skills such as business management and marketing for libraries to position themselves in the required value creation. Libraries need information technology specialists in the library field. Libraries should recruit necessary specialists or skills in other areas which are not part of the traditional skill-sets of the library profession (U2). Under the circumstances, providing a basic knowledge in other disciplines such as business, management and ICT is significant within LIS courses. A number of informants saw the importance of intervention in the development of librarianship curricula to suit the changing needs of the profession to provide the basic knowledge and skills for career vision (U5, U6, U7, U9, U10, U15, U16, U18).

Because of the need for new skills, training of existing staff is also critical (U1, U2, U4, U10, U13-U15). Some informants who touched on their staff development activities explained their internal or external processes (see Table 4.5). Four informants stated the significance of continuous learning, or the learning organisation as a useful concept (U4, U 13, U14). Although one library did not have sufficient funding for staff development, they were running internal training programmes to fill this gap (U1). Informants mentioned other activities, e.g., sending staff to conferences (U10), learning from seeing or observing what others do (U13), encouraging staff in doing research and writing research papers (U10, U13) and influencing library schools to change their curricula to meet present-day needs (U15). A couple of informants also mentioned efforts to encourage innovation within their libraries. One suggested that strategic planning helps in innovation (U10); while another considered empowerment of people as most important for motivating staff to take responsibility

and think creatively (U13).

Table 4.5: Staff development processes of participant libraries

Staff development/Learning	Participant
Little funding, therefore, internal training	U1`
Specialist skills training	U2
We have our staff teaching and one in college advisory board input into the librarianship course here	U15
Culture of continuous learning and learning organisation	U4
Learning organisation is very useful	U13, U14
Learning organisation is a great idea but hard to implement	U8
Doing research is about learning. Encourage people to write research papers and present at conferences	U10
Creativity and innovation are driven by strategic planning	U10
Innovation through people empowerment	U13
Through learning from what others do	U13
Sending to conferences	U13

Figure 4.1 provides related statements of some interview informants, which demonstrate that the majority of views supported the idea that library courses do not provide all the knowledge/skills/capabilities that are required by university libraries at present. University libraries need a wide range of skills/knowledge/capabilities yet some think that it was unreasonable to expect library schools to provide all of it, and argue that the new LIS graduates come to university libraries knowing enough to commence their career, and the rest can be learnt on the job (U1, U5, U14, U16). One informant (U4) expressed the view that librarianship courses are changing and some employed practising librarians as teachers in those schools which helps identify the changing skills/knowledge/capabilities needed in university libraries. The need to employ more practitioners to teach in librarianship courses to adapt to changing needs was also expressed by one informant (U18). As Table 4.6 shows, just over a half of the informants thought about the need for adaptation of librarianship courses to the requirements of the time. Six touched on the issue of whether librarianship courses

need to be postgraduate (see Table 4.7). Of the six informants that raised the issue of librarianship courses, none opted for an undergraduate degree. One informant was not sure whether it should be a postgraduate course, but was of the view that having a postgraduate qualification helps to show that librarians too are an educated group of staff within the university (U4). Five of them found an advantage of LIS courses to be postgraduate, particularly for librarians in university libraries to have disciplinary knowledge for understanding the teaching and research environment, to have a rounded view of academia and to have better contacts with academic staff (U1, U3, U5, U14, U16). Disciplinary knowledge was also considered important in the new knowledge required for librarians in this changing university environment, as they are working closely with academic staff in curriculum design and information literacy.

Figure 4.1 : Knowledge and skills provided by library schools

I found that my first degree in a discipline had been very useful. That first degree helps to understand what the research/ teaching environment is, and what the challenges are to obtain a degree. To have librarianship as a secondary qualification is very useful (U1).

My preference is librarianship courses for university librarians to be a postgraduate course. I do like people to have another degree, an undergraduate qualification. I find that gives a more rounded view of academia. If you are working in a university environment that is a good thing to have. In fact, the issue for me is to get people to go back and do more study. That gives an idea about library clients' needs (U3).

I do not know whether it necessarily should be a postgraduate course. ... I always encourage people to do masters degrees. I think it is good for the university to show that, we ourselves, are well educated but by no means, is it a pre-requisite for employment (U4).

In some places, it does.... They need better contacts with the faculty and its staff. That (disciplinary knowledge) teaches them the needs of the discipline that they were responsible for (U5).

In some ways, I do think librarians benefit from having disciplinary knowledge. So, in many ways, I think, if I have to choose, I would prefer disciplinary knowledge, plus postgraduate qualification. Disciplinary knowledge is important because, at least, it gives students some understanding of the research process and writing process... One of the things that we have to be very careful of, is that when we go and talk to academics, we need to be clear that our staff knows what they are talking about. This is where disciplinary understanding is very important (U14).

I think there is an argument that could be made about the staff who possibly want to work solely or predominantly in university libraries. Probably life will be easier if they have a postgraduate qualification. ... I think the professionals with external accreditations (pharmacy, nursing, and engineering) are very comfortable about professional skills of librarians. It may perhaps be more difficult in other areas such as in humanities where some academics may be more comfortable if the librarian has a postgraduate qualification (Masters or Ph.D.). In my experience, it has never been a big issue (U16).

Table 4.6: Skills provided by library schools



<u>Librarianship courses provide right skills</u>	<u>Participant</u>
Satisfactory. Needs training at work	U1, U8, U13, U14,
Need change	U3, U5, U6, U12, U15, U16, U18
Need carrier vision change	U9, U10

Table 4.7: Librarianship courses

<u>Librarianship courses -</u> <u>Post graduate (P)</u> <u>Undergraduate (U) Neutral (N)</u>	<u>Participant</u>
P	U1
P	U3
N	U4
P	U5
P	U14
P	U16

Another way to meet the needs of workforce planning is for Australian university libraries to attract staff with new knowledge, skills and capabilities. Table 4.8 summarises this issue as a major concern, and hence the little availability of opportunities for new appointments (U1). A second connected issue was that less staff turnover was considered by four informants as an obstacle to attracting new people with new knowledge and skills to the library workforce. The inability to recruit new staff hampered the library in redeveloping the skills of the staff (U3, U4, U16, U18). In an environment where there is a lack of opportunities to recruit new staff, staff turnover was seen by some interview participants as a healthy sign, with some stating that it helps staff renewal, to get new ideas and new skills (U3). Another informant thought that lack of staff turnover was specific to Australia because of the availability of fewer opportunities due to smaller number of universities and thin population compared to the geographic size of the country, coupled with long geographic distances between them restricting changing jobs due to relocation disadvantages such as high expenses and other family related issues. The informant compared the situation in Australia with the United Kingdom (UK) to illustrate the problem of lack of opportunity. Australia is more than 15 times bigger than the UK yet Australia has only 39 universities as opposed to 139 publicly funded universities in the UK. The geographic situation, such as very long distances from a university in one state to one interstate, can make relocation more expensive and a complex issue. Therefore, staff may sometimes be reluctant to look for new opportunities in distant locations. The informant also cited that the comparatively smaller number of universities in Australia translates into much fewer opportunities resulting in less staff renewal within the Australian context.

Table 4.8: Attracting new skills to university libraries

	Getting new blood	Participant
	Major problem is budget. Need to demonstrate the value of the library	U1
	Less turnover of staff	U3, U4, U16, U18
	Difficulty in attracting required young talents	U4
	Challenge particularly in new skill areas	U6
	Absence of opportunities	U9, U10
	Internal policy/having to fill new positions from inside	U10
	University library environment is unattractive or not interesting	U12
	Require good marketing of the profession	U4
	Require good interaction with new/going to be graduates	U7
	Studentships/rovers to attract new blood not yet have the qualification	U4, U10
	Cadetships to rejuvenate workforce	U2, U13
	Graduate trainees to give them the early exposure	U15, U16

The absence of competitive employment conditions was raised by two informants (U9, U10). One informant (U12) considered the university library environment to be unattractive or uninteresting, with unattractive working conditions and comparatively low salary packages. In circumstances where the human resource management policies, bound by enterprise bargaining agreements (EBA) between the university and its employees, specify that certain vacancies need to be filled by internal candidates, recruiting people with required new knowledge and skills becomes rather difficult (U10).

As Table 4.8 shows, informants also raised ways in which university libraries may attract new talent. The methods cited below are intended to provide exposure to the library profession for either new graduates or persons nearing graduation:

- Good marketing of the profession (U4). Related to this was the view that this

requires satisfactory interaction with new or soon to be graduates. How one informant exploits this with success is by attending new graduate and student functions as well as keeping in touch with young talent using social media (U7);

- Employing undergraduate students on low paid short-term positions such as rovers for book shelving or in helping clients in information or learning commons areas (U2, U4);
- Cadetships for young graduates on fixed-term basis (U2, U13); and
- Graduate training schemes for aspiring librarians (U16).

Some informants (U1, U3, U4, U7, U8, U10-U13, U18) expressed their views or practices followed in their libraries in developing knowledge, skills and capabilities of existing staff (see Table 4.9). Annual performance reviews, finding skill gaps for better performance, followed by necessary training (internal or external) all seemed widely-accepted practices by AULs (U1, U3, U4, U7, U8, U10-U13, U18). Although all informants (U1-U18) reported having delegated the responsibility for staff development, availability of funding of human resource development for library personnel development varied considerably among the AULs surveyed in this qualitative research. Four newer universities (U3, U7, U8, U12) reported having adequate funding for staff development, as opposed to one elite (G8) university (U1) which seemed to be able to dedicate only meagre funding for this important area.

In a diverse financial environment, libraries were absorbing the cost of staff development activities within their financial means (U1-U12). One of the participant libraries sends a few of its staff members to international conferences with a dual purpose, as a staff development activity and motivationally as appreciation of the good work done (U18). Some libraries cited meetings they have in their libraries to discuss their learnings from attending conferences that are considered beneficial for all staff (U3, U12). Some informants spoke about other methods, such as providing opportunities to gain useful qualifications, including MBAs, making opportunities available to gain useful skills and expertise (U18), and leadership training (U4). One informant cited an internal training method they use – moving staff around within various branches of the library to gain skills and capabilities in those areas, as not

only an effective means of improving staff knowledge/skills/competencies and creating a learning organisation, but also most cost-effective (U1). It is notable and laudable how innovative the majority of libraries were in fostering staff development.

Table 4.9: How knowledge/skills/capabilities are developed

How knowledge/skills/competencies are developed	Participant
Annual performance review, analysing skill gaps and ongoing training	U1, U3, U4, U11, U12, U13,
Internal training	U1, U3, U7, U10, U11
Moving around staff/creating learning organisation	U1
External training	U3, U11
National conferences, local groups	U1, U3, U4, U7, U12, U18
International conferences	U18
After conference meetings to share ideas	U3, U12,
Leadership training	U4,
Opportunities to gain qualifications including MBA	U18
Opportunities to gain skills/expertise	U18,
Satisfactory staff development funding	U3, U7, U8, U12,
Very little funding for staff development	U1
Person responsible for staff development	U3, U4, U18

4.3.15 Culture of experimentation

One informant (U17) stressed the culture of experimentation they encouraged within the library rather than using frameworks/models for achieving library goals and objectives for managing change. This informant (U17) discussed the importance of a strong culture that helps in the empowerment of its staff. U17 was appreciative of experimentation for an innovative, relaxed and enjoyable atmosphere, working together respectfully and encouraging inclusiveness for adding value to the university enterprise. One informant found culture to be motivational for staff to work proactively in ensuring appropriate and adaptive library services to the emerging and ever-changing environment. Another informant (U2) touched on the innovative teams and culture they encourage (U2). Most of the other informants (U1, U4, U5, U7, U8, U10-14, U16-U18) also noted the importance of culture as part of their change management planning/strategic planning process or organisational learning process.

4.3.16 Status of the library within the university

Thoughts expressed by some informants about the place of the library within the university were mixed. U14 considered that the place their library holds within the university, in the governance of the organisation, is not as important as it was previously. The university librarians in the past were considered as important senior officers in their respective universities and libraries (U14). Another chief university librarian (U16), who reported directly to a deputy vice-chancellor, stated that the library at present was competing against other cost centres of the university that generate income. Therefore, the informant believed that the library is not considered by others as close to the core business of the university (U16). Informant U16 was of the opinion that the library in the current environment had lost its central place within the university. Nonetheless, two others (U17, U18) noted that their libraries were still holding a central place in their universities. Another informant viewed their library as a suitable connector within the university, and stated that their library has quickly adapted to the competitive market-driven higher education environment (U17). Informant U18 considered that library holds an important place as there were not many other informal learning spaces within the university. U17 also thought that library learning spaces represented an important service the university library provides, demonstrating its critical value to the university as there were no other suitable places for students to meet and collaborate as part of their learning at university.

In comparison to the place libraries hold within universities, three informants were of the view that good support to the libraries was provided by their respective universities (U3, U7, U18). One informant (U7) was in a particularly advantageous position as the university librarian reported to a deputy vice-chancellor (DVC) who was once a librarian. Therefore, the DVC was appreciative of the contribution the library is making to the university business and was very supportive. One of the informants (U18) insisted that a university library needs to adapt to the teaching, learning and research needs of the university and take up value adding non-traditional responsibilities like publishing and managing research data. Some informants stressed the need for the library to communicate or demonstrate the value they add to the university enterprise and stay relevant for its continued existence (U9, U17, U18).

Most of the informants (U1, U3-U5, U7-U9, U11, U13) mentioned that their libraries still held important places within the university, while a couple of others (U10, U14) saw a volatile future ahead of them. All informants noted the challenges ahead. All informants (U1-U18) were also of the view that the physical library is not a place university students or academics need to visit anymore for their study and research as before. This is due to the continuing advancements in digital publishing, the Internet, other ICT technologies and the information businesses that facilitate ubiquitous and convenient access to information.

4.4 Managing change in university libraries

4.4.1 Scope of the university library

The fundamental scope of the university library has changed significantly. One of the informants (U5) observed that the fundamental purpose of the library still remains to connect people with quality information to help them with their teaching, learning and research. Nevertheless, the role of the library has changed from a gatekeeper to a facilitator role, to providing access to information and helping clients to help themselves. Meanwhile, the university library probably does continue to have a gatekeeper role in providing the metadata that helps clients to discover information (U5). This changing scope and role of the academic librarian reflects the changes taking place in the university library. The next section goes into detail by citing the observations of the expert informants.

4.4.2 Significant factors in effectively managing change

One of the interview questions concerned the significant factors in successful implementation of change in university libraries. Informants' answers revealed diverse and important factors based on their experiences and the environments of their individual institutions. Some views of the informants, pertaining to managing change, are quoted below.

I think, a lot is about working very hard to understand what the change is all about, how it fits within the strategy. Sometimes you have to spend considerable time talking about change and what you are doing, so that everyone understands what you are doing. You need to explore all the issues; what it means to others. It is good to have clarity, but it is also good to have flexibility. Sometimes when you

start a project, you may need to change the project in the middle or stop. Having a clear reflection point is really important. Write clearly so that there is enough information (U1).

I like the book “Iceberg is melting”, I like the title. It is the urgency that is important. That is where we are these days (U3).

I think it is a clear strategy that tells us where we want to go, why we want to go there, and how we are going to get there (U4).

I think people are often anxious about the unknown, and being clear is incredibly important. You need to be clear when you communicate. You need to work with other people about clarity and impact on others. Rest of it is really very pragmatic. How you do it, is also important (U5).

I think of the currency of vision. At some point, you have to decide what you are really going for, and then you need to get into that. That takes a long time (U6).

I think, probably the leadership style is crucial. If I think about the changes university librarians have made within Australian academic libraries, two things are important: 1) a lot of it is forced upon them; so just enacting what their decision makers have asked them to do; 2) having an HR officer within the library. So, if you do not have HR support within the library, it is going to be even harder to do a change process. Library also has a family friendly culture. So, we very rarely refuse a flexible work offer. We have an amazing work environment. We make people's work environment happy and flexible, and the return is that happy employee gives the best to the organisation (U7).

Keep staff informed, be honest with staff about the change, and be responsive as far as possible to their concerns (U8).

I think clarity in purpose is really important (U9).

I think you have to make sure that staff understand the “why”. Why are you doing it and I think you have to really communicate well on that (U10).

One of them is we use technology (U11).

You do not need 100 per cent. Actually, I think you need 51 per cent. Not everyone is going to agree with the change. There are going to be people who will be resisting. I do think you have to have the support of the institution, and that is critical (U14).

There were four important factors – technology, culture, knowledge, and people (U17).

The informants highlighted factors such as communication, flexibility, urgency, strategy, vision, leadership style, technology, institutional support, culture, knowledge and people, which they considered significant for managing change in university libraries. In addition to an open question on factors influencing successful change

implementation, based on the availability of time with interview participants, some of them were also asked about the individual factors (see Table 4.10) that had been compiled from the review of key literature cited in Chapter Two. They all agreed with factors specified in the literature. While one informant stressed the importance of the people factor (U17), another wanted just the majority support (U14). Participants also responded to a question about any other factors they thought important. These responses are identified with an asterisk in Table 4.10 below.

Table 4.10: Significant factors in successful implementation of change as suggested by interview participants (* Significant other factors as mentioned by interview participants)

Factor	Participant
Vision	U2 , U4, U5, U6, U8, U10, U13,
Establish a sense of urgency/speed	U2, U4, U5, U8, U10, U13, U16
Recognise resistance as a natural reaction/dealing	U2, U4, U5, U8 , U10, U13,
Communication (Clarity, thoughtful, transparent, and respectful)	U1,U2, U3, U4, U5, U6, U8, U9, U10, U12, U15, U17
Honesty & responsiveness to concerns	U1, U2, U8, U9, U10, U13, U15, U17
Tight alignment of people to organisational Goals	U2, U4, U5, U8 , U10, U13
Transparency	U2, U4, U5, U8, U10 , U13
Adequate staff training/learning	U2, U4, U5 , U6 , U8, U10, U13, U17,
Strong/Effective Leadership	U2, U4, U5, U7, U8, U10,
consultation, getting them involved	U2, U4, U5, U8, U 10, U13, U15, U17,
Embed the Change in the Culture	U2, U4, U5, U7, U8 , U10 , U13, U17
Progress measurement	U2, U3 , U4, U5, U8, U10, U13
People as a resource	U2, U4, U5 , U8 , U10 , U13
Strategy	U2 , U3, U4 , U5, U6 , U8 , U10, U13, U14, U 17
Supportive workplace culture & Teamwork	U2 , U4, U5, U8 , U10, U13
Proper implementation	U2, U3, U4 , U5, U8, U10, U13
* Understanding what, why, and how of doing things	U3, U4, U9, U10, U12
* Project management approach is useful	U3, U4, U17
* Finding clients needs	U4
* Being fair	U10
* Learn from mistakes	U1, U5
* Use of technology	U11
* New needs and new stakeholders	U12
* Support of majority for the change programme	U14
* support of the institution is critical	U7, U14
* Dealing with legacy issues (e.g., unionised workforce)	U16
* Three important factors – culture, knowledge, and people	U17
* Staying relevant	U17
* Flexibility	U1, U7
* Identity	U17

Some informants considered communication as the central factor for managing change, while others considered it in combination with one or more factors (U1-U10, U12, U13, U15, U17). Informants perceived communication as the fundamental need

to explore and understand people's concerns and the impact of them in managing change and on the process of implementing change management plans (U1, U2, U8, U9, U10, U13, U15, U17). Hence, informants overwhelmingly acknowledged the significance of clarity, honesty and transparency and respect for others when communicating about strategy and processes of change management (U1-U10, U12, U13, U15, U17). One informant pointed out the importance of the concept of "managing by walking around", particularly in a multi-campus environment of many universities in Australia (U2). Additionally, is the significance of talking to people in small groups so that people are not scared to come out with ideas, and thus assisting serendipity (U2, U5, U9, U10). Communication is considered helpful in dealing with concerns of people and to convince staff of the change strategy, promoting their enthusiasm and motivation (U3, U4). One informant found difficulty in communication in some instances because of confidentiality (U13). A couple of others experienced the success in a change plan because people did not feel threatened as a result of effective communication (U15, U17). Bringing people together, such as for planning days, was considered helpful in mixing people from different areas as one group. Use of technology (video conferencing) when necessary for communicating with people from outside locations was also mentioned as a way of facilitating better communication (U2). Moreover, satisfactory communication with senior university management or decision makers was pointed out by a number of informants as critical to keep them informed of the value the library adds to the university strategy, and also to keep the library aligned with university expectations. It is important to keep the university aware of the importance of the library in the overall framework of higher education and to secure adequate funding to sustain its smooth operation in the emerging environment (U4, U6, U7, U10, U14).

Some informants thought clear strategy was of prime importance (U2-U6, U8, U10). Informant U13 was of the opinion that exploring why, what and how of managing change was the optimal driver. Most of the informants accepted the importance of having annual plans to achieve change as well as review, measurement and flexibility to continually improve change management.

Based on the experience of one informant (U6), currency of vision for the direction of the organisation was considered a very important factor. U6 stated that the strategic

plan articulated the vision, then core strategies, followed by everyone's personal plans closely connected to the vision of the library. Hence, a wide acceptance of the usefulness of vision as a significant factor was apparent from the views of many informants (U2, U4, U5, U6, U8, U10, U13, U17). One of the informants emphasised the role of leadership style as the primary factor (U7). Others simply acknowledged leadership as a critical factor for managing change (U2, U4, U5, U7, U8, U10, U13, U15-U18). Proper implementation of managing change was also considered important, in addition to planning change (U2-U5, U8, U10, U13).

Table 4.10 shows that the informants acknowledged the importance of many other factors in the process of organisational adaptation. Establishing a sense of urgency, dealing with organisational resistance to change, people as a resource, and therefore, tight alignment of people to organisational goals, staff development or organisational learning, and people owning the change process or embedding it in the organisational culture, were all noted by many as significant factors.

This diversity of emphasis on how to achieve effective change management exemplifies the diverse institutional situations, demonstrating that there is no strict hierarchy of importance of these factors. They can vary based on the institutional situation or experience. For example, one informant mentioned that dealing with legacy issues was an important factor for successful change management (U16). The informant appeared to have highlighted this as an important factor as a unionised workforce was a legacy problem for that library.

A question was also asked about any other factors considered important for successfully managing change in university libraries. According to U2, library staff need new skills such as ICT and marketing, therefore, there is a need to train or recruit people to fill those skill gaps. Another stated that the existence of a clear change management process for the whole university was an advantage as they had the process already determined and the library only had to follow that model (U4).

The university library, considered as Australia's most efficient, according to the informant (U7), gave two reasons for its successful style of managing change. Firstly, the embedded culture of continuous questioning enables the management to review and remodel staffing positions. Therefore, the informant claimed that the change

management was something gradual and continuous rather than sudden. This gradual and continuous process is stated to have secured staff support for managing changes in U7's library. Secondly, supportive senior university management was another important factor that helped its success (U7).

Among other factors that have assisted in effectively managing change are, paying attention to people's concerns and consulting them as much as possible, and making an enjoyable and engaging work experience to secure staff support for an institution's change efforts (U4, U9, U17, U18). Respect for staff and making them active players in change management were considered a way to proactively motivate staff to willingly cooperate with the change process (U4, U9, U17, U18). Some cited the importance of a project management approach in managing change (U3, U4, U17). A couple of informants noted the importance of meeting client and stakeholder needs (U4, U12). Other responses to the question related to successfully managing change in university libraries included fairness, learning from mistakes, use of technology, staying relevant and flexibility of the change process (U1, U5, U7, U10, U11, U17). Another participant library stated that they had included four factors (i.e. connecting people, knowledge, technology, and culture) into their vision statement to effectively meeting the needs of clients and other stakeholders (U17). These responses provide further explanations of the factors discussed before.

4.4.3 Change management processes of Australian university libraries

Change management in AULs appears to have a symmetry but in reality, it has not been the same, or may not have taken place at the same time, because every library is different in character and structure (U4, U8, U12, U13, U15). Some informants believed that university libraries are not necessarily skilled at managing change but they have improved over the years because of the experience gathered from implementing change processes for several years, compelled by necessity (U3, U4, U13, U18).

One of the common change processes, which was more difficult for some university libraries than others and created much stress for staff, was staff retrenchment (U1), although for one informant (U7), the process was not as painful as they apprehended.

The involvement of the union and their support in the whole process of change management made the transition bearable (U1). For another, who was new to the Australian working environment, the experience was quite different. It was 'a very painful and time-consuming process for one informant because of the heavily unionised workforce'. According to another informant, depending on the amount of stress staff had to experience, some change processes were more humane than others (U13).

One informant was of the view that the change process was not as difficult for young university libraries as for more established ones with a long history (U3). Informant U3 attributed that to their 'young mindset and having no legacies', such as long runs of print collections or historic buildings. The basis of this argument was that young AULs had a clear bias to e-resources from very early days in their establishment. This provided the instant advantage of getting access to many journals with complete or long runs through subscriptions to databases for aggregated journal collections (U3). In comparison, it seemed to have taken rather a longer time for established university libraries to realise the advantages of subscribing to electronic databases of journal collections (U3). Another informant (U10) revealed that electronic journals were considered the answer to quickly build the journal collection as well as to address their space problem. Therefore, they converted their existing print subscriptions to electronic and discarded existing duplicate print holdings soon after subscriptions commenced (U10). In comparison, an established university continued to consider print as their primary format, and therefore, retained the print for a longer time and subscribed to electronic versions at an additional cost (U6). A couple of informants also thought that library staff were comparatively traditional in more established university libraries, and resisted change resulting in slow adaptation to change (U3, U18). Some held the view that introducing change was comparatively easier when it is incremental (U7, U18). For example, some institutions reduced staff incrementally by not filling positions when they became vacant (U4, U7, U17). Another informant with experience in the United Kingdom also pointed out that the change process is easier for young institutions as it was less formal, less confrontational, and less bureaucratic (U18).

Different power bases initiate changes in university libraries (U13). One informant

mentioned two power bases: the senior university management, and the university library leadership (U15). For example, university decision-makers would require the library to “jettison” a certain number of staff prior to a certain date (U13), but the manner it was implemented within the library would be decided by the library leadership, most importantly, the chief university librarian and the senior leadership team (U13).

Some informants (U3, U5, U7, U10, U15, U17) from young universities demonstrated innovative and non-traditional change programmes that were implemented. These more recent AULs have modern buildings with diverse study spaces with natural lighting, non-traditional seating including sleep pods, attractive new technologies (e.g. interactive screens, game labs and makerspaces) facilitating collaborative study, innovation and creativity. They also have 24/7 open areas and canteen facilities (U3, U5, U7, U10, U15). Some of these facilities cannot be conveniently provided by more established universities to the same level of client satisfaction because of historic buildings (U11, U13, U16, U18), or a reluctance to provide such facilities considered as non-traditional, including some of the recent technologies. One informant stated that some of those new technologies were not particularly suitable for a research-oriented university library (U6) and even the 24/7 collaborative study facilities were planned by another branch of the university rather than the library, stating that it was more expensive for the library to manage such spaces because of higher staff costs (U6). Providing collaborative study spaces outside the library has been becoming increasingly popular in other universities as well (U6, U8). Having such spaces outside the library seems to have a positive effect on student learning spaces within the university and is more cost effective from a staffing perspective.

4.4.4 Steps in successfully managing change

Some informants (U1, U3, U5, U7, U12, U14) touched on the issue of steps to follow for successfully managing change. Their responses are summarised in Table 4.11. Although the responses did not provide a complete set of steps or new insights into managing change, all responses reiterated a few significant issues to take into consideration in managing change.

Table 4.11: Steps in successfully managing change

	<u>Steps for effective implementation of change</u>
<u>Participant</u>	<u>Steps</u>
U1	Good communication with all stakeholders
	Change management as a holistic process
	Treating client with respect
U3	Ideas to come from staff so they are committed to the change process
	If university directed decision (top down), have conversation with staff to convince them
	Communicate change - why you do it, how you do it, timelines, get good ideas from staff, empower staff
U5	Tell staff the positives of change and make them understand
	Understand staff concerns and reactions
	Think aloud
	Help clients achieve their goals.
U7	Get your own model right in the first place, not another's model.
U12	Balance the needs of people with the need for change so the leader need not be there all the time.
	You cannot ask people to change their values, you can ask them to change their behaviour.
U14	Read the environment. be very clear what is happening in the information and university environment, what is happening in research, what is happening in teaching and learning, what is happening in universities, what is happening in scholarly communication, keep on top of that.
	Test the above against what are you doing, how your structured services, where your staff are, what they are doing, meeting the needs of client and adjust to those needs.
	If something needs to change formulate the change, what is that need to be changed, how would you do it, provide evidence that changed, applicate the change, build support for it, and then when you got that right then go ahead with the process, do all that work upfront, do it constantly

The main suggestions of the participants suggested for successfully managing change are summarised below.

- Be conscious of the environment. For example, managing change should be based on the needs of clients and other stakeholders, advancements and future possibilities of higher education and the information business, and advances in technology.
- Effective communication with all stakeholders about what, why and how of change, and to win their support. This process encompasses listening to staff,

respecting their concerns, leading to generating ideas from staff themselves. Idea generation from staff gives ownership of the processes of managing change to staff and the ability to motivate and get their support for its effective implementation. Effective communication is also important to comprehend what a university expects from the library and to deliver the expected values.

- Get the change model/plan right for you; not a plan right for someone else.
- Client focus is critical for AULs within the market-driven higher education environment in Australia, to stay relevant as a value adding constituent of the university.
- Adjust change plan as necessary at the implementation stage and improve the change plan continually. Such flexibility allows addressing the new challenges that may arise.

4.4.5 Problems of managing change and lessons learnt

One of the interview questions was about the problems and lessons learnt from experiences of the interview informants. Below is a summary prepared from the responses of interview participants.

Some informants acknowledged change as a difficult time for people. Therefore, satisfactory communication and flexibility in managing change to ensure two-way communication with clients/stakeholders to meet their expectations, are considered critical (U1, U5, U8, U15, U17). Effective staff consultation and socialising among staff enables refining ideas and getting the message across conveniently (U4). Good relationships and effective communication with academic staff and the senior university management are also critical in finding opportunities and direction for the library (U2, U6).

Having business skills and management knowledge were cited as important for university librarians as they are expected to add value to the university enterprise and operate in a competitive higher education environment in which market forces are active (U2). Knowledge and skills in communication, marketing, teamwork and leadership were cited as critical (U2-U13, U14, U16-U18) as in Table 4.4.

Attending to change processes should happen reasonably quickly. When the implementation of change takes a long time, people lose momentum and the energy (U4) but the speed at which the university wants the library to undertake change may cause staff stress. Therefore, effective communication (U1, U5, U8, U15, U17) and finding the right balance are important qualities of leadership for change management (U12).

Informant U7 mentioned that it is the chief university librarian's responsibility to work proactively towards achieving university goals and objectives. The change process is not about making everyone happy, but doing everything possible for people as an employer (U7).

Library customer service is a face-to-face interactive phenomenon. However, face-to-face customer service is becoming more difficult as libraries are working mainly and increasingly in an online environment, an issue library staff do not realize. Library staff are not shifting towards the online environment as fast as they should (U9). This is a problem that AUL leaders need to address with due urgency. Any delay may see the library become an irrelevant constituent of the university.

One informant (U13) stated that university libraries are getting better at managing change as there were many change actions they have already taken. However, they cannot be too confident as changes are happening more often and there is a different kind of change each time (U13). Therefore, the library needs to explore and innovate opportunities within a new environment.

Informant U16 cited legacy issues as a major problem for a long-established university however staff are being pushed for creativity rather than continue engaging in the same old practices. According to informant U16 an absence of healthy staff turnover impedes staff renewal. In Australia, in comparison to other countries in the West, geographic factors (i.e. population and distance) also have a negative impact on staff renewal. Therefore, the learning organisation concept is very relevant for AULs for a continued and effective renewal of their knowledge base (U4, U8, U13, U14).

A good relationship with human resource management areas of the university is critical during rapidly changing times to effectively manage staff issues. It is also

important to give time for people to think and come to terms with change issues as rapidly changing times are difficult times for people (U18).

4.5 Leadership and change management

4.5.1 Leadership styles

When using the Google search engine to search for the term “leadership styles” the response on 6 June 2017 was ‘About 20,400,000 results (0.51 seconds)’.

Effective leadership was widely accepted by the informants as an essential element of change management (see Table 4.10), but, as expected, their responses were not homogenous. The answers to a question about their leadership styles demonstrated diverse styles among the informants as is apparent in 4.12 below. This table lists concepts and issues such as: visionary, collegiate, humanist and team oriented, motivational, family-oriented, inclusive, agile, strategic, management by walking around, adaptive, people oriented, delegator, cautious, situational or mixed. While informant U6 suggested a motivational leadership style, informants U3, U16, U18 were directive at times, as needed, but worked more on the cooperation model rather than being generally dominant. The informant U3 has a mixed style of leadership, employing the most appropriate style for the time and claimed to communicate effectively. U3’s strategy was proactive interaction through meetings and face-to-face discussions and they upheld the importance of garnering support from colleagues by walking around and having discussions to implement change. Informant U18 considered the practice of a “situational” style of leadership to work well. This leadership style was underpinned by collaboration, engagement, and communicating clearly with staff, and encouraging and fostering their learning. U18 also stated that being directive was at times necessary. The informant also advocated the use of different leadership styles for different people as appropriate (U18).

Leadership characteristics such as communication, gaining staff support, and strategy were mentioned as being important by almost all the informants. Table 4.12 also illustrates some of their leadership styles as described by the informants. One informant stated the need for engaging with the staff across the whole university was

important to align with the university environment and the necessity to meet stakeholder needs (U1), since the library is a branch of the university. It should be noted that the same characteristic was mentioned by others in different ways, such as being part of the big picture or strategy (U2, U4, U9, U10, U14, U15, U18). In general, these can be interpreted within the broad meaning of communication.

What has become obvious from the informants' responses to this question was that the leadership styles of AULs were a mixture that were situational and would alter depending on the circumstances, such as a mandatory imprimatur from above or being in control of needed change, but open to negotiation, consultation or discussion. Each style depends on one's perception and ways of handling and solving problems. However, all the leadership approaches have some common characteristics. Some participants identified their styles with unconventional terminology such as agile (U9), or cautious (U15) depending on the emphasis or the interest of different participants. The leadership style of one informant (U18) was finding mutual interest; a leadership style that attempts to use the most suitable style based on the characteristics of everyone. These characteristics of leadership demonstrate its complexity and the difficulty in exactly identifying them under specified categories.

Table 4.12: Leadership styles of participants (informants)

Leadership style	Description	Participant
Enthusiastic	Good communication, keen, engage with staff across the library and the university, align with what is happening in the university environment, be visible, communicate and listen and be clear about where library is heading.	U1
Visionary	Set direction and vision, consultative, want people with different talent on senior leadership team, astute to how organisation work, looks at the big picture, trustworthy, transparent, respectful, ethical, brave, continue learning, keep an open mind, bring in as many different bodies of knowledge, good communication, knowledge in finance and HRD, looking for best practice, strategic thinking, negotiation skills critical, alignment of people to organisational goals, suitable culture.	U2
Transformational style	Using the most appropriate style at a given time but mostly transformational, good inter-personal skills, good communication, vision, goals and objectives well, manage by walking around, occasionally become directional when necessary, and thinks important to get the support of rest of the staff.	U3
Collegiate	Rely on staff support, set the direction with the help of the leadership group, makes hard decisions, do not dictate what should happen, build trust, transparent, consult and collaborate, two-way communication important, need to be able to make decisions and to take risks or not, everybody work together to deliver what is needed, vision, alignment of people to organisational goals, suitable culture.	U4
Humanist, and team oriented	Team oriented, respectful of people, transparent process, use a mix of styles, good communication, empowerment of staff, good culture, vision, and alignment of people to organisational goals.	U5
Motivational style	Change leader and a motivator, committed to metrics management, good communication, decisive and impatient when it takes longer time than anticipated, vision.	U6
Family comes first culture	Supporting people in flexible work arrangements and wellness culture, optimistic and happy, communicates well, recognises that staff has another life – family, decision making by consensus as well as by the leader when necessary.	U7
Inclusive	Openness and listening, respectful and cordial, two-way communication, alignment of people to organisational goals, transparent, suitable culture.	U8
Agile & strategic	Making connections with our strategic direction, connections with people and demonstrate the strategy to the organisation, good communication.	U9
Inclusive and strategic	Strategic planning and implementation of it through projects, openness, communication in all directions, vision, alignment of people to organisational goals, transparent, suitable culture.	U10
Management by walking around	Uses various communication channels, use of bibliometric for information.	U11

Leadership style	Description	Participant
Adapt	Consultative, build relationships, collects information and act systematically, open to learning, manage capacity of people, responds to what organisation wants, like everyone in the organisation to succeed, empower people, good communication, and sometimes uses other leadership styles as necessary.	U12
People oriented	Giving recognition and appreciation when something is done, consider willingness of people to follow you as important for achieving goals and objectives, compassionate, respectful and timely, three-way communication, vision, alignment of people to organisational goals, transparent, suitable culture.	U13
Delegator	Leadership as setting direction and clear goals, no micromanaging or control, set standards, leading by example, fair, good communication with staff, moving around to be seen by staff, remembering names of all staff as important, make people understand the responsibility of leadership – looking after the interest of the library as of primary importance, likes hierarchical organisation with clear understanding of responsibilities and accountabilities.	U14
Cautious	Strong views, listen to people, compliment people when good work is done, cautious because of continuous change in every level – university level as well, good communication, alignment of people.	U15
Motivational	Encourage staff to be creative and experiment, uses directive style when necessary, communicates well.	U16
Situational	Collaborates, engages and communicates, encourage people to learn, directive when necessary, different people need different leadership styles,	U18

4.5.2 Leadership training for staff

When asked about how leadership is promoted within their institutions, respondents cited the most important methods they were implementing (see Table 4.13).

University and the library's own training programmes (U1, U4, U6, U8, U10, U11, U13, U14), external training (U6, U7, U11, U8, U10, U13, U14), and mentoring/coaching programmes (U1, U7, U8, U10, U13) were shown to be the most widely used methods for leadership training. As the participants may not have mentioned all the methods implemented in their libraries, it is likely that other methods such as annual performance management, short-term acting leadership positions, project leadership positions, celebrating achievements and recruitment are also methods implemented for training and improving the leadership skills of library staff. Slow staff turnover was indicated as a problem (U11, U18) in recruiting new staff with leadership skills. It is possible to argue that in an environment of declining public funding and shrinking staff numbers, university libraries are not able to create new positions. Therefore, turnover of staff can be an option for new openings as the turnover of staff can help to provide an opportunity to others to act in positions of leadership as well as to recruit new staff with required knowledge and skills (U11).

Table 4.13: Leadership training methods employed by university libraries

<u>Leadership training for staff</u>	<u>Participant</u>
Participate in university training	U1, U11, U8, U13, U14
Send for external training	U6, U7, U11, U8, U13, U14
Encourage networking of staff with leadership potentials	U7, U8
Mentoring/coaching programmes	U1, U7, U8, U10, U13
Communication as a core value	U1,
Listening as a core value	U1,
Annual performance management	U1, U7,
Library workshops/seminars	U4, U6, U10
Opportunity to bring new ideas	U4,
Contribute, lead and collaborate	U6
Acting position opportunities	U4, U8
Appointments as project leaders	U16
Support/encourage staff to do studies	U10
Having range of leadership styles	U5
Celebrating achievements	U6, U13
Recruitment process	U6, U8
Encourage networking of staff with leadership potentials	U8,
Rewarding good leaders	U13
Less staff turnover is a problem	U11

4.6 University library future:

The informants' responses to a question on the future of the university library are summarised in Table 4.14.

Table 4.14: Informant thoughts on university library future

University library of the future	Participant
Knowledge hub will replace the library. The hub will consists of more study spaces, multimedia spaces, rare book collections, academic support areas, childcare spaces, cafes, art galleries...	U1, U3
Major business is providing information resources. In an online teaching/learning environment information will be provided online. Then what is the need for a library? May be study spaces.	U10
Library as a brand may not exist. It will be part of the hub	U1
Library as a brand will continue	U7
Place of the library and its future is relatively safe but will need to push them constantly	U3
Automated storage of books	U1
Will have less physical material on shelves	U3
Library do not have the drawing power of academics	U1
More interesting/dynamic study spaces	U3
Physical library focus is more on space	U7, U11
Library jobs will change radically	U3
Libraries will have less staff	U3
Library need to reinvent itself, staff roles will change	U3, U11
Libraries will manage publishing and research services	U3
Librarian position will not be downgraded further	U3
Library collection budget will not be cut but the operation budget will be	U3
Marketing library will be very important (Value to the university)	U3
Restructuring the library to align to the needs of the university	U4
Library has to add value to the university	U4
Optimistic about the future	U5, U17
Internet is fantastic for libraries. It is information	U5
What is important for libraries has shifted from managing scarcity to managing abundance	U8
What is important for the future is getting staff to attend to the level and phase of change	U8
Need to be prepared to adapt quickly	U9
Library is not the only industry dealing with information	U9
Legacy work during transition	U9
May be low cost open access model from commercial publishers	U10
More e-books	U11
Library cannot hold on to things because that was the way library worked traditionally	U13
Depends on the advances in technology and their capabilities, e.g. google glasses, watch. Sky is the limit	U11, U13, U16
If library can help university achieve its goals, then library will have a future	U13
Depends on govt. policy/funding/deregulation	U14
Different for different university libraries	U14
Universities are changing but libraries are not agile enough	U14

The main concern of the informants about university libraries seems to be the uncertainty or unpredictability of the future. Table 4.14 illustrates wide-ranging possibilities. However, informants' responses show that the future university library may be different from today with so many possibilities. They may be part of another body, such as a hub or any other arrangement different from the current ones. As Australian universities will be increasingly managed within a tight or declining budget, libraries will be managed as less costly institutions (U10). The future shape or form of the library, based on the two critical factors - developments in technology and changes in government policy - according to the informants are listed below.

- 1) Advances in ICT (U11, U13, U16) will critically influence the LIS industry. For example, Google glasses, Google watch, and other voice recognition and smart devices can make easier navigation of the Internet possible, providing and accessing information, even a satisfactory information service without the need of a librarian. According to U10, some services will be replaced by robots. Regarding the possible future technological advances, informant U13 asserted that "sky is the limit". This sums up the endless possibilities of the use of technology in shaping the entire face and nature of future university libraries. Many of the informants (i.e. U1, U3, U4, U9 - U11, U13, U14, U16) were of the unanimous view that the extensive application of ICT in teaching, learning and research also brings uncertainty to the future of university libraries.
- 2) Changing government policy, including public funding, and the introduction of market forces to higher education (U14) are important factors that will significantly influence the future of university libraries. Universities need to adhere to the federal government requirement for securing best possible public funding to deliver and support a timely teaching, learning and research environment. Consequently, the university library is expected to perform its responsibilities in line with university strategy, adding value to higher education enterprise.

Informant U16 stated that prior to advancements in digital and Internet technologies, all students, academics, and staff had to visit the library for information resources in hardcopy formats. Libraries acquired and managed such resources that were deemed necessary for teaching, learning and research. However, since the advancement in digital and Internet technologies, information is primarily accessed through the Internet from anywhere anytime, replacing the known outlook for the academic library with uncertainty (U16). The informants who were optimistic about the future of university libraries thought that leaders who work smart would be creating the future of libraries (U3, U8, U11). Informants U5, U17 were also optimistic about the future of university libraries. One informant (U5) assumed that clarity in the library profession no longer exists and informant U16 believes that if the libraries are unable to rebrand and reposition themselves in this new environment their future will be uncertain and diverse. Informant U14 suggested that one might find change to be different for different university libraries. For example, informant U6 stated that they do not plan to have high technology screens but arranged suitable spaces for undergraduates for individual and collaborative studies; similar arrangements for researchers were also made. Nevertheless, two informants (U7, U17) from relatively newly established universities spoke very highly about their highly technological facilities, such as interactive screens, game labs and maker-spaces (collaborative spaces for people to get creative, invent and share new ideas), as being popular among their library clients.

Some informants discussed individual characteristics of future university libraries. They mentioned automated print book storage facilities (U5), having less print materials on shelves (U3), more interesting study spaces (U3, U7, U11) and radically changed library jobs and roles (U3). Libraries will also have less staff due to declining public funding (U3) but one informant was also of the view that the status of the librarian's position will not be further downgraded (U3). The future-ready university library will be the one that adapts quickly (U8, U14), taking up non-traditional responsibilities such as publishing and research services (U3), and reinventing itself (U3, U11). While marketing of the library within the university is important to demonstrate its importance and worth, the library adds to the university business and this needs to be integrated into the public relations message (U3). The

need to restructure libraries to satisfy emerging needs was also cited as important (U4). A couple of participants who made comments about library resources commented on the availability of more e-books in their libraries (U10, U11), and the possibility of different open access models from commercial publishers on a low-cost basis for individual publications (U10).

Although a few informants were optimistic about the library's future (U5, U17), they stated that it is not possible for them to just wait for the future to happen. They must constantly push forward to adapt to the needs of the time (U3). Libraries cannot hold on to traditional practices that are considered obsolete because the university library environment and information business are changing rapidly (U13). The Internet is a boon for libraries as it facilitates access to large amounts of information (U5), therefore, the purpose of the library has shifted from managing scarcity to managing abundance (U8). Additionally, libraries are operating in a competitive environment as there are other commercial ventures in the information industry who are attempting to improve or maximise their share of the business in the marketplace. They are not afraid to use advancing, user-friendly, and disruptive technologies (U9). Libraries have already lost the drawing power for academics, and some consider the knowledge hub concept as an answer to win them back (U1). Two informants (U5 U17) suggested that the university library knowledge hub may include diverse learning help services such as an information technology help desk, student services help, and art gallery.

To conclude this section, it is evident from the thoughts and ideas promoted by informants that academic libraries need to think creatively about how they can add value to the business of the university so that all stakeholders can identify the worth libraries contribute towards higher education. There is a clear need to reaffirm and cement the library's ongoing place within the university; at the same time, libraries need to be mindful of other competitors in the information businesses. New technology-driven information enterprises might emerge to cater for the needs of students, researchers and academics in universities. These enterprises might be able to provide superior services at lesser cost. Therefore, to stay in the competition, as well as to maintain value as an integral component of university teaching, learning and research, university libraries need to be introspective and ready to incorporate

technology and re-orient overall service delivery strategy in tune with the emerging needs and priorities of students, academics and researchers.

4.7 Conclusion

This chapter analysed the collected data from semi-structured interviews. Analysis of the research found that existing buildings of historical value in some of the established universities were mentioned by some informants in relation to the difficulties and higher costs for renovating to accommodate present-day needs (U11, U16, U18). On the contrary, newer universities have designed more appropriate infrastructures to cater to the needs of 'new students'. These buildings are considered library buildings of the future by some informants (i.e. U3, U5, U7, U15). A similar difference can be seen in the collections, with more established universities found to be slow in discarding their long runs of duplicate print periodical collections and newer university libraries embracing e-collections. Students seldom use the spaces with shelves of long runs of printed material (U6, U11, U16, U18).

Some university libraries follow an unconventional approach to recruiting new staff, rather than filling vacancies through the conventional methods of advertisement and interviews. University libraries are now employing university students on casual or contract basis for low paid jobs (U4, U10). Some university libraries are also taking a selected number of new graduates on cadetships or graduate traineeships with the idea of exposing them to the library profession (U2, U13). Some of these students were found to have developed an interest in the library profession, and have become valuable staff members with new knowledge and skills libraries need at present. This approach is a new method used by a few libraries to attract and recruit new graduates to the library profession at a time when it is difficult to do through traditional recruitment channels as prospective employees are attracted to better-paid jobs elsewhere. Therefore, changes to the university library recruitment policy may be required not only for future survival but also to successfully adapt to emerging challenges. It may be useful to explore effective ways for libraries to attract people with required knowledge and skills, including disciplinary knowledge.

Data from informants revealed a complexity in the understanding of how to attract people with new knowledge to university libraries. Some informants of this research were of the view that some turn-over of staff was healthy for attracting staff with required new knowledge (U3, U6, U9-U11). For U16, Australia is a country with fewer opportunities because of rather a small number of universities compared to its geographic size; therefore, the turnover of staff is rather minimal due to high relocation costs if they are to change states. However, two other informants (U4, U7) thought that attracting staff with new knowledge for their libraries was possible with marketing of the library profession and good social interactions.

Australian university libraries are fast moving towards adaptation of new technologies for efficient delivery of services; the most prominent being the use of online/electronic resources (U1-U18). They are also making use of ICT devices such as various mobile devices (e.g. cell phones and iPads) and social media (e.g. Facebook, Twitter, Chat, Skype) in varying degrees. However, there appears to be a delay or reluctance in some of the university libraries in the use of new technologies (e.g. apps for mobile devices and social software such as Skype) popular with students which may help in better delivery of library resources and services. Reasons for this resistance are obscure and at odds with the advancing technologies at a time when a third industrial revolution is taking place. These new technologies are disrupting traditional library services, and any delay or failure to embed these into the libraries' operational and service delivery strategies will push them into insignificance and render their services ineffective.

During this time of globalisation of higher education, students of a university may be increasingly spread around the world due to the extensive use of ICT and the competition caused by the market forces. Therefore, the global outreach of a university can be seen in its teaching, learning, research, and staffing resulting in the demand for superior client services from their libraries, accessible from anywhere anytime.

The requirement of formal library qualification has been challenged by the appointment of some chief university librarians without library qualifications (U9, U17). Some participants were also of the view that the importance of the traditional

librarianship qualifications is on the decline. For example, knowledge within other disciplinary areas such as business, management and information technology is considered critical by many informants for efficiently delivering library services in the current competitive environment.

Due to the changing university library environment, libraries are moving away from a transaction-based model of management to an engagement-based model. Under the new paradigm, libraries are abandoning the collection building and circulation centred library model. Libraries are now providing access to information and engaging with students, academic staff, and senior university management in the pursuit of adding value to higher education business.

The conceptual framework developed for this research shows the three most important issues of this research – change, leadership and technology – to be critical in effectively managing change or improving performance. The factors that are considered significant are the required resources, sustaining relevance, stakeholder satisfaction, right change strategy, university policy decisions, and meeting the needs of university teaching, learning and research. While the above-mentioned factors are critical, the recognition of the influence and extensive use of ICT in service delivery and the market forces impacting the nature and positioning of university libraries are the determinants of their survival in the emerging realities.

The next chapter discusses the findings from data analysis along with themes and concepts in published literature. A major focus of the coming chapter compares and contrasts information gleaned from informants with information published in the key literature pertinent to the field of inquiry as cited in Chapter Two and in reports of AULs.

CHAPTER 5. DISCUSSION

5.1 Introduction

This research investigates the key factors contributing to effective change management in Australian university libraries from the perspective of chief university librarians. Therefore, this chapter discusses the findings from data analysis along with the themes and concepts derived from reports of Australian university libraries (see Appendix 5 for the abbreviations used for AULs). A major aspect of this chapter highlights where the comments of the informants compare and contrast with the key literature cited in Chapter Two.

This chapter then also discusses the complex challenges of change involving library resources as well as services in AULs. This objective is met by examining change management practices, the application of new technologies, the significance of leadership and the future direction of AULs. The following discussion consists of several sections. The first section provides a general understanding of the changing AUL environment – its complexities and ramifications of the changing environment. The second section explores change management practices relating to library resources such as the library building, ICT, human resources, the knowledge, skills and capability needs of the AULs in the present challenging environment, including its educational and training requirements. The third section discusses the changing focus of AULs, as a paradigm shift in the evolving challenges the libraries are confronting. The fourth section is devoted to a theoretical discussion referring to the conceptual framework and the underpinning theories of this research, providing suggestions for improvement in managing change in university libraries. The last section is a discussion of the future direction of university libraries, concluding with a stakeholder focused framework for effectively and continuously meeting the challenge of change in university libraries.

5.2 Challenges of the changing Australian university library environment

Swift and complex changes have occurred in the Australian higher education environment since the end of the 1980s (see Section 1.2) with perceptible impacts on

AULs (ALIA, 2013, 2014; CAUL, 2014b; Davis, 2013; Wainwright, 2005), particularly in four themes discussed in sections 5.2 to 5.5.

5.2.1 Impact of government policy/funding/deregulation

Decreasing public funding for Australian universities is well documented in the literature (ABS, 2004; Commonwealth of Australia, 2017; Conifer, 2016; Oakley & Vaughan, 2007). Nine informants (i.e. U2-U5, U10, U11, U14, U16, U18) identified declining funding to be a significant problem. The informant U18 stated that the library funding in 2014 (i.e. during the interview for primary data collection) remained unchanged from 2008 level in dollar terms. This resulted in a large deficit of the funds needed to smoothly run their library operations. Informant U10 was concerned about the library's future due to a continuous funding decline. However, the repercussions of declining public funding in university libraries were not uniform. For example, U8 was not affected by declining funding because of the investment strategies of the university. For U15, having satisfactory support from the senior university management was a deciding factor in remaining unaffected by the declining public funding. All informants agreed that good relationships with the senior university management (which includes finance officers and the heads of the academic community) were important to obtain the necessary funding to function appropriately, and the way to achieve this was to keep them informed of the library's value to the university's strategic goals of learning, teaching and research. Two informants (U10, U13) expressed the view that the senior university management saw the library as the easiest area target as public funding was declining, particularly by enacting staff redundancies from the non-academic areas of the university, including the library. The informants U7, U17 claimed that their libraries were the centres of education in their universities. Two reasons might be attributed to this situation:

- 1) Financially rich universities can afford to operate well within an environment of declining public funding because of their established and multiple income sources, and
- 2) Support of senior management in some universities who believe the library to be an essential part of delivering education at the tertiary level.

Therefore, this research finds two basic requisites for receiving adequate funding for the library:

- 1) Having individuals in senior university management who understand and appreciate the value of library for the university, or to educating them by way of effective communication strategies, and
- 2) Ability of library leadership to maximise the return on investment. Libraries need to reinvent themselves in providing competitive value adding services in an environment where market forces determine the need for a product or service.

Extant literature fails to highlight the significance of these essentials in managing AULs.

The academic commentary does suggest that the nature and mode of delivery for higher education is undergoing transformative changes (Deem, 2010; Goedegebuure & Schoen, 2014; Murdoch & Hearne, 2014; Sandhu, 2015). Higher education is becoming more threatened, turbulent, competitive (Rich, 2006), and demand-driven (Gannaway, Hinton, Berry, & Moore, 2013) due to the factors affecting the higher education environment. All the informants elaborated on changes due to declining public funding, introduction of market forces and advancements in technologies. They (U1-U18) also touched on the large increases in their student population (including international students) since the changes to public funding policies and the introduction of market forces to higher education. The higher education student population doubled in Australia during the past couple of decades within an environment of increased global competition (Goedegebuure & Schoen, 2014).

5.2.2 Impacts of technologies

All 18 informants (U1-U18) and the extant literature agreed that technology is the most critical agent influencing dramatic changes in university libraries (Denison, 2007; Gibbons, 2007; Lafferty & Edwards, 2004; Sandhu, 2015). Technology connects people, resources and data in a way that facilitates creativity, continuity and effective change adaptation. Prompt adoption of new technologies is critical in a rapidly advancing ICT environment. Non-adoption of technologies, which are mostly

disruptive in nature, hampers efficiency in library management and might obstruct value addition essential to survive in a competitive marketplace. Section 2.4 of this thesis reviewed the related literature on the subject, while the Section 4.3.9 analysed primary data collected from interviewing chief university librarians in Australia. The importance of the application of technologies for libraries is, of course, widely recognised in the literature (Childs et al., 2013b; Darnton, 2008; Glogoff, 2001; Johnson et al., 2015; Kaufman, 2007; Lynch et al., 2007; Pors, 2003; Wilson, 2015). The primary barriers in the use of technology are psychological, political and cultural (Culen & Gasparini, 2013; MGI, 2013; Oblinger, 2013).

Numerous informants seemed to view advancing technologies as either a threat or a challenge to the existence of university libraries. Ever advancing digitised information sources, the Internet and the search engines (i.e. Google) are enabling convenient access to information from anywhere in the world (Baker, 2014a; Kaufman, 2007; O'Connor, 2007). All informants affirmed that the Internet has a substantial impact on libraries – which was not surprising. Two of the informants (U4, U10) believed that the need for the library is largely diminished in importance due to the Internet. Two other informants (U3, U6) stated that the Internet increases the value of the library as its clients can access library resources from wherever they are at any time. The informants also recognised the importance of the physical library for collaborative learning, with access to the Internet as well as library resources within the library space. All informants (U1-U18) believed that the importance of the physical library has shifted to collaborative learning spaces because of the advancements in ICT. Another challenge that some new technologies will continue to bring in the future is the recording and storage of a vast array of information. The advancement in technologies will facilitate such creation and storage of information (e.g. voice and video recorders increasingly getting smaller in size but with increased capabilities and capacity) (Casares et al., 2011; Duderstadt, 2009).

The adoption of various ICT devices such as electronic information resources, the Internet, mobile devices and social media (see Table 4.3 and Sections 4.3.9) by AULs illustrates the significance of its technology's applicability for service improvement in libraries (see Table 4.3, Sections 4.3.9, and 4.6). The efficacy of this process has been confirmed in the prevailing literature as well (Childs et al., 2013; Pan & Howard, 2010;

Storey, 2007) (as also discussed in Section 2.5.3). All informants' libraries implement an electronic resource preferred collection development policy thus achieving savings in processing, storage, staffing and providing clients with abundant access to resources irrespective of the time and place. Digital technology also helped newer universities to conveniently and swiftly develop their information resource collections and provide access to a satisfactory range of electronic materials, as stated by many informants (U3, (U6), U10, U13, U15, U17) and confirmed in the literature (Pan & Howard, 2010; Walton et al., 2009). While U6 provided information concerning the library's extensive electronic collections, U13 reasoned that the point of difference for more established universities was their large special collections, which they considered secured a positive future for their library. This was an interesting observation of this research though the literature suggests special collections are important aspect university libraries (Baseby, 2017; Genoni & Wright, 2011). In contrast to U13's belief, many held the view that their newer libraries were able to rival older established libraries courtesy of digital technology. All participants were of the view that the difference between the established and newer AULs increasingly narrows (U1-U18). According to the informants, this was due to increased digital publishing, digitisation programmes of old print copy collections, open access policies of organisations, advancing search engines and the Internet. Discussion of this changing situation of AULs seems to have received little attention in the prevailing literature.

The Internet is considered as the dominant technology with the most profound and far reaching impact on libraries to deliver information and enable online and flexible learning anytime and wherever the client is (Antoni, 2009; Baker, 2014a; O'Connor, 2007). Baker (2014a, 2014b) considered the Internet as a dream-come-true in communicating and sharing information. All the informants confirmed the intense impact of the Internet on university libraries. Five participants mentioned that the Internet could also be a threat to libraries, but libraries must adapt by taking advantage of the capabilities the Internet to meet the changing needs of clients in teaching, learning and research (U4, U7, U8, U10, U18). Existing literature also finds that the Internet has had the most profound impact on information provision and for libraries out of all technologies (Baker, 2014; Gibbons, 2007; O'Connor, 2007)

Easy access, omnipresence of the Internet, and the ability to access most recent

information are considered essential to AUL stakeholders. The value of search engines, such as Google, is accepted in the literature (Duderstadt, 2009) and by all the informants. Libraries of all informants are also providing facilities to use Google for information search by clients. Two of the informants (i.e. U8, U10) cautioned that possible future advancements in the Internet, search engines (e.g. Google), and the publisher models of electronic materials may be available to clients at affordable prices, making the traditional responsibilities of libraries increasingly redundant or minimal. This specific issue is a new finding as it represents an aspect where the data provided by the informants was not found in any of the key literature cited in this thesis.

This research reveals that AULs are making use of some of these technologies but seem slow or reluctant to adopt technologies that are most popular with clients. For example, one of the libraries (i.e. U8) was reluctant to use mobile phone apps in providing access to information because of the small screen. Only the informant U2 stated that the library was providing access to its database with the assistance of a mobile app. In the literature, mobile technology is considered critical for library service delivery (Aho, 2014; Silberman, 2014; Yee, 2012). This technology is the most widely used and now represents an indispensable aspect of people's daily existence (Aho, 2014; Silberman, 2014; Yee, 2012). The significance of social software for collaboration in the scholarly process is also widely accepted (Corrado, 2008). The current research reveals an inadequate use of these technologies in Australian university libraries. For example, informant libraries did not use Skype (or other similar software) to contact/help their clients. U8 considered frequent dropouts of Skype to be a weakness and therefore untenable. U3 stated the potential of Skype communication with clients in a virtual environment and indicated their intention to use the technology in the future. An annual report of one AUL (DU, 2015) also reports the satisfactory introduction of Skype for enhancing communication and plans for augmented student learning. Other informants were not so enthusiastic or had a limited use of it (i.e. U1, U8, U13, U14, U16). The broader academic commentary also confirms the critical significance of ICT in library management as well as service delivery for clients (Ferguson, Thornley & Gibb, 2016; Johnson et al., 2015; Levien, 2011).

Some libraries, particularly the newer universities (U3, U5, U7, U15, U17) were using new technologies more than their older counterparts. These technologies included gaming “labs” and interactive screens to assist student learning, while others seemed to use more conventional approaches and were slow in introducing such technologies. According to the WEF (2016), an insufficient understanding of the disruptive forces of technologies is the most significant barrier to managing change. This research found that the libraries represented by the informants were not fully exploiting the capabilities of these technologies. This variation in the adoption of widely-used and most popular technologies is consistent with the view of the WEF (2016) and hampered change. This can be seen as an illustration of the difference, or insufficient understanding by library leaders about the potential of the use of technology to foster and result in effective change management in AULs.

The extant literature predicted the revolutionary nature of advancements in ICT (Darnton, 2008; MGI, 2013; Rifkin, 2011; WEF, 2016). The NMC Horizon Report (NMC, 2016) on higher education predicts that ICT devices such as augmented and virtual reality, makerspaces, advanced computing and robotics will be introduced to higher education within the next few years. That is an indication of possible developments in libraries in the future. Some informants (U5, U11, U13) were of the opinion that the advancements in ICT were unpredictable. Informants of two relatively new university libraries (i.e. U7, U17) talked about the introduction of gaming and makerspaces in their libraries. Advancement in these technologies may also facilitate increased networking, collaboration and shared services among libraries for reduced transaction costs (Dempsey, Malpas, & Lavoie, 2014) and better online or blended learning in universities for re-shaping the library and its services (Kim & Bonk, 2006; Pujar et al., 2014; Sandhu, 2015). Fifty per cent of the informants (U2, U3, U5, U6, U7, U8, U10, U13, U15) declared that their universities to be involved in online learning to some degree. This research finds this to be an area that will expand in the future because of the market-driven Australian higher education. It is important to note that the use of ICT has advanced further since the time interviews were conducted for this research (Rawlins, 2016; Sahu & Mahapatra, 2016).

5.2.3 Serving the new student

According to the extant literature, there are a number of characteristics of a contemporary student. Many are part-time students, some may have dependants, some prefer group study and are fascinated with technology, think that they are smart, do not tolerate delays, and like convenience in access to information and are also very demanding (Connaway et al., 2011; Frand, 2000; Oblinger, 2006; Popp, 2012). Majority of informants (i.e. U1, U4-U8, U10-U18) thought that their students demanded a satisfactory service since they paid for their education. All informants gave the impression that they knew their student characteristics well and demonstrated respect for them with the desire to provide the best client experience. Therefore, all interview participant libraries were providing facilities at varying scales in a new student-friendly environment for collaborative and individual studies. Existing literature also cites the significance of such facilities to meet the student needs (Bell, 2014; Mitchell, 2008).

Most libraries undertake client surveys to obtain feedback about their services and identify areas needing further improvement. One of the unexplored areas for reaching out to the new generation of students seems to be the use of mobile devices and social media (Aho, 2014; Lippincott, 2010; Silberman, 2014). All the informants, except U2 and U3, believed that the methods they used in reaching out to new students were satisfactory. However, informants U2 and U3 expressed their desire for better use of the technologies in the future. All informants acknowledged that the proper use of new technologies is a challenge libraries have to grapple with to reach out to a dispersed student population. All informants also recognised that with the fast spread of online teaching, learning and research, the use of technologies will assume a key role in change management of libraries. The significance of new technologies for reaching out to new student is also widely cited in the literature (Cannon, 2017; Ding, 2017; Farley et al., 2013; Lu, Chang & Sung, 2016).

All the informants shared their university strategies for attracting more students by adopting client-friendly methods such as tapping into online environment (e.g. blended learning and MOOCs). Informant U3 explained that their university was in the process of moving into a complete online teaching environment within a few

years, and the library is also being reoriented to deliver appropriate services to support this goal.

In their attempts to adapt to the changing environment, AULs have moved away from traditional library practices. As illustrated in Table 4.2, and discussed in Sections 4.3, all informants explained that their library processes were dominated by engagement with their stakeholders and they (i.e. U1-U18) accepted the significance of engaging with students, academic staff and the senior university management to support university teaching, learning and research. All informants emphasised the importance of the new knowledge and skills necessary for library staff in effectively performing in that environment (see Tables 4.2 and 4.4). This finding is consistent with the information obtained from a significant proportion of literature cited within this thesis. AUL publications stated that an extensive engagement processes with students and academic staff was occurring through the initiation of diverse teaching, learning and research support services such as facilitating broad access to resources and assistance plus provision of capability building programmes to enrich the educational experience (CDU, 2014; DU, 2015; FUA, 2014; LTU, 2014; UTS, 2014; VU, 2014). With the deregulation of Australian higher education, diverse approaches to teaching and learning (e.g. face-to-face and online teaching, blended learning, and MOOCs) are being increasingly implemented by universities to cater to the needs of the student population spread globally (LTU, 2014). AULs are attempting to contribute by providing library programmes for clients through technology mediated services such as videos and online mechanisms (RMIT, 2014). University libraries' transition into new areas of responsibility is also discussed in the literature, such as the need for new knowledge and skills and accepting new or non-traditional responsibilities for effective performance of the library in a rapidly changing environment (Allen, 2015; Grabowski, 2016; Hallam, 2014; Raju, 2014).

All the informants acknowledged the advancement in digital publishing that is facilitating ubiquitous access to information. They (U1-U18) also accepted the corresponding declining use of print materials and the need for stack areas in their libraries. The literature also confirms the decrease in the use of the physical library for accessing information resources as electronic literature delivers universal access (Bryant et al., 2009; Rasmussen & Jochumsen, 2009; Rose-Wiles, 2013). While all

universities are already on the online teaching space, informants U3 and U18 mentioned their universities' plans to move into a complete or mostly online teaching environment within a few years. All informants claimed that their libraries were engaging with academic staff to support preparation and/or delivery of curricula, information resources and instructional services to students, including delivery of their services such as consultation and teaching mediated by technology.

All informants stated that they were developing their new library spaces for student collaboration in learning and creativity. This initiative is also revealed in the literature (Appleton, 2013; Sasaki, 2016; Seal, 2015; Watkins & Kuglitsch, 2015). Informant U9 revealed that many library staff retain the belief that the library physical space is critical despite the future of library resources in the online/virtual environment. This researcher is of the view that changing this physical space bound mindset as critical for the university to remain relevant. Though some researchers (Bundy, 2002; Marcum, 2016; Travis, 2008), suggested that the library is best placed to be the leader in the university in the use of technology, this research did not find satisfactory evidence of libraries taking this leadership role in Australian higher education. From the informants' revelations, it does not seem that the libraries are using the latest technologies to full potential in delivering their services. All of them suggested the need for libraries to use new technologies effectively to reach out to their clients (also see Section 5.2.2). All the informants were acutely aware of the increasing need of electronic resources collections in libraries due to the declining use of hard copy materials, and the increasing competition from private sector information providers such as Google in the information industry. The researcher emphasises that for the university library to be a leader in the use of technology, it is vital that they are continuously involved in learning and promptly adopting new technologies that are helpful in teaching, learning and research, and educating both academics and students.

5.3 Change management practices of university libraries

In this section change management practices within AULs are discussed in the context of two key dimensions - resources, and knowledge and skills.

5.3.1 Resources

In change management practices relating to the university library resources can be categorised as information resources, library buildings/spaces and human resources.

5.3.1.1 Information resources

In academic libraries, electronic materials are considered to be the dominant format accounting for more than half of the library information resource budget (Pan & Howard, 2010). A number of informants (i.e. U3, U5, U6, U7) cited that they were spending about 80 per cent of their materials budget on electronic resources. Library collections seem to become increasingly similar in that they are subscribing to high demand electronic databases, (Gibbons, 2007), an idea expressed only by informants U10, U13 and U15.

Prior to the introduction of changes to university public funding policy, universities were acquiring library materials on a 'just-in-case' basis. Libraries had a practice of purchasing materials in case users may want to access them, as opposed to actual needs (Lugg, 2011). Due to factors such as changing higher education funding policy, advancing ICT (e.g. transition from print to electronic publications), competing pressure for library space, high cost of print book retention and management, and the convenience of electronic publications for archival and virtual access, university library collection development has changed. What was 'just-in-case' is now a 'just-in-time' policy thus adjusting to address client needs rather than presume their "wants" (Lugg, 2011). This phenomenon has influenced the library to follow a demand-driven strategy using advances in ICT so clients can access resources immediately online (Lugg, 2011; Swords, 2011). As a method for dealing with competitive use of space, libraries are using off-site storage (Wright, Jilovsky, & Anderson, 2012), or more recently, on-site automated storage and retrieval systems (ASRC) (Burton & Kattau, 2013). These observations in the literature have been confirmed by all the informants. Informants U5 and 7 also outlined the benefits of their automated compact book storage facilities for quick retrieval of print books to maximise the use of library space for collaborative study. Informant U10 mentioned their shift in collection development policy from 'just-in-case' to 'just-in-time' for effective use of funding, adopting new technologies, providing access to digitised content and thus to more

collaborative study spaces.

The researcher's visits to libraries when doing the interviews showed that AULs do not use much of the floor space for print collections. The main reason can be attributed to the high demand for learning and/or collaborative study spaces and the declining use of library print collections. New universities have begun withdrawing their unused monographs and duplicate hard copy periodicals in preference for electronic copies. Psychologically, it was probably easier for the new AULs whose print collections were smaller in comparison with more established universities to do this, plus the need for them to speedily build their information resource collections. Consequently, new AULs (i.e. U7, U10, U15) have implemented an electronic preferred policy discarding the existing duplicate print collections. Some of the more established university libraries (i.e. U6, U11, U16, U18) seem to persevere with their large print collections and therefore had comparatively more library spaces for book shelves for print materials which are rarely used by library clients. This change in the library collection and space planning is also consistent with the literature. It is pertinent to reiterate that the electronic materials are becoming the mainstream format of libraries (Harris, 2017; Pan & Howard, 2010; Shaw, 2016), increasing the significance of library collaborative study spaces for student-centred learning (Feldman, 2015; Johnson et al., 2015). This naturally is compelling the libraries to withdraw and transfer less-used print materials to remote storage (Acadia, 2016; Levenson, 2016; Oliva & Oliva, 2016). This demonstrates the change taking place in libraries. Newer university libraries are leading the move towards the digital library. This trend may be due to the 'young mindset' of the new generation libraries, a finding that seems to be a paucity of research in the current literature.

5.3.1.2 Library building/space

As mentioned above, library buildings are no longer places for acquiring, recording, and storing library resources for the use of university students, teachers and researchers. At the same time, the purpose of the library spaces has dramatically changed from quiet study to mainly collaborative study (Darnton, 2008; Johnson et al., 2015). Purpose-built or redesigned library buildings are essential for the new students' needs and learning habits (Appleton, 2013; Bostick & Irwin, 2014; Monash,

2015), and the changing university teaching and learning needs (Chan, 2014; Gayton, 2008; Gensler, 2014). The library “space” is both a virtual and physical learning place that particularly encourages collaborative learning in addition to quiet study, with access to technologies and information resources. This trend is observed where declining service points such as reference/information and circulation desks once were the norm (Abbasi et al., 2012; Bostick & Irwin, 2014; Wainwright, 2005). Many researchers consider the library space as the students’ intellectual home in which traditional rules are relaxed, collaborative or active learning is facilitated, induced by the pedagogical shift to student-centred learning in higher education (Bostick & Irwin, 2014; Johnson et al., 2015). These views expressed in academic commentary were consistent with the experiences of all informants of this research.

This research found that all informants are attempting to meet the challenges of student-centred learning by embracing technology. Informant U2 proposed that the new library should boost the message about the digital age and educate users in its wide-ranging benefits. Other participants (i.e. U3, U4, U5, U7, U8, U10, U14, U15, U17, U18) stated that it is the space, technology and social atmosphere that attracts students to the library. This assertion by the librarians is an attempt to confirm the importance they assign for library space planning. Therefore, AUL’s attempt to provide inspirational spaces with new technologies to facilitate students collaboration and individual learning. These spaces consist of diverse and varying facilities to practice presentations, restaurants, rest (e.g. sleep pods), learning labs, ‘makerspaces’, gaming labs (ANU, 2015; RMIT, 2014; UTS, 2014, 2016), and even therapy dogs to help students relax (Sessoms, 2014; VU, 2016). Some of the informants (U3, U5, U15, U17, U18) claimed that their learning and meeting spaces are well used during most of the day. Some libraries keep a portion of their library spaces open for 24 hours seven days week to satisfy constant demand by the library users. It seems that obtaining funds for a new library building in newer universities is a higher necessity as they did not have large enough and or satisfactory buildings. Therefore, some newer universities (i.e. U5, U7, U15, U17) were successful in obtaining funding for new buildings equipped with the latest technologies and innovative space planning to meet the challenges of the times (see also Section 4.3.7).

Attempts by the more established university libraries to transform library spaces as

learning and meeting places seem to be successful to varying degrees. Some libraries are large buildings of historical value. Informants U11 and U16 mentioned the expensive and less successful nature of renovating such buildings to the present-day needs. Informant U2 mentioned the significance of the location of their library in the pathway to faculties. This, U2 argued, attracted students as well as academics to the library. According to U5, it is the inspiring building as well as the attractive and well-located library canteen that boosted the attendance of students and academics to their library. Such libraries seem to be providing spaces within their libraries for collaborative learning and socialising, and this they (U1-U18) considered to represent the form future libraries will adopt. Whilst undertaking visits to university libraries the researcher has seen some of the old buildings that are complicated and expensive to renovate for present day needs. For example, in the library of informant U11, the historic large reading room appeared to have little use today. These legacies of established universities are viewed as a problem for these universities in swiftly adapting to the changing university library environment (U7, U11, U16), a finding that is not discussed in the literature to date.

5.3.1.3 Human resources/reducing staff numbers

Universities in Australia have resorted to staff reduction strategies in the wake of declining public funding. While the gravity of the staff cuts has not been the same for all libraries, according to informants U10 and U13 it has had adverse effects on staff morale. Informants U7 and U17 stated that their libraries followed the strategy of postponing new recruitment for positions that fell vacant. For those libraries, like that of the informant U8, which were financially solvent, the practice was to neither reduce nor recruit any new staff. The library reports of AULs (East, 2010; VU, 2006, 2014) revealed that the reduction of staff in Australian universities and their libraries was one of the easy ways of meeting the challenges of declining public funding. With the backdrop of funding cuts from the government, all the informants stated that in order to maintain or improve operating efficiency of their respective libraries they moved to adopt new technologies and methods like acquisition of electronic materials, introducing self-service in many areas like circulation, and remodelling cataloguing, acquisitions and reference services. This finding is confirmed in published literature that portrays the beginning of the transformation of interconnected processes since

about the 1990s with libraries relying not only on advancing ICT but also on better management practices to stay relevant (Marcum, 2016; Partridge et al., 2011; Sharda, 2016; University of Virginia Library, 2016; Welch, 2002).

5.3.2 Knowledge, skills and capability needs

Pertinent people issues, based on the published literature, have been examined in Section 2.2.5.3, and the collected primary data analysed in Sections 4.3.6, 4.3.10, and 4.3.14. Staff are critical resources within an organisation because of their knowledge and skills for achieving performance goals (Guerci & Pedrini, 2013; Hallam, 2007; Smith, 2004d; Wood et al., 2007). The importance of skilled staff is such that, if properly used, institutions can increase their efficiency and deliver the desired outcomes (Fleming et al., 2005; Wiseman & McKeown, 2010). Therefore, a supportive attitude of staff is critical in managing performance or change (Chou, 2014; Georgalis et al., 2014). The importance of people as a resource is also recognised by all informants of this research (see Table 4.10). However, informants U14 and U16 mentioned the difficulties in motivating some members of their staff. Informant U17 emphasised the importance of effective human resource management by creating a satisfactory culture within the institution.

5.3.2.1 Shift of focus

To meet the challenges of change, the university libraries have also shifted their focus from being repositories of books to being the facilitators for the discovery of knowledge. They have also been taking over non-traditional responsibilities to meet university business goals (Kronenfeld, 2008; Lukanic, 2014). Library reports also mention engaging with students and staff in the provision of learning and research resources and other inducements such as student-centred friendly learning spaces, engaging in university research data management, and publishing, that add value to university education agenda. Similarly, libraries are increasingly engaging with academic staff in relation to information literacy and assisting in online or blended teaching activities and related services (U1-U18). Libraries are also found to engage with senior university management to align themselves with university business goals by careful management of more frugal funding allocations (CDU, 2014; DU, 2015;

FUA, 2015; RMIT, 2014; UQ, 2013; UT, 2016; UWA, 2015; VU, 2013, 2016b). This shift to engagement with stakeholders for effective performance is also consistent with interview findings of this research. As discussed in Section 4.3.2 and Table 4.2, all the informants (U1-U18) were of the view that their libraries were moving towards increased engagement with all clients/stakeholders to improve performance based on stakeholder expectations. Management literature (Freeman, 2005; Harrison & Wicks, 2013) as well as the LIS literature also asserts the need for meeting the stakeholder expectations for effective management of organisations (Booth, McDonald & Tiffen, 2010; Harland, Stewart, & Bruce, 2017; Sucozhañay et al., 2014).

The shift of focus of university libraries has taken place in various directions as shown in Figure 5.1. As discussed in Section 2.4.2, the 1990s can be considered the beginning of swift changes in university libraries because of technology advancements, particularly the Internet and the Web. Furthermore, deregulation and the introduction of market forces to higher education in Australia were factors affecting this change. Pre-1990s, university library management catered more for managing the library as a storage centre and gatekeeper to knowledge (Darnton, 2008; Johnson et al., 2015). The library was the centre of university education, acquiring information (in printed format) on a just-in-case basis, supporting information needs of students and academics while keeping the collection intact (Chang & Bright, 2012). Therefore, students and academics had to visit physical libraries for the use of essential information sources (Darnton, 2008; Johnson et al., 2015). To this end, the library management was essentially based around transactions (acquiring, processing, and circulation of information resources) (Darnton, 2008; Johnson et al., 2015; U1-U18).

Data analysis (see Table 4.2) in Section 4.3 illustrated shifts taking place, according to all informants (U1-U18), in many facets of the university library management. These shifts reflect client-centeredness, support for teaching, learning and research, the libraries' efforts to attract clients/students to the physical library by developing student friendly spaces, requirement of new knowledge and skills for staff, client focus in collection management, library preference for electronic information resources and clients' ability to access information resources virtually through the Internet. Therefore, it can be argued that the above changes represent a change in the

focus of university libraries since about the 1990's as discussed in Section 2.4.2. These changes were essential to meet inevitable challenges posed by the rapidly changing environment in which university libraries are to operate and to gain their legitimacy as an integral part of higher education. These shifts are illustrated in Figure 5.1.

Figure 5.1: Shift of focus in Australian university libraries

Pre 1990s library	Change forces	Post 1990s library
Centre of the campus		Another cost centre of the university
Collection centred:		Client/student centred:
Supporting information needs of students and academics		Supporting teaching, learning, and research, non-traditional responsibilities, moving towards a hub
Library users: <i>Students and academics have to visit the library</i>		Library clients: <i>Library endeavour to attract clients/students to the physical library</i>
Knowledge of librarianship required		Required knowledge: <i>Business, management, Information & communication technology, disciplinary knowledge, librarianship knowledge - declining importance</i>
Collection development: <i>Just-in-case acquisition, hard copy material, circulations services, reference services</i>		Demand driven collection development: <i>Just-in-time policy, patron-driven acquisition, electronic preferred policy, most material funds for electronic material</i>
Must visit physical library: <i>Library as the main source of information, regulations to keep collection intact</i>		Virtual library: <i>Access to information from anywhere anytime, The Internet as the primary source of information, do not have to visit the library, flexibility</i>
TOM: (Transaction Oriented Management) <i>Transactions with library users, funding from the university to acquire necessary information resources</i>		EOM: (Engagement oriente Management) <i>Engagement with stakeholders for adding value to university teaching, learning, and research, library competing for funds with other cost centres of the university</i>

As discussed above, this study finds an overwhelming agreement with the views of all participants (U1-U18) regarding a shift of AULs from a transaction orientated management (TOM) model to an engagement oriented management (EOM) model. The shift in the management model underpins the combined forces of advancements in technology, particularly the Internet and the Web (Baker, 2014; Kaufman, 2007; O'Connor, 2007) and the government policies in relation to deregulation and the introduction of market forces to Australian higher education (ALIA, 2014; Emmanuel & Reekie, 2004; Kemp & Norton, 2014). All the informants (U1-U18) confirmed these shifts as in Table 4.2. Table 4.3 demonstrates the wide use of the Internet and other ICT devices in the university libraries of all informants (U1-U18). One of the universities also cited the increasing use of ICT in its library (DU, 2015). Similarly, declining public funding was cited as an issue for libraries of all informants (except U8) and reported in a number of AUL documents (East, 2010; VU, 2012-2015; UNSW, 2015; UT, 2011, 2013-2015).

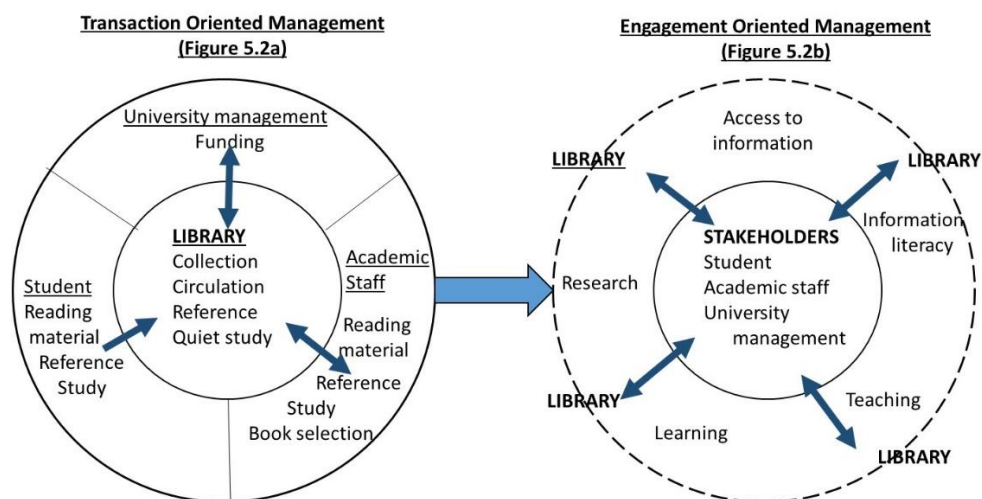
The shift in university library management is further demonstrated in Figure 5.2. As shown in Figure 5.2a, print or hard copy format was the dominant medium of recorded knowledge/information. In the past, the library occupied a central position in the university. Library management functions were centred on collection management, circulation and reference services, which this researcher argues as a transaction oriented management (TOM) style. The relationship of the library with senior university management was merely to secure necessary funding.

Due to the combined impact of change forces, the university management model has gradually transitioned to an engagement oriented management (EOM) (see Figure 5.2b) as discussed above and illustrated in Figure 5.1. Universal accessibility to the library electronic materials and the availability of a plethora of information through the Internet have resulted in the university library losing centrality within the campus, as discussed extensively in the literature (Darnton, 2008; Johnson et al., 2015; Popp, 2012; wood, Miller & Knapp, 2007) and confirmed by most of the informants (i.e. U1, U2, U4, U9, U10, U12-U14). A number of library reports have also acknowledged the need for libraries to change (LTU, 2014; UWA, 2015; UA, 2015; UQ, 2013) to effectively meet the challenges emanating from changing environments, underpinned by advancing ICT. Therefore, university libraries are forced to meet the needs of

stakeholders relating to teaching, learning and research. It can be seen as a passive digital engagement as this shift mainly results from the rise of digital technologies.

Engagement with university management is related to achieving university business goals and objectives, adding value to university business and to communicate with university management. Thus, it has become critical for the library to engage with its stakeholders to manage change in the changing university library environment. The researcher argues that this move of library management is a shift from TOM to an EOM model as shown in Figure 5.2 below.

Figure 5.2: Shift in the library management model



5.3.2.2 Non-traditional responsibilities

Libraries are adopting non-traditional responsibilities in areas where they have the expertise to add value to university business. All the informants (U1-U18) elaborated on non-traditional responsibilities that have been adopted to meet the changing needs of their stakeholders, which included university publishing, managing research repositories and research databases, collaborating with academics in supporting curriculum preparation and use of e-resources on course websites (e.g. learning management solutions such as Blackboard and Canvas) and in lectures and tutorials (see Section 4.3.11). These changes generated a need for new knowledge, skills and

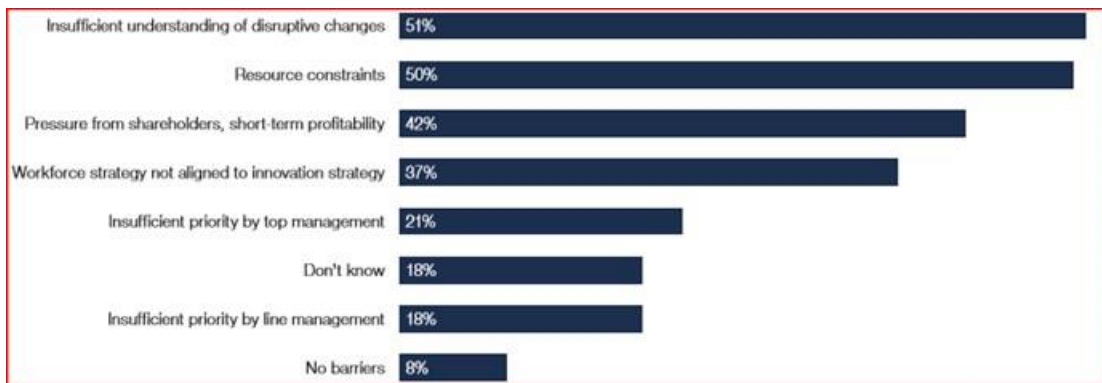
capabilities as discussed in the literature (Corrall, 2010; Hallam, 2014; Raju, 2014) and confirmed by all informants (U1-U18) (see also Table 4.4)

5.3.2.3 New knowledge skills and capabilities

As stated above, all the informants confirmed the significance of new knowledge, skills and capabilities in managing university libraries in a rapidly changing university environment. Table 4.4 presents the new knowledge, skills and capabilities the informants thought was important to meet the challenges of change. Some informants (i.e. U2, U5-U7, U10, U12) considered knowledge/skills such as IT and web skills, communication, data analytic/research skills, business management, leadership, collaboration/inter-personal skills, and problem-solving as critical (marked with an asterisk in Figure 5.1) in managing change; many others (i.e. U3, U4, U8, U11, U14-U16, U18) also cited such knowledge as important. The critical importance of these findings is consistent with the extant literature reviewed in Chapter 2. The literature review also reflected on the current industrial or technological revolution (fourth industrial revolution), and the consequent automation resulting in disruptive changes, increasing the complexity of jobs as well as the needs of a multitude of skills in effective organisational performance (Myers, 2016; Schwab, 2016; WEF, 2016).

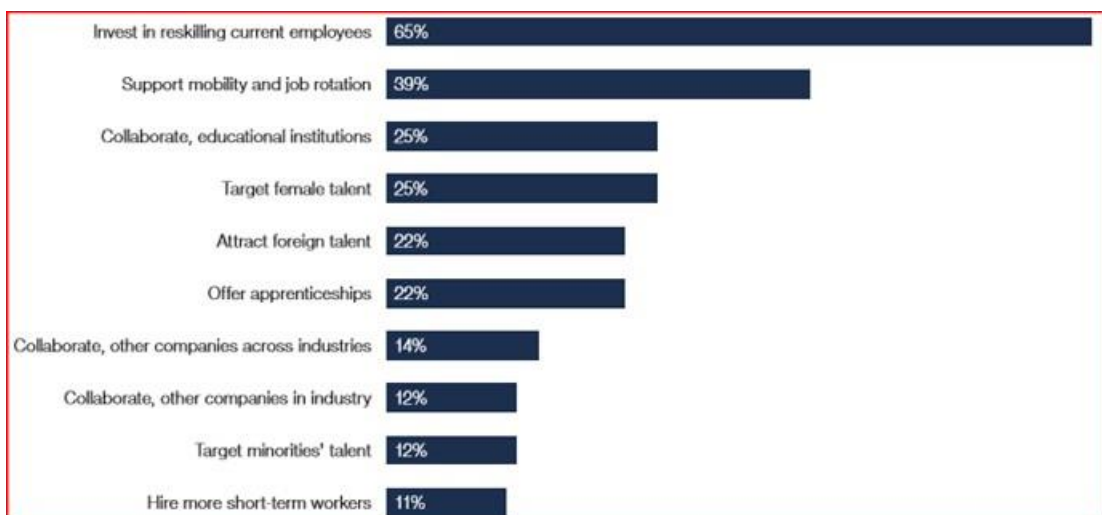
The World Economic Forum report (WEF, 2016) illustrated barriers to change (see Figure 5.3) as well as future workforce strategies (see Figure 5.4) to develop the knowledge and skills base of organisations in an environment in which disruptive changes are shaping the emerging realities. The report was a result of a survey of senior managers and executives of leading global employers from fifteen major developed and emerging economies. According to the WEF (2016) findings, more than half of the respondents of the WEF study thought that insufficient understanding of disruptive changes (51 per cent) and resource constraints (50 per cent) were major barriers to managing change. In the same study (WEF, 2016) more than a third (37 per cent) of the respondents thought that workforce strategy was not aligned to innovation, while another 21 per cent considered insufficient priority was given to this issue by senior management, as the third and fourth barriers. The categories ‘do not know’ (18 per cent), and ‘no barriers’ (8 per cent) can also be considered as important outcomes of this survey as these relate to an obvious lack of understanding.

Figure 5.3: Significance of barriers to change industries overall



Source: World Economic Forum, *The future of Jobs: employment, skills and workforce strategy for the fourth industrial revolution*, 2016

Figure 5.4: Future workforce strategies industries overall



Source: World Economic Forum, *The future of Jobs: employment, skills and workforce strategy for the fourth industrial revolution*, 2016

Though, no specific question was purposely asked at the interviews about the barriers to change, the issue was inherent in the overall questions. The responses to questions provided information in relation to the barriers the AUL change situation presented. All informants acknowledged that this is a time of unprecedented change. Technology was the underpinning force. They spoke of a range of barriers - staffing, finance, power plays within university bureaucracies, employment agreements, unions; the list was extensive. Although all informants agreed about the uncertain future, further

explanation illustrated the differences in opinions. Informant U10 was of the opinion that technology (particularly the Internet) is dominating the information profession, and the possibility of it taking over most of the library roles. On the contrary, informants U2, U3, U5 and U13 were confident of a bright future for university libraries if they adapt well with the inevitable changes shaping the new environment with inherent challenges and opportunities.

5.3.2.3.1 Leadership

All the informants viewed leadership as a critical factor in managing change in university libraries. Tables 4.4, 4.10 and 4.11 illustrate significant characteristics or steps in successfully managing change which are also the characteristics or the responsibilities of an effective leader.

Informants had their own ways of viewing leadership in the context of their respective library. The leadership style of different informants emerged as enthusiastic (U1), visionary (U2), transformational (U3), collegiate (U4), humanist/team oriented (U5), motivational (U6), family oriented (U7), inclusive (U8), agile and strategic (U9), inclusive and strategic (U10), management by walking around (U11), adaptive (U12), people oriented (U13), delegator (U14), cautious (U15), motivational (U16), and situational (U18) (see Table 4.12). This multiplicity of leadership approaches also reflects the complexity of leadership in the context of managing change in AULs.

All the informants stated that they were using a mix of styles as necessary confirming the idea that one single style does not suit all situations. U18 is also of the view that one leadership style is not appropriate for everyone and this observation can be applicable to followers as well. Though there are common elements found in leadership styles of all participants (see Table 4.12), the style of each informant seems to have an emphasis that suits the individual. This finding confirms the views in the academic commentary that no single leadership style fits all (Bolden, Gosling, Marturano, & Dennison, 2003; Cates, Cojanu, & Pettine, 2013; McCleskey, 2014; Mehra & Thompson, 2013; Northouse, 2013). The literature also observes leadership as a complex process as it is a human phenomenon, in a rapidly changing organisational environment (Linburg & Schneider, 2012; Marion & Uhl-Bien, 2001; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Obolensky, 2014; Rothman

& Melwani, 2017).

Each informant also indicated what is important in their role as the chief university librarian. The library is just one of the cost centres of a university. The informant U1, who had the enthusiastic leadership style, aligned with the university's goals, and desired to be visible within the university to demonstrate the value it adds to university business. While being a visionary leader, U2 sets the direction and creates vision for the library and likes to have different talent among the leadership team. Informant U2 is careful in aligning with the university goals, and upholds the values of trustworthiness, transparency, respectfulness, ethically driven with an open mind to continue learning, thinking strategically and creating a suitable culture within the organisation. U3 preferred the transformational leadership style, using the most appropriate leadership style at a given time (e.g. directional style at times) and making use of good interpersonal skills and leading with a vision and goals to achieve.

Informants also mentioned the importance of communication (see Tables 4.4, 4.10, 4.11 and 4.12) for the leadership to motivate their staff, align them with the vision of the library and to get their support to work towards achieving institutional goals. Researchers have also acknowledged the importance of communication as a critical factor in management (Barton et al., 2012; Basu, 2015; Gomathi, 2014; Jurow, 1990; Tovey et al., 2010). Good communication involves communication in all directions, and 360-degree feedback is a must (CAUL, 2014d, 2014e; Gopalakrishnan, 2010). An AUL report also emphasised the importance of communication with stakeholders to meet their needs (MOU, 2015). Three of the informants (U3, U12, U14) claimed their use of the directive style to be necessary. Informants U2, U5, U11, U14 and U17 also spoke of the importance of listening to encourage a two-way communication. They employed varying communication approaches, such as managing by walking around, getting to know every staff member by name, attending team meetings from time to time, sending emails, and attending all staff meetings. While communication needs to be open, honest and consultative, interview participants also identified the importance of upward communication with senior university management to demonstrate the value the library adds to university business, and thereby secure their support for funding. From analysing the data obtained from the informants, these findings are consistent with findings in the existing literature that recognises the significance of

communication skills for leadership to enquire, listen, understand the needs of clients and other stakeholders to promote a market-driven organisation (Barton et al., 2012; CAUL, 2014e; Gomathi, 2014; Mayfield, 2014).

Informant U9 stated that even today many library staff considered the physical library as their world and changing that attitude was a challenge. This revelation possibly demonstrated a leadership issue as well as an insufficient understanding of the impact of disruptive technologies for university libraries. Informant U16 considered a unionised workforce as a clear barrier to their change process. This issue is also a problem connected with leadership involving communication, negotiation, and problem solving. Therefore, effective leadership to overcome barriers to change is considered important or critical in the literature on managing change in university libraries (Dewey, 2005; Düren, 2013; Feldmann, Level & Liu, 2013; Romaniuk & Haycock, 2011)

Leadership is a critical knowledge and a skill for effective library performance, which might be difficult to incorporate in a library and information studies curriculum. Therefore, this researcher reiterates the need for effective staff development programmes to provide knowledge and skills in leadership for managing change.

5.3.2.3.2 Significance of ICT skills

Not all the participants felt the same about broad technological capabilities. For example, U2 and U3 thought of Skype or other similar technologies as useful for communicating with its clients, while some others (U1, U8, U13, U14, U16) made a limited use of it and only for communication among staff in different campuses and with professionals outside. Only the library of informant U2 was using the most popular mobile technology (a mobile app for mobile phones) to provide access to its library database and its electronic contents. Informant U3 revealed plans for using Skype in the future. Researchers like Lippincott (2010), Walsh, (2012), Yee (2012), Barnhar and Pierce (2011), Booth (2008), and Hockey (2016) discussed the significance of these technologies for performance improvement.

ICT knowledge and skills are generally considered essential for all managers in different organisations, including knowledge industries (Allison, 2010; Kadiri, 2016;

Song, 2007). While the LIS literature generally recognised knowledge of information technology as important for librarians (Corrall, 2010), the majority of informants of this research (i.e. U2, U3, U5, U7, U8, U11, U12, U14, U15-18) also viewed it as important or critical new knowledge for librarians (see Table 4.4 and Figure 5.1). Among the staff members with ICT skills in the libraries of U13 and U18, a few were targeted recruitments for positions due to their qualifications and skills, a method sometimes followed by these libraries to attract people with ICT skills. As the change in university libraries is underpinned by advancing information technologies, it is arguably an essential knowledge for all librarians to take advantage of and adapt to the new environment.

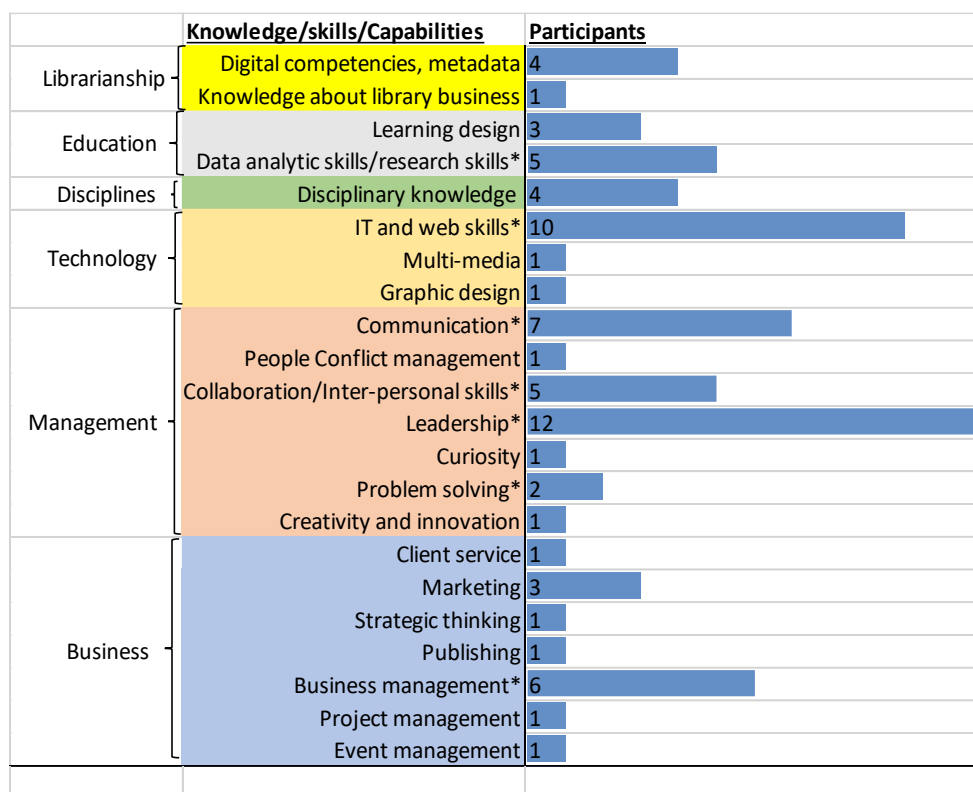
5.3.2.3.3 Application of business management practices

All informants, except U2 and U8, confirmed that due to higher education funding pressure and deregulation of the sector, Australian universities have started introducing business management practices for service improvement. One of the results was the need for each cost centre to bid and secure funding for institutional performance. Therefore, university libraries are required to communicate the importance of libraries to university authorities in terms of the productive boost libraries can perform for the enterprise if sufficient funding is granted based on a soundly planned strategy. This situation is not the same for all university libraries. The library of U7 was better funded as they had people in the senior university management who respected and appreciated the effectively planned and integrated library services. Most informants (i.e. U2, U3-U7, U10-U13, U17, U18) made mention of university librarians placing a high priority on establishing a good relationship with their senior university management. Therefore, it was stated as critical for the library to continuously communicate and keep university management informed about the value of library services and the steps they are taking towards further improvements. This trend has become common due to the Australian government's policy of deregulation and introduction of market forces to the higher education sector. Participant interviews confirmed the importance of introducing business management practices for university library performance improvement.

Table 4.4 and Figure 5.5 demonstrate the significance participants attached to

business and management knowledge such as vision, communication, human resource management, strategic planning and leadership. While some mentioned the relevance of knowledge of business management as critical new knowledge, others identified branches of business management such as client service, marketing, strategic thinking, publishing, project management and event management as new knowledge useful for managing libraries in this competitive environment.

Figure 5.5: New knowledge requirements



This research finding confirms the significance of knowledge in the academic commentary on business management (Blackburn, 2014; Cohen & Kotter, 2005; Fernandez & Rainey, 2006; Gill, 2003; Graetz et al., 2006; Kerr, 2014). Such knowledge is considered significant in library management by many researchers (Corrall, 2010; Hallam, 2007; Jefcoate, 2010; Marcum, 2016; Partridge, Lee & Munro, 2010; Raju, 2014) and informants of this research (see Table 4.4 and Figure 5.5) due to the funding pressure libraries experience and the value the university library has to contribute to the higher education enterprise to remain a relevant

organisation.

5.3.2.3.4 Significance of marketing knowledge

In an environment where change is occurring at an accelerating speed, marketing, a branch of business knowledge, is considered significant for identifying and meeting the social or organisational needs effectively (CIM, 2015; WEF, 2016). As developments in globalisation, technological advances and deregulation occur, marketing knowledge helps to identify endless opportunities not just in the private sector, but also in public and the non-profit sectors (CIM, 2015; Philip Kotler & Lee, 2007). Its relevance for libraries has also been recognised for strategic orientation to focus on the needs of clients (Chandratre & Chandratre, 2015; Patil & Pradhan, 2014; Sen, 2010; Singh, 2009). Libraries can no longer function in the same old ways (Simmons-Welburn & Welburn, 2006). The library needs to adapt to the new environment looking for new opportunities with heightened astuteness (Gibson & Mandernach, 2013; Kostagiolas et al., 2009; Owusu-Ansah, 2004; Simmons-Welburn & Welburn, 2006; Webster, 2016). Informants U2, U4 and U18 have specifically identified the significance of marketing knowledge for managing AULs (also see Sections 2.2.5, 4.3, Table 4.4, and Figure 5.5) to meet the client and higher education needs by adapting to the changing environment.

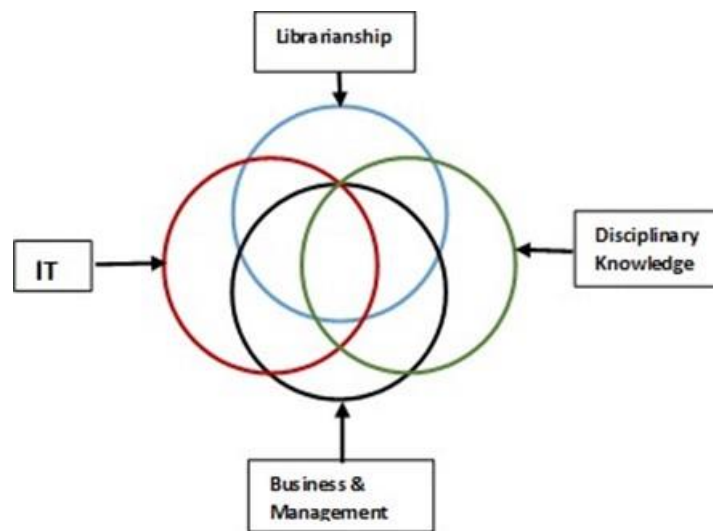
5.3.2.3.5 Recruitment of staff

Staff with new knowledge and skills, or potential to adapt, with an interest in learning are critical for changing times to manage the library in a deregulated environment in which technologies are advancing rapidly (Hernon, 2007b; Hugo, 2008; Naylar & Karp, 2008; Sayers, 2007; Sullivan, 1997; Violante, 2013; Woo, 2007). Therefore, all informants (U1-U18) acknowledged the significance of new knowledge and skills for AULs in adapting to change (see Table 4.4). Although the library needs new skills for its effective management, it has been widely considered a problem to win over skilled staff for the university library sector because of unattractive employment conditions (Hernon, 2007b; Hugo, 2008; Naylar & Karp, 2008; Sayers, 2007; Sullivan, 1997; Violante, 2013; Woo, 2007). This problem for university libraries is also confirmed by three informants (i.e. U2, U4, U13).

5.3.2.3.6 Blended academic librarian

As discussed above, this research identified new knowledge and skills significant for performance improvement in AULs. Many researchers (Gibson & Mandernach, 2013; Lankes, 2011; Webster, 2016) suggested that the significance of knowledge in librarianship was declining. This phenomenon was confirmed by informants U6, U9, U10, U13-17). For example, two of the informants did not possess formal library qualifications but had extensive library experience and knowledge. New knowledge and skills are considered significant (as discussed in Section 5.3.2.3) for the effective performance of AULs. Therefore, the blended academic librarian model that this research builds on Corral (2010) (see Figure 5.6) emphasises the critical relevance of other areas of knowledge and skills for managing change in AULs. Figure 5.6 proposes to give priority for knowledge in IT, business and management, and the disciplinary knowledge as required when recruiting librarians for universities over the qualifications in librarianship. These were the disciplinary areas that informants (U1-U18 as in Table 4.4) considered critical or important in managing change in university libraries.

Figure 5.6: Blended academic librarian model



(This graphic was designed by the author based on Corral 2010)

5.3.2.3.7 LIS profession and its educational and training needs

The blended academic librarian model (see Figure 5.6) establishes the significance of

other areas of knowledge and skills for the continuity of the library as a relevant institution of the university. Increasing use of ICT will rapidly change the nature of service industries in the future as some LIS professionals may be replaced by artificial intelligence technologies by 2025 (Khadem, 2016). All the informants of this research indicated the relative declining significance of knowledge of librarianship for the academic librarian and the increasing importance of new knowledge discussed in Section 5.3.2.3.5. It is a specific finding in this research that is not covered in any detail in the current literature.

Education and training for library staff are considered by all the informants as crucial to improve the knowledge and skill base of the library professionals for continued performance improvement. As all informants stated, staff in all their libraries have either been encouraged, or realised the need to obtain relevant qualifications and skills while they were on the job as part of their staff development or workforce planning processes. In addition, many informants' libraries (i.e. U1, U2, U4, U8, U10, U13-U15) also have been using or supporting other methods to develop knowledge and skills of library staff, such as conferences and trade exhibitions, library visits by various IT companies, library seminars/workshops, self-study and examining best practices or to explore what others are doing (see Table 4.5).

A study by the World Economic Forum (WEF, 2016) provided industry-wide strategies for workforce improvement (see Figure 5.7). Although this research has limitations and did not focus on workforce planning strategies of participant libraries in such detail, it gave an indication about the approaches AULs would be wise to consider (see Figure 5.7). All the informants acknowledged the significance of the learning organisation concept in the process of managing change, and therefore, employing various practices such as performance review, diverse internal/external training programmes, conferences, and study opportunities. The WEF study (2016) found job rotation to be the second most important strategy for staff development. However, this research, as well as the researcher's professional experience, found that most AULs' employment conditions do not allow such flexibility. Only U1 pointed out staff rotation to be an important policy of their staff development. Moreover, only four informants (i.e. U3, U7, U8, U12) stated that they have satisfactory funding for staff development (see Table 4.9). All informants' libraries appointed staff for short-

term contract positions when a position became vacant. Although job rotation was not a widely used practice in AULs for staff skill development, it can be supplemented as an effective avenue for developing critical knowledge and skills (e.g. ICT skills) of staff which is critical in a technology “disruptive” library environment. Given this information, circumstances indicate that university libraries need to be innovative in the development of their knowledge and skill base, and therefore, more research may be useful to study this issue.

Figure 5.7: How knowledge, skills, and capabilities are developed

Annual performance review, skill gaps and ongoing training	38.90%
Internal training	33.33%
Moving around staff	5.60%
External training	11.11%
National conferences, local groups	33.33%
International conferences	5.60%
After conference meetings to share ideas	11.11%
Leadership training	5.60%
Opportunities to gain qualifications including MBA	5.60%
Opportunities to gain skills/expertise	5.60%
Satisfactory staff development funding	22.22%
Very little funding for staff development	5.60%
Person responsible for staff development	16.60%

Three informants (i.e. U4, U8, U10) acknowledged that turning the institution into a learning organisation is important as it helps skills development (hard and soft skills) within the workplace and supports satisfactory human resource management. LIS literature also indicated future challenges of recruiting talented people for middle management positions in academic libraries, and hence needing a focus on education, recruitment, as well as retraining (Brine, 2016; Hernon, 2007b; Leong, 2014). This sentiment was confirmed by most of the informants (i.e. U3-U4, U6-U7, U9-10, U12-U13, U16, U18) who discussed the challenges of this task (see Table 4.8 and Table 4.9).

5.4 Ramifications of the changing university libraries

The advancing technologies have been weakening the three-pillars structure of a

university library (see Figure 5.9), loosening the control a library had over hard copy resources, space and regulations. The pillars were replaced increasingly by mostly electronic resources, spaces and technology for collaboration, and flexible services and relaxed regulations. All informants (U1-U18) stated that they have an electronic preferred acquisition policy. The academic commentary, including AUL publications, also acknowledge electronic resources as the mainstream format of library information resources (ANU, 2015; FUA, 2014; Gibbons, 2007; MOU, 2013; 2014; Pan & Howard, 2010; Quilliam & Thomas, 2012). Consequently, libraries of all informants have been increasingly using their library spaces for collaborative and individual study spaces with advancing ICT and other facilities.

Instead of being governed by regulations, all participant libraries are now offering flexible services such as easy renewal for loans, a relaxed fine system, meeting places, allowing discussions, food and drinks, comfortable furniture, canteens and some relaxation facilities. Some libraries (i.e. U1, U3, U5, U8, U14) even have 24/7 open spaces. The literature, including AUL publications, also confirms these new trends in library space planning that assist collaborative learning (ANU, 2015; Appleton, 2013; Bryant et al., 2009; RMIT, 2014; UTS, 2014) (see also Sections 2.2.4.2, 4.3.7, and 5.3.1.2).

Library electronic resources are accessible universally diminishing the client's need to visit the physical library for accessing information resources. Furthermore, the Internet has replaced the library as the primary information source (Internet Society, 2016; Kaufman, 2007), and all informants (U1-U18) agreed that it has the farthest-reaching effect on libraries. Part of this shift is the change in library focus as demonstrated in Figure 5.1, and discussed in Section 5.3.2.1. It is also the shift in the university library management model from TOM to EOM as demonstrated in Figure 5.2 and discussed in Section 5.3.2.1. Innovations in ICT have drastically contracted the role and importance of university libraries as information providers. This development seems to have threatened their very existence, ending the primacy of an academic library.

Major shifts in the focus of university libraries have been taking place since the 1990s (see Sections 2.4.2 and 5.3.2.1). Until about the 1990s, a library was considered an

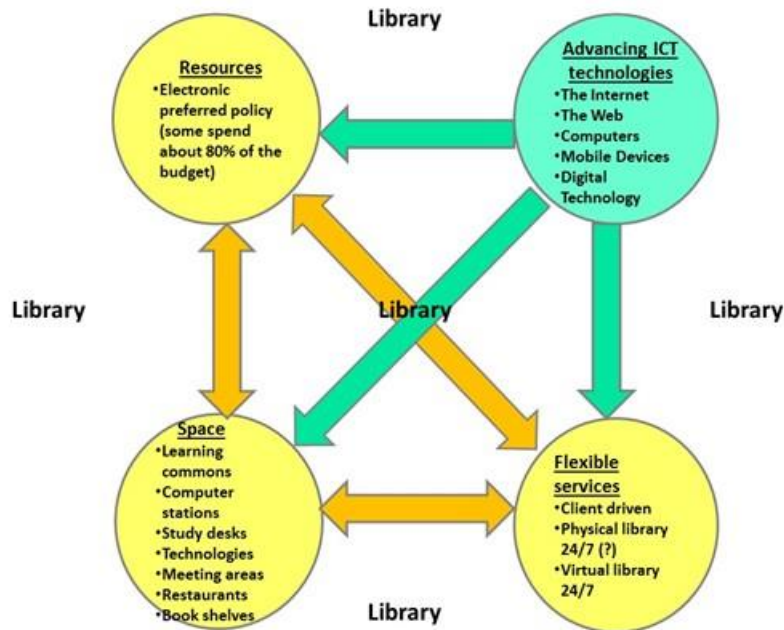
essential part or the heart of the university education system (Darnton, 2008; Lukanic, 2014). All informants (U1-U18) and the literature indicate that university libraries were collection-centred and administered and regulated to provide study, circulation, and reference services while keeping the collection intact (Darnton, 2008; Gessesse, 2000). Therefore, it can be argued that university libraries, at that time, were based on the strong three pillars structure consisting of resources, library space, and library rules and regulations (see Figure 5.8). During that time, all library resources were preserved in hard copy formats (e.g. print, CD-ROM, audio-visual material and microfiche) and therefore, students and academics had to visit the library as only the physical library existed. Therefore, library space for the study was critical. Library spaces such as reading rooms, reference areas, circulation desks, and collections were allocated for quiet individual study. The library budget was comparatively safe (one-line budgets, transferability of the unspent funds for the following year) and libraries were requesting funding every year taking into consideration the price increases of library materials and any other needs. University libraries were governed by regulations with the aim of keeping the collection intact and to effectively serve the users of libraries. Library clients could access library resources and collections only during specified times. Loan regulations were strict, and the number of books one could borrow at a time was fewer, with overdue fines. Moreover, a university library was the best option for its users (students and the staff) for getting a satisfactory information service and consequently a library could dictate terms of library use with rules such as silent study areas, strict borrowing rules and fines.

Figure 5.8: Three pillars structure of a university library – Pre-1990s
(graphic designed by the author)



Gradually, the university library structure and its very existence have been challenged by some factors (technology, government policy/funding/deregulation of higher education, university andragogy and the new student) increasingly weakening the above three pillars structure. Figure 5.9 shows how the Australian university libraries are challenged by these forces (see also Sections 2.2.4.1, 2.4.2, 4.3.9, 4.3.16, 4.6, and 5.2 for associated literature, analysis of data from informants and discussion on related aspects). Technology can be considered the most disruptive force that has brought continuous changes since about the 1990's with continuing advancements in ICT. Advances in digital technology are forcing libraries, including libraries of all informants (U1-U18), to implement electronic preferred collection development policies in acquisition.

Figure 5.9: Structure of a university library - Post 1990s
(graphic designed by the author)



University libraries could become irrelevant institutions if they do not adapt promptly to an environment in which advancing ICTs are being increasingly used and affecting disruptive changes in industries, as explained in the theory of disruptive technologies (Baker, 2014a; Gibbons, 2007; Hallam, 2007; Johnson et al., 2015; Lafferty & Edwards, 2004; Wood et al., 2007) (see also Sections 2.4.1, 2.5, 4.3.9, and 4.6). As in the literature, all informants who touched on the issue, except U3, U7 and U18, cited advances in ICT as the main challenge for AULs. They expressed the need for adapting well and adding and demonstrating value to university teaching and learning as critical for the university library to remain relevant. The theory of strategic inflection point (see Section 2.2.3.7) and the theory of disruptive technology (see Section 2.4.1) also demonstrate the need for university libraries to adapt innovatively if they are to survive in this rapidly changing environment.

5.4.1 Paradigm shift

If a paradigm shift is a fundamental change in a social phenomenon (Roarty, 2014), such a shift has been happening in university libraries mainly because of the rapid advancements in ICT (Thomas, Satpathi, & Satpathi, 2010). As discussed above, it was a stable three pillars structure (resources, space and regulations) (see Figure 5.8) that existed pre-1990s. This structure was weakened by the critical influence of advancing ICT (see Section 5.4 and Figure 5.9) forcing a fundamental shift in university library services and operations in number of directions, including improved and eased access to extensive academic information as discussed below.

University libraries are now attempting to satisfy the information and study needs of students and the wider academic community in an environment in which digital technology and other ICT devices are rapidly advancing (Pan & Howard, 2010; Sandhu, 2015), and market forces are operating (Patil & Pradhan, 2014; Sen, 2010). Libraries are continually attempting to attract their clients, mainly the students to the physical library space (Acker & Miller, 2005; Cha & Kim, 2015; Peterson, 2013) and to adapt to the new information and higher education environment. In this process, libraries are introducing business or marketing fundamentals to add value to university business generally (Gupta & Savard, 2010; Marcum, 2016; OCLC, 2014; Scupola & Nicolajsen, 2010). Consequently, knowledge of ICT, business, management, and disciplinary knowledge has become critical (see Figure 5.5 and Section 5.3.2.3.3). All the informants (U1-U18) have conceded to having experienced this shift (see Sections 4.3.12 and 5.3.2.1).

The second shift relates to acquisition of information resources. It was the practice of university libraries to acquire materials that their users possibly want (i.e. on a 'just in case' approach). Because of tightening and declining public funding, along with advancing digital publishing and other ICT technologies, libraries have streamlined collection development policies to a more demand driven or just-in-time basis. At the same time, libraries are introducing patron-driven acquisition models for monographs to purchase what clients want (Levine-Clark, 2011; Lugg, 2011; Woodberry & Richardson, 2015). All informants (U1-U18) confirmed this shift in collection development policies in their libraries (see Sections 4.3.12 and 5.3.2.1).

With the advancement of ICT, a library has become an organisation without walls. Innovation of ICT devices have enabled clients to access most of the library materials without physically walking into a library (Campbell, 2006; Pan & Howard, 2010; Tyler & Hastings, 2011) (see Section 5.4). Moreover, it is inevitable that increasingly more library services (e.g. training and consultation) will shift to online in the future with advances in ICT further disrupting operations of the library (Uzwyszyn, Smith, Coulter, Stevens & Hyland, 2013).

Therefore, it is a new interpretation that the changes in university libraries since about the 1990s are a significant shift involving the transition from a transaction oriented management (TOM) to an engagement oriented management (EOM) (see Section 5.3.2.1). University libraries have moved away from a strong three pillars structure to an increasingly flexible structure underpinned by the advancing ICT.

5.5 Insights for theory

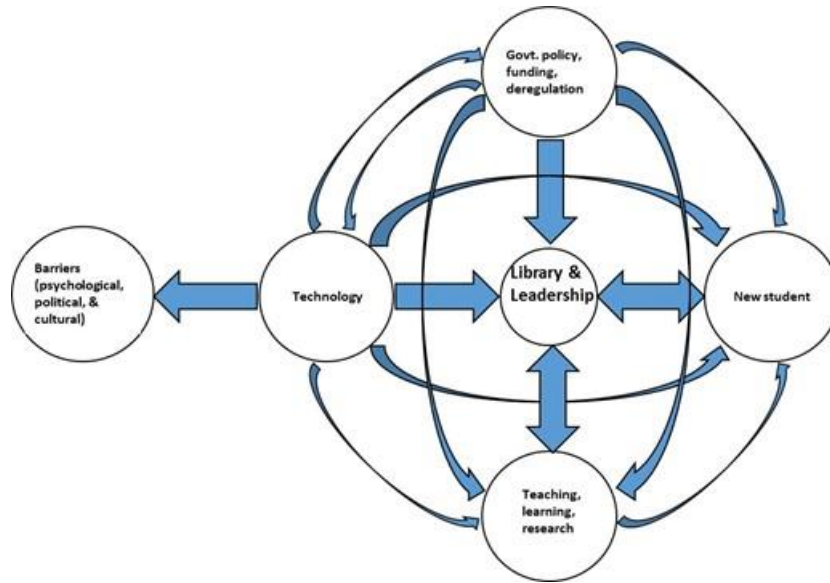
5.5.1 Re-examination of conceptual framework

As discussed in Section 3.2.2, a conceptual framework is a guide for selecting concepts and themes for investigation and to help in proposing research questions and framing research findings (Corbin & Strauss, 2008). The conceptual framework proposed for this research (see Figure 3.2) closely relates to the AUL environment. In achieving satisfactory performance, the framework illustrates the influence of some factors (i.e. resources, university funding, university teaching, learning and research, strategy, stakeholder needs and sustaining relevance) for effectively managing performance. Sections 2.2.4.1 and 2.4 discussed the related literature highlighting the impact of four main factors influencing the changing university library environment: university funding; advancements in related technologies; the new student; and the university teaching, learning, and research. Similarly, Section 4.3 and Section 5.2 also dealt with the impact of these factors on the university library.

The discussions, thus far, found that the influence of, or the relationship between, the factors affecting changing university library environments is a complex web as illustrated in Figure 5.10. The figure illustrates that two-way relationships exist between the library and the new student, and the library and the university teaching,

learning and research (see Section 5.3.2.3.1). This relationship explains a library's focus or engagement with clients and the andragogy required for service efficiency. Government policy in university funding, deregulation of the higher education, and the introduction of market forces are also having a profound influence on AULs (see Section 5.2.1). These policies also affect students as well as the university teaching, learning and research, and influences of the use of technologies for cost saving and efficiency of services. Technology seems to have the most profound influence on libraries from all directions as it is for all industry sectors (WEF, 2016). Technology is also indirectly impacting on libraries through its influence on the government policy, the student, and the university teaching, learning and research (see Sections 4.3.9 and 5.3). While these forces are disruptively influencing the university library performance (positively and negatively), there are also forces that stand as barriers to libraries adaptation to change. According to the academic commentary, these barriers are considered to be psychological, political, strategic or cultural (Coetzee & Stanz, 2007; Graetz et al., 2006; Hoffman & Henn, 2008; Post & Altman, 1994). Informants U9 and U 16 also pointed out that mindset can be a barrier in adapting to the changing AUL environment. Informants also indicated a range of other barriers such as staffing, finance, power plays within university bureaucracies, employment agreements and unions (see Section 5.3.2.3). As discussed below, these barriers, or the restraining forces, hinder at certain times an organisation in a move away from the status quo causing change efforts to go awry or become stalled.

Figure 5.10: Technology and other factors of influence – Post 1990s
(graphic designed by the author)



The first stage of Lewin’s three step model of managing change (unfreezing) is applied for addressing restraining forces (Robbins et al., 2014). Psychological barriers such as denial can adversely affect the planning and implementation of change management efforts due to inaccurate understanding (Tedlow, 2010). Barriers to effective implementation of change strategies include rejection of some information, clinging to old ways of thinking, not having a united voice among decision makers, and lack of motivation and unity among staff members (Graetz et al., 2006) (see also Section 2.2.3.8). It is possible to argue that the findings of this research were also congruent with the literature as the informants agree with the importance of these factors for successful change implementation, such as effective strategy, effective implementation, supportive workplace culture, and the importance of motivated and skilled people (see Section 4.4.2 and Table 4.10).

Based on the above findings, the conceptual framework of this research is further refined in Figure 5.11 to mirror major factors influencing the AUL environment. Both market forces (introduced along with government policy, funding cuts, and deregulation of higher education) and advancement in ICT are having a profound effect on managing change (see Section 5.4 and Figure 5.9). The prevailing literature also reveals that barriers to change implementation or performance resulting in failure is more than 70 per cent of the change efforts (By, 2005; Caboni, 2011; Miller, 2002).

Therefore, addressing barriers to successful change implementation can also be considered a critical aspect of a change strategy. Based on these findings, the conceptual framework in Figure 3.2 is refined in Figure 5.11 to reflect the above complexities.

Figure 5.11: Framework for change implementation in Australian university libraries (graphic designed by the author)



5.5.2 Change theory and managing change in libraries

Two groups of theories relevant to change management are discussed in Section 2.2.3 of this thesis. The first group consists of the theories in different branches of the social sciences (e.g. institutional theory, contingency theory, stakeholder theory, and continuity theory) that have relevance in understanding social phenomena such as the change in AULs. Though none of these theories were mentioned by the informants in relation to the change methodologies they were implementing, all the informants were aware of their changing environments (e.g. policy, regulatory, social and organisational) and factors influencing organisational change (see Sections 2.2.4 and

4.3), or significant characteristics of effective change management such as vision, sense of urgency, communication, strategy, people as resource and progress measurement (see Table 4.10 and Sections 2.2.4.1 and 4.4.2). All the informants also cited the significance of meeting the needs of stakeholders to remain relevant, particularly to senior university management who make critical decisions for the library, such as funding.

The second group of theories are the tools or step-by-step approaches for managing change which are planned or emergent styles (Liebhart & Lorenzo, 2010; Liu, 2009). Sections 2.2.3.8 to 2.2.3.11 briefly discuss those approaches, for example, Lewin's three step model, Kotter' eight-step model and project management. Moreover, irrespective of the debate of the link between change management and project management (see Section 2.2.3.10), use of these tools is considered useful for achieving best possible results (ChangeFirst, 2014; Crawford & Nahmias, 2010). Models used by AULs also reflect the diversity of change models and the debate on the best model for change implementation. For example, informants U1 and U3 stated that they were implementing the Prince2 project management model, and Kotter's eight step model. Similarly, informants U4, U8 and U10 were using Total Quality Management combined with Prince2 in-house models to adapt to the rapidly changing environment. Change is unpredictable, therefore change management practices require adjustment to suit the emerging context, thus no one change model fits all organisations (Cruywagen, Swart, & Gevers, 2008; NTPS, 2012). Contingency theory postulates that structure and operation of an organisation are dependent on situational variables, and during changing times any change in internal and external variables or contingencies affect the overall efficiency or performance of an organisation (see Section 2.2.3.2). Some of the informants (i.e. U3, U7, U8, U12, U13, U15, U18) mentioned their agreement with this idea stating that the contextual circumstances of AULs differ from each other. Taking this phenomenon as given, AULs have been adapting themselves to a changing environment in a number of ways and in varying scales, as discussed thus far in this thesis. For example:

- Structural changes and operational aspects of the library in non-traditional responsibilities as well as shrinking services in some traditional areas (e.g. technical services, circulation, and reference services),

- Introduction of new services (e.g. collaborative study spaces, and introducing new technologies and expanding virtual services),
- Engagement with students, academics, and the senior university management,
- Application of private sector management concepts such as business, management, marketing, and leadership for effective performance in a deregulated higher education environment,
- Developing the knowledge and skill base of the library staff for staying relevant and to add value to institutional performance. Therefore, libraries are employing different staff development strategies (see Table 4.5) and the importance of the learning organisation concept during rapidly changing times, and
- Adopting new technologies to provide improved performance.

Organisations are becoming increasingly complex because of rapid changes taking place in their environment and the organisational context. Revolutionary advancements in industrial, technological, ICT spheres are underpinning massive changes in the higher education sector as well as its libraries in the developed world, including Australia. Other factors such as deregulation of the Australian higher education, and needs of the new student also contribute to the pressure for change. Consequently, swift adaptation to new environments is accepted as essential for staying relevant as well as for the survival of AULs (see Section 2.2.4). Therefore, the concept or the theory of continuity can be a topic of interest to university libraries (Feather, 2013). Continuity theory explains the complexity of balancing change with continuity, and the impact of continuity forces on different organisations in varying degrees (Sushil, 2013a) (see also Section 2.2.3.6). University libraries operate in a high change environment and are subject to the pressures of rapidly advancing ICTs (Feather, 2013), among other factors. At the same time, many believe the need for libraries to adapt to the changing organisational environment swiftly and effectively to provide competitive and value adding services (Gibson, 2000; Johnson et al., 2015; Lafferty & Edwards, 2004) (see also Sections 2.2.4 and 2.2.5). While all informants of this research agreed that it is a challenging time for all of them, a number of informants (i.e. U1, U2, U4-U6, U9, U12, U15) thought that libraries can have a bright future if they adapt to the changing environment well. It seems to be a common

consensus among the informants that only those libraries that adapt well would survive. Therefore, it is possible to argue that AULs are appropriate in Sushil's (2013) high change and low continuity environment as it is underpinned by IT/ICT and is subject to rapid and significant changes requiring finding new opportunities for survival (see Section 2.2.3.6). This position of AULs can also be related to the theory of strategic inflection point as they are operating at a critical time when their survival is dependent on adaptation to the rapidly changing environment, as stated by all the informants. A number of informants (i.e. U1, U2, U4-U6, U9, U12, and U15) were of the opinion that taking advantage of opportunities in the emerging environment will guarantee them a bright future. Based on the theory of strategic inflection point, individual AULs could face either disappearance/destruction or can reach new heights or find new opportunities as illustrated in Figure 2.4 and discussed in Section 2.2.3.7.

As already discussed, the associated literature as well as the informants of this research agree about the significance of business and management knowledge for managing change in a globalised higher education environment. Therefore, the knowledge of relevant theories on change management is critical to better understand complexities and managing libraries in a rapidly changing time to adapt well and meet the challenges of change. Consequently, the researcher is of the view that providing such knowledge for a librarian should be an essential part of staff development programmes, and LIS curricula should be reviewed accordingly to make sure that relevant professionals with required knowledge, skills and capabilities are in the pipeline. Thus, effective organisational learning is a critical component in managing change in AULs to continuously renew the knowledge base of the organisation.

The success of managing change in university libraries is fundamentally dependent on making effective connectivity between the organisation and its stakeholders.

Connectivity is defined by the *Online Free Dictionary* as the 'quality or condition of being connected or connective'. Though not widely discussed or having received wide recognition, connectivity among personnel and tasks boosts organisational learning, resulting in satisfactory performance (Carley, 1998; Carreno, 2014; Krogh & Grand, 2002). With the shift of focus within the changing university library environment (as discussed in Section 5.2.1.11), AULs have become stakeholder-centred institutions demanding effective connectivity for meeting stakeholders' educational and business

needs. Therefore, it can be argued that connectivity is fundamental in having high relevance in the transformation of university libraries.

As discussed in Section 3.2.3, two theories, i.e. contingency and continuity theories, underpin this research (see also Figure 3.3). Contingency theory postulates that organisational performance is dependent upon the fit between the structure and the contingencies (organisational environment, size and strategy) (Burnes, 2004c; Donaldson, 2001). Impact of these factors on managing change or performance in AULs were discussed throughout this thesis. Based on the environmental factors, Chapters 4.3.2 and 5.3 of the thesis discussed the need for engagement or connectivity with stakeholders to support teaching learning, research, planning and implementation of appropriate organisational strategy and the significance of relevant structure. The research also confirmed the critical importance of new knowledge and skills, and therefore, the organisational learning strategy for AULs to effectively address challenges of remaining relevant. Continuity theory, on the other hand, explains the effect of changing environment on organisational continuity (Sushil 2013). Sushil (2013) found that ICT enabled services are prone to high change and low continuity and therefore require constant attention to adopt and adapt. A library, as an organisation, falls in the category of 'high change low continuity' category. Therefore, this researcher thinks that given the nature of library in the overall matrix of change in the Australian Higher Education System, combining contingency and continuity theories can help explain the need and complexities of change in AULs.

5.5.3 Continuity and change

Advancements in ICT, tightening public funding, deregulation and the introduction of market forces to higher education, changing student needs, and the higher education andragogy in Australia demand prompt and efficient adaptation of its university libraries to these changing situations. As discussed in Section 5.3, effective adaptation of university libraries needs new knowledge and skills to stay relevant and add value to organisational goals. Both published literature (Bokor, 2012; Bostick & Irwin, 2014; O'Connor, 2015; UWA, 2015) and all the informants of this research agree that a university library will not remain the same in the future. The majority of the informants (i.e. U1, U3-U11, U13, U14) thought that the university library will be less traditional, different and may act as a hub consisting of various facilities, such as

university information counter/office, canteens, study facilities, meeting and collaboration facilities, exhibitions, and theatres, to name a few. Library reports (LTU, 2014; UA, 2015; UQ, 2013; UT, 2016) also reported the changes and uncertainties libraries will encounter in the future. Informant U16 was of the view that it is easier for libraries of new universities to adapt to a changing environment because of their ‘young mindset’ and the desire to adapt fast and thrive. Five of the informants (i.e. U3, U5, U7, U15, U17) from university libraries which are relatively new seemed to have adapted new technologies swiftly, perhaps because of their ‘young mindset’ and the support from senior university management. Two informants (U10 and U16) indicated barriers for their libraries to adapt fast enough to catch up with the emerging realities. On the contrary, libraries of the informants (i.e. U11 and U18) from old and more established universities seem to not be so swiftly adapting to change due to reasons such as attachments to things previously held in high esteem, for example, long runs of journal collections and the difficulties or expensive nature of renovating historic buildings.

One of the dangers of slow transition to change or the inability to adapt to newer ways, is the gradual redundancy of library services in the universities, as the universities may outsource most or all the library services for efficiency and cost savings. This argument is supported by the theory of inflection point (as discussed in Section 2.2.3.7), which explains that not adapting swiftly to advancing ICT can turn a successful organisation into irrelevance.

5.6 Future directions

5.6.1 Purpose of a university library

All the informants (i.e. U1-U18) stated that the mainstream library information resources were becoming increasingly digital and delivered online. Higher education institutions are also increasingly embracing the online delivery of education. All the informants pointed to the declining significance in traditional roles (i.e. acquisition, cataloguing, circulation, and reference) of a library and the emerging importance of non-traditional roles in university pedagogy and its business (Table 4.2). This change is consistent with the academic commentary (Beatty, 2008; Jaguszewski & Williams,

2013; Simons & Searle, 2014). Findings from interview data analysis and the literature review suggest that physical spaces in a library are evolving as collaborative study spaces while libraries are also taking on various non-traditional responsibilities such as publishing, research data management, information literacy and working with academic staff in relation to teaching and research (Feldman, 2015; Simons & Searle, 2014; Wawrzaszek & Wedaman, 2008).

All the informants (U1-U18) agreed about the importance of library spaces for collaborative learning. They thought that this would be a unique facility that libraries will be providing in the future. Therefore, some newer university libraries, of informants U5, U7, U10, U15, and U17, are providing facilities like student-friendly study spaces with better natural lighting, different types of trendy seating, facilities for resting, canteen facilities, and also more advanced technologies that help collaborative study and facilitate creativity in a congenial environment. Libraries are also endeavouring to stimulate learning by various means, for example, providing sleep pods, introducing pets or therapy dogs (U5; VU, 2016a, Haapanen, Kultamaa, Ovaska & Salmi, 2015; Watkins & Kuglitsch, 2014; Wilson, 2015) during certain times to create a relaxing study atmosphere. These findings are consistent with the literature on academic libraries' physical space improvements for collaborative study (Sasaki, 2016; Seal, 2015; Watkins, 2015). The informants from a number of more established libraries (i.e. U6, U11, and U16) stated that they were attempting to provide attractive study spaces but are not embracing some of the advanced technologies (e.g. gaming labs and makerspaces). Reasons given were their acceptance of being high-ranking institutions with large student populations and disciplines being taught not demanding such technologies. All the informants of this research, as well as the extant literature, suggest that there is a clear lack of consensus regarding the planning of the library space in a new environment. However, there is common understanding that it can be effective as a cultural centre or hub that encourages collaboration for learning and creativity (Delaney & Bates, 2015; Head, 2016); Shapiro, 2016).

Many Australian university library publications stress the importance of engaging with university stakeholders to add relevant value to the organisation (FUA, 2015; UQ, 2013; UT, 2014; VU, 2016b). Some of the informants (i.e. U5, U6, U10, U16) stated that libraries would have more information literacy responsibilities as part of

the engagement with academic staff and students. The number of students in universities has increased dramatically since the application of market forces to higher education. Students themselves have also been helping themselves in information searching as the technology is becoming more intuitive and user-friendly. Therefore, libraries are increasingly working with the academic staff and students in information literacy and pedagogy to help students learn in an effective manner in a changing environment. Libraries will be progressively involved in supporting teaching, learning and research in an increasingly virtual higher education environment. Despite these changes, data gathered from informants of this research, as well as evidence from published literature, suggest a considerable increase in both the remote use of the library and the use of the physical library (Barclay, 2017; Haddow, 2013; Montgomery, 2014; Soria, Fransen & Nackerud, 2013).

Change in the purpose of a university library during the past few decades also demonstrates a paradigm shift in the context of university libraries. Some experts described the change of purpose of a university library in the following words:

Before the rise of the Internet, libraries were widely perceived as the ultimate gateways to knowledge. They served as central locations to discover new information, compile research and consult with librarians to find the most helpful resources. In the past two decades, as the Internet has expanded, so has the array of academic content made easily accessible to people. This shift has not only impacted how people research, but also where they do it (Johnson, Becker, Etrada, & Freeman, 2015: p. 26)

To students in the 1950s, libraries looked like citadels of learning. Knowledge came packaged between hard covers, and a great library seemed to contain all of it. ... In colleges everywhere the library stood at the centre of the campus. It was the most important building, a temple set off by classical columns, where one read in silence: no noise, no food, no disturbances Students today still respect their libraries, but reading rooms are nearly empty on some campuses. In order to entice the students back, some librarians offer them armchairs for lounging and chatting, even drinks and snacks, never mind about the crumbs. Modern or postmodern students do most of their research at computers in their rooms. To them, knowledge comes online, not in libraries. They know that libraries could never contain it all within their walls, because information is endless, extending everywhere on the Internet, and to find it one needs a search engine, not a card catalogue. But this, too, may be a grand illusion (Darnton, 2008: 1-8)

The time in which the library stood as the repository and guardian of

knowledge has given way to an era in which both the production and consumption of information far exceeds the library's ability to contain. To be certain, academic and research libraries continue to perform the roles of organising, cataloguing, and storing information in ways that faculty and students can readily access and use. Most have made remarkable strides in providing users with organisational paradigms and strategies for accessing information beyond their own holdings. At the same time, however, traditional structures of authority and qualitative certification, which the library embedded both in its own collection and in the scholarly apparatus it supported, have been engulfed in a flood of information from multiple sources, disseminated primarily in digital form, and retrievable by means that the library, and hence the academy, no longer control (Changing Roles of Academic and Research Libraries: essay derives from a Roundtable on Technology and Change in Academic Libraries. Association of College and Research Libraries (ACRL) on November 2-3, 2006 in Chicago).

A modern university library is not just a book repository or a reading room; it is increasingly being seen as:

- *a place for learning, place for teaching, a place for social engagement, place for collaboration, place for civic engagement, a place for research and creativity and a place to integrate physical and virtual information environment.*
- *networks include networks of experts, networks of collections, networks of facilities, and networks of technologies.*
- *a Service Centre brings diverse services, such as skills development, IT support, career guidance, language and numeracy, literacy, digital literacy and publishing centre under one umbrella* (Sandhu, 2015: 153-160).

The purpose of the academic library was to 'emphasize collection building and collection management... and to arrange for users to access those collections only on terms which ensure their long-term integrity' (Brophy, 2005, p. 47). In this view, a library was essentially a repository. Responses of the informants also indicated a shift in the purpose of the library, e.g. a shift of focus (see Section 5.3.2.1), a shift in the required knowledge and skills (see Table 4.4), and a shift from a TOM to EOM model of management (see Table 4.2, Figure 5.1, and Figure 5.2). When considering the purpose of academic libraries based on the literature, and the views of the informants, a list of objectives of the academic library with a futuristic view can be compiled as follows:

- Providing access to an array of quality academic content from anywhere,

anytime, through the Internet (Antoni, 2009; Gibbons, 2007; U1-U18).

- The library cannot anymore own or provide access to all the information clients' want. Information is endless, everywhere and exploding. Therefore, production and consumption of information far exceed the library's ability to contain, manage, and control all of it (Baker, 2014a; Gibbons, 2007; and U1-U18).
- In an environment of rapidly advancing ICT access to higher education is becoming global, and the library should enrich access to its electronic content, and support learning, teaching, and research online (Lewis, 2016; Uzwyshyn et al., 2013; U1-U18).
- Libraries connect people with quality information and support teaching, learning, and research (Levine-Clark, 2014; Lugg, 2011; U1-U18).
- To find information, clients first go to user-friendly search engines over the library catalogue (Deniz & Geyik, 2015; Flynn, 2010; U1-U18).
- Libraries are attempting to win back students by providing student-centred learning, friendly and inspiring facilities with spaces (physical/virtual) for collaborative and individual study to learn, create and innovate knowledge (Gensler, 2014; Jamieson, 2013; U1-U18)
- Library should think and be innovative about what they can do to add value to university business rather than continue to do what was traditionally done (Marcum, 2016; O'Connor, 2007; U1-U18).
- The purpose of the library should suit deregulated Australian higher education in which market forces are operating, and therefore operate under marketing and business management fundamentals (Lewis, 2016; Sen, 2010; U1-U18).

Thus, the purpose of the library today may be described as adding value to higher education business by means of connecting clients with information and facilitating teaching, learning, research, creativity and innovation of knowledge. How libraries can serve this purpose can be diverse, and each library may attempt to address its objectives in a way that suits them.

5.6.2 Reimagining the future academic library

Scientists predict that Graphene, a material discovered lately, is capable of accelerating advancements in technologies within the next few decades making handheld ICT devices and other forms of equipment smaller, lighter, flexible, stronger and smarter. At the same time, data storage capacity and speed of communication may increase by many times within the next few decades (Kinaret, 2011; Macguire & Knight, 2013). Furthermore, developments in ICT such as virtual reality, augmented reality, as well as technologies that are light, wearable, usable anytime anywhere may make access to information easier, faster and satisfying (Ramirez, 2015; Spina, 2015). According to informant U13, “the sky is the limit” regarding the developments of ICT, even in the near future. In such an environment, it is hard to predict the future of a library in more certain terms (ALIA, 2014; Popp, 2012; Sasaki, 2016). Two distinct groups of informants emerged in the research while discussing the future of university libraries in Australia. One group was confident that there will always be a future for libraries, while others were uncertain in view of the rapidly changing environment fuelled by technological changes and shifting requirements and priorities of library users.

Future possibilities in the LIS field are inconceivable. Factors such as developments in publishing, distribution/sales, convenience of access, ease of use, financial pressures, changing consumer behaviour and emerging new markets will have a sweeping effect on higher education libraries (EBSCO, 2012). Some future scenarios can be one or more, or all of the following:

- All information will be available in a digitised format directly from the publisher and accessible through the Internet at a minimal cost to end users.
- Smarter search engines will make the information search more relevant, retrieval faster, convenient and user-friendly.
- New ICT devices such as computers may get lighter, be foldable, portable and affordable. Other advancing augmented technologies may become affordable to all. Even the access to a website might not need to have any portable device like smartphones, iPads or computers. Simple handheld devices capable to create an image on a wall or a desk can be used to read,

write and access information.

- Most of the teaching, learning and research in higher education institutions will be available online.

It may be that the library as a physical entity may not expand but instead shrink. Some possible scenarios could include:

- There will be a small collection of print materials, and it will get increasingly smaller in the future.
- Libraries may continue to have the responsibility for recording, managing and providing access to information produced by universities.
- Libraries may be one of the places providing collaborative learning spaces within a university precinct and may expand into other areas of the campus. Consequently, collaborative library space may shrink along with further developments in ICT.
- A library may have a future as part of a meeting place but may include services such as cafés where people collaborate over a drink/meal, bookshops, learning labs, or in the context of a hub with many other facilities.
- Only the smart libraries may survive. Universities may choose to outsource the services being provided by the existing libraries to maximise the return on their investments.
- Competition will intensify from the private sector or other libraries to provide library services at competitive prices.

5.6.3 Strategy towards the future academic library

Associated literature exemplifies that stakeholder-focused strategy helps to obtain better value for the university, therefore feedback and support from the direct and indirect stakeholders of the university is important (Freeman, 2005; Freeman et al., 2004; Harrison & Wicks, 2013; Shore & Kupferberg, 2014). This approach of involving stakeholders in the future direction for libraries was also supported by all the informants (see Section 5.3.2.1).

Relevant knowledge, skills and capabilities are also cited in the literature as essential

for the superior performance of organisations (Guthridge et al., 2008; Hallam, 2014; Stokker & Hallam, 2009; Violante, 2013) (also see Sections 2.2.5.3.2, 4.3.10, 5.3.2). In an environment in which market forces and advancing ICT technologies are driving the institution, university libraries need to meet the stakeholders' needs, particularly senior university management, academic staff, students and the library staff (discussed in Sections 2.2.5, 4.3, 4.4, 5.3.2.1). Views of interview participants also confirmed the utility of stakeholder focus (relevance) for an organisation to motivate staff, get the support of senior university management and meet the needs of its clients (see Sections 4.3, 5.3.2.1). Satisfactory communication with senior university management is critical to be aware of the goals and objectives of a university to plan and implement the library strategies accordingly (MOU, 2016; U5, U7, U9, U10, U17, U18).

The informants confirmed the importance of new knowledge for performance improvement in a rapidly changing library environment (see Sections 4.3.10, 5.3.2.3, Figure 5.5). Knowledge and skills in technology are considered critical at a time of revolutionary advancement in ICT that underpins the complexities of change in AULs. The informants have acknowledged the need for new knowledge and skills, including disciplinary knowledge, in closely working with the academic staff in supporting teaching, learning, and research. Knowledge of business and management, such as marketing, strategic thinking, client service, human resource management, and leadership, are also considered critical for effective performance management in AULs (see Table 4.4). Moreover, focusing on the changing needs of students and academics, adding value to university business goals, good communication with all stakeholders and getting their feedback are of value in forming a stakeholder-focused organisation (discussed in Sections 4.3.12, 5.3.2.1). Therefore, effective performance improvement is fundamentally about satisfactory connectivity or engagement with stakeholders and the mindfulness of the factors influencing satisfactory implementation of change efforts as in Figure 5.11 and discussed in Section 5.5.1.

Based on the findings of this research, Figure 5.12 is a framework proposed for managing change in AULs. The framework includes a way forward to meet the needs of its stakeholders, particularly students, academic staff, library staff, and the senior university management in an environment of rapid change. The framework consists of

four components: expectations of the stakeholders, resources, organisational culture, and change adaptation, for effectively maintaining connectivity for performance improvement.

Expectations of stakeholders: Satisfactory engagement with stakeholders (e.g. students, academics, and senior university management) is critical for understanding their expectations. Aligning with stakeholder expectations is imperative in a market-driven deregulated higher education environment in which competition and adding value to the business are the keys to staying relevant (Freeman, 2005; Harrison & Wicks, 2013) as discussed in Sections 2.2.4, 4.3.4, 4.4, 5.2.1.

Resource needs: Various resources facilitate performance and satisfy stakeholder expectations in university libraries. While adopting relevant ICT devices is essential, knowledge of technology, business, management and disciplinary knowledge is necessary for managing university libraries in a competitive higher education environment (see Table 4.4 and Figure 5.5). Appropriate recruitment practices that suit the new organisational demands can help recruit people with essential new knowledge, skills and capabilities. As recruiting people with such new knowledge can be competitive, university libraries may need to have a flexible recruitment approach and offer competitive employment conditions deemed necessary to attract them to the library profession (see Section 5.3.2.3.4).

Representatives of different stakeholder groups can be a useful in management and planning meetings as mechanism of feedback. Libraries may need to have their representation in library planning and management meetings. Having representatives from senior university management in management and planning meetings can also help in both feedback and adding value to university business and substantiating funding needs for libraries' operation, growth and sustenance. Furthermore, a satisfactory staff development process assists in organisational knowledge, skills, and capabilities to improve with the changing times. Current practices, such as surveys or focus group meetings may not be satisfactory enough to get their involvement, as those meetings appear to be conducted once a year.

Organisational culture: In the framework proposed, organisational culture includes stakeholder-focused management, motivated staff for creativity and innovation,

learning organisation culture, an organisation with effective strategy, communication, and effective leadership to promote satisfactory performance. Stakeholder focus, along with staff knowledge, skills, and capability building, and appropriate strategy contribute in the adaptation process of an organisation. Such adaptability during changing times enables the library to stay relevant in a competitive environment (Rogers, 2014) as discussed in Section 5.3.

Change adaptation: Completion of the first three components of the framework is foundational in achieving the change adaptation objective as it meets the needs of all stakeholders, in addition to adopting ICT in the process for service improvement.

Figure 5.12: Framework for stakeholder focused library (graphic designed by the author)

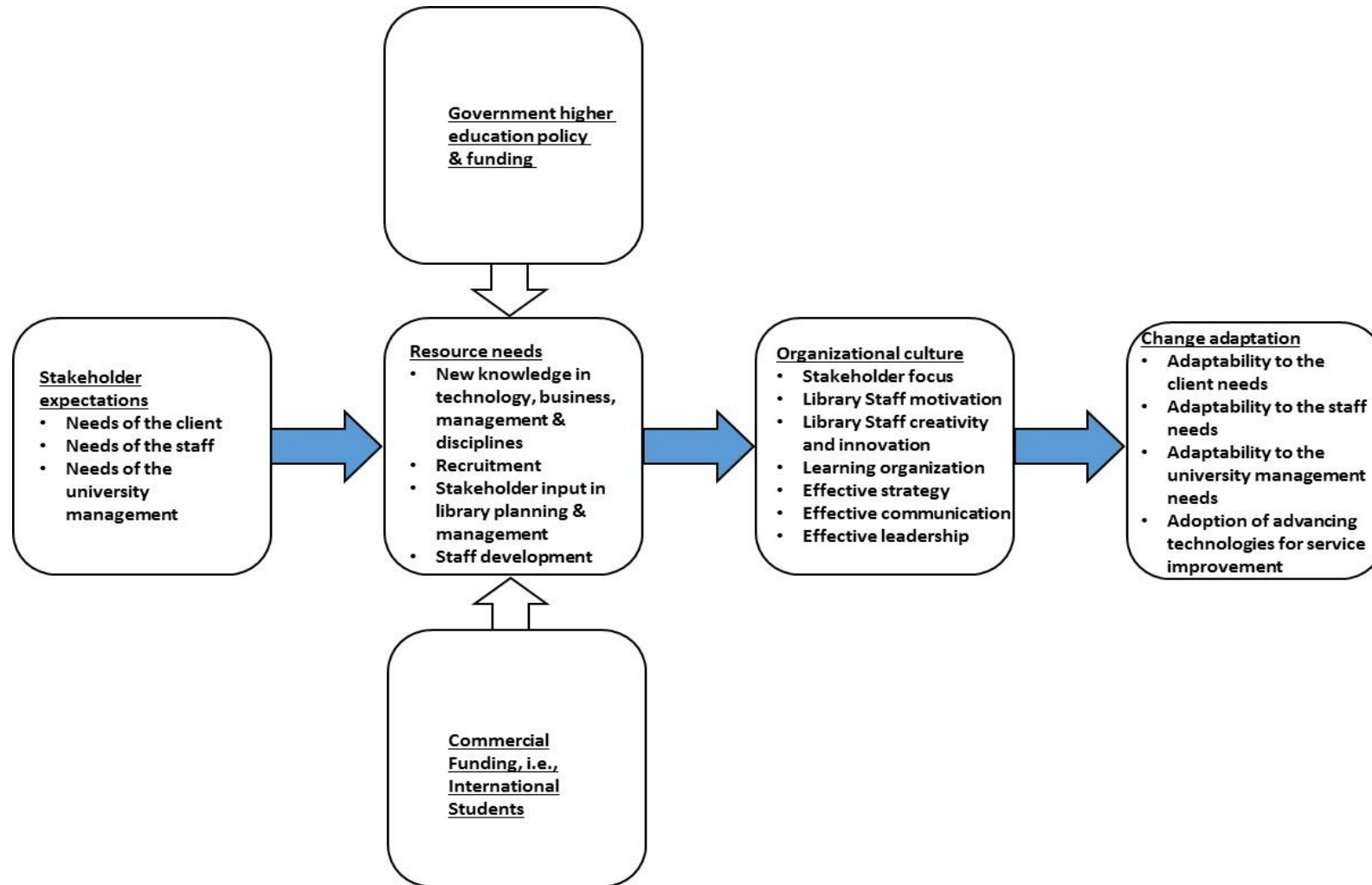
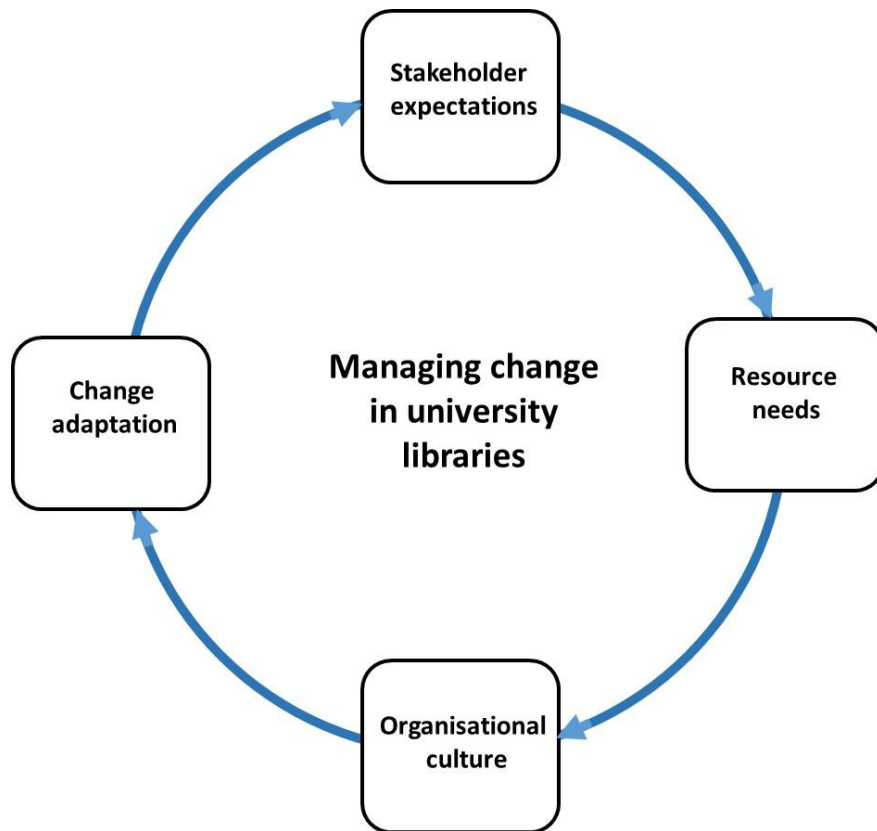


Figure 5.13: Cyclical nature of the change management framework
(graphic designed by the author)



While the framework assists in making the library structure and the resources change-ready, it is possible to implement it in combination with any other change management plans or strategies. Continually adapting to changing environments is critical as the change is a permanent phenomenon (By, 2005; Jun & Rowley, 2014). As change is continuous, it is important that successful change management is embedded into the strategy on a continuous basis (Berlach, 2011; Victor & Frankeiss, 2002; Zarnowitz & Moore, 1986). Therefore, the proposed framework of the stakeholder-focused future library (Figure 5.12) is also a continuous process as illustrated in Figure 5.13 facilitating the continuous adaptation of the library to meet the demands of all stakeholders.

CHAPTER 6. CONCLUSION

6.1 Introduction

This thesis investigated complexities of the rapidly changing Australian university library (AUL) environment and the impact of leadership and technology in effectively meeting the challenges for continued performance improvement in a competitive market place. The thesis examined the change management practices of AULs by collecting information from chief university librarians through semi-structured interviews. The investigation followed a qualitative constructivist approach to develop new knowledge by investigating the practices of chief university librarians in managing change in their university libraries.

The thesis provides an insight into complexities of change management, leadership, and technology through a systematic study and review of literature concerning change management, leadership and technology (Chapter 2). The literature review described, summarised, evaluated and clarified the literature providing a theoretical foundation for the research relating to managing change in university libraries, including the impact of leadership and advancing information and communication technologies (ICTs).

This thesis also examined change management practices in university libraries with emphasis on the Australian context. This objective is achieved through chapters 2, 4, and 5. Chapter 2 examined the current state of change management practices in university libraries as documented in the associated literature. Chapter 3 (methodology and research design) provided a discussion of the research methodology and the design of this research to examine the change management practices of AULs. It explained the qualitative constructivist approach followed in the research, including the conceptual framework and theoretical underpinnings. Empirical data were collected by interviewing 18 out of 37 chief university librarians from Australian public universities. While Chapter 4 dealt with analysis of primary data collected from the semi-structured interviews and presenting findings, Chapter 5 discussed findings from this empirical study, comparing and contrasting them against secondary data from the literature review (Chapter 2). Data from library reports were also included in the

discussion chapter to find what confirms or adds to existing knowledge and what differs or contributes to new knowledge.

This Chapter highlights the implications of this thesis for theory, policy and practice. It also has some suggestions for future research. Not only did the study explain that the model of the traditional university library is challenged as a result of its changing environment, it also reveals that the university library has to adapt appropriately to create and add value to the university enterprise for its future relevance. It is possible that each university library has to find its own way in meeting this expectation. The study expands and explains the rapid change that is taking place in the university library environment, including a move away from transaction dominated management to stakeholder engagement obligatory management. The performance oriented conceptual framework is further expanded to explain the importance of engagement with stakeholders as well as the sustaining influence of technology and market forces for managing change. The framework this study developed explains how to meet the expectations of the stakeholders, have the necessary resources and promote suitable organisational culture as the key requirements in appropriate change adaptation of university libraries.

6.2 Implications for theory

The findings in this thesis contribute to the understanding of managing change in AULs and in demonstrating the importance of leadership and advancing ICTs in change management strategy. Effective adaptation of the AUL to its rapidly changing environment consists of two critical components: leadership and technology. This research provides theoretical insights into managing change in AULs in 10 significant ways.

First, it adds to the extant literature in the field of managing change, particularly adding to knowledge of managing change in libraries in Australian public universities, including advances in ICT technologies and implications for leadership. The research provides an understanding of the complexities and the challenges libraries encounter imposed by organisational environmental factors that library leadership must address promptly and effectively. Therefore, the theoretical contributions of this research may

also have relevance to university libraries in other countries depending on the environmental context and the impact of technological advances globally.

Second, the findings in this thesis clearly identify a shift in AUL management from a transaction oriented management (TOM) model to an engagement oriented management (EOM) model. This phenomenon is perceptible from the beginning of advancements in ICT in the 1990s. The shift was distinctive from many perspectives. The university library was then the centre of the campus but now it is considered as just another cost centre like any other branches of a university. Therefore, the library needs to compete with other cost centres for funds based on its performance and contributions to achieving university goals. Prior to this shift, a university library was considered a collection centre and the gatekeeper of knowledge. Therefore, students and academics (as library users) had to visit the library for information resources. Currently, students and academics do not have to visit the physical library as most information resources are digital and accessible remotely. Now, the Internet is considered the primary information source. The status of a university library in this new environment has been relegated to a supporting role for teaching, learning and research. As students pay for education they are considered to be clients of the library, signifying a clear shift in importance. Before, a thorough knowledge of librarianship was a pre-requisite for the library profession; now, the idea that the 'librarian can do everything' or be 'master of everything' has no currency. Instead, new knowledge and capabilities, such as IT and business management, are now considered critical. The changed nomenclature in administrative language (e.g. library user to client) is an example of this shift. Business management knowledge is of critical value for the general understanding of managing change, dealing with financial pressure, marketing services and ongoing value creation by continuous planning and quality measures. In the past, the library collection building policy was to collect and manage information resources that were deemed useful. This aspect has now changed to a demand-driven policy in which demands of the clients become an important decider for information resource acquisition. Collectively, library management was then centred on transactions (acquisition, cataloguing, circulation, and reference services); now, library management is dominated by engagement with clients and other stakeholders in order to provide access to information resources and support teaching, learning and

research. A library in this scenario needs to demonstrate the value it adds to the university business.

Third, the study provides evidence of and demonstrates a paradigm shift in the nature and functions of a library. Commencement of this shift corresponds to the advancement in ICT and the introduction of market forces to Australian HE around the 1990s. Before this time, the library was based on a strong three pillars structure: resources, space and regulations. Library resources used to be in hardcopy format (for example, books, journals, microforms, CD-ROMs, AV). The library building was central to house and manage these resources with features such as book shelves, reading rooms, study desks, circulation areas and reference desks as the norm. Students and academics had to visit the library as information resources were in hardcopy which the library preserved and managed for future generations. Therefore, library regulations (i.e. opening hours, terms of use, library fines, quiet study) were necessary to preserve the library collection. Advancements in ICT (i.e. the Internet, the Web, computers, mobile devices and digital/electronic publishing) brought a paradigm shift in libraries, fundamentally weakening all three pillars and transforming the library to an institution without walls. AULs present electronic resource preferred policy made most library information resources electronic. The internet has become the primary information source of the student and the academics and most library resources are increasingly accessible through the Internet from anywhere anytime. Therefore, libraries are now increasingly converting their building spaces to inviting collaborative learning spaces with relaxed regulations in an attempt to attract students to the physical library.

Introduction of market forces to higher education with declining public funding made this shift even more complex. With the declining significance of traditional functions, libraries are outsourcing some (such as acquisitions and processing) for cost saving and efficiency. Moreover, the student population is now worldwide because of an increasing component of blended and online learning in higher education. These developments resulted in competition for the market share among higher education providers as well as LIS service providers. Consequently, libraries are introducing or taking over various non-traditional responsibilities (e.g. publishing and research data management) to stay relevant and add value to university business. Therefore, not

only have advances in ICT broken down the physical and time barriers of a library, but also market forces have introduced competition and an overhaul of libraries in higher education. Thus, this study has provided an explanation highlighting the paradigm shift in the university library.

Fourth, in this new environment, new knowledge is critical for effective library performance. However, in the absence of a healthy staffing environment (i.e. less staff turnover, inability to create new positions and unattractive employment conditions), AULs are making various innovative efforts to attract suitable staff to the library outside traditional methods of advertising and filling vacant positions. These new methods include traineeships, cadetships, rover positions that are temporary, or contract positions aimed at introducing new knowledge and skills to the library profession. These are new methods a few AULs use to attract new knowledge and skills with some success. This is a new finding that explains new recruitment practices of AULs.

Fifth, library and information studies (LIS) curricula in library schools and in-house staff development programmes of libraries are critical in an environment where new knowledge and skills are imperative for libraries to help achieve performance goals of universities. This research found that most of the library practitioners were of the view that the existing LIS curricula were not appropriate for current needs of AULs. It is not practical to provide all the required new knowledge (i.e. IT, business and management, and disciplinary knowledge in addition to LIS) comprehensively in a LIS school. However, it is possible to make changes to the student recruitment policy of LIS schools (e.g. making LIS courses post-graduate to educate prospective academic librarians) and also providing an understanding of the future challenges of the library to prepare student mindsets and make them future-ready.

AULs are also implementing a number of innovative methods of staff development for some new knowledge and skills. These include staff rotation, specialist skill training, encouraging research, innovation and empowerment through learning from what others do, attending conferences, plus scope to temporarily hold higher positions. Although the list is extensive, no library is using all these methods for developing staff skills. One reason for this is declining funding while another may be psychological

(denial). For example, not many libraries send staff to conferences and only one informant library rotated staff as a staff development activity. Therefore, this research reinforces the notion that LIS curricula and staff development practices of AULs need urgent attention to suit the new knowledge and skill development requirements of libraries, which is imperative for them to support the performance goals of the university.

Sixth, in an environment of rapidly advancing ICT (considered a second ICT revolution), adapting to the challenges of disruptive technologies is paramount for future survival. Higher education and its libraries are highly impacted by these technologies in information storage, publishing and delivery of information and connected services. Higher education students are increasingly distributed worldwide due to increasing globalisation of the higher education business. Therefore, the library also must serve its global client population in satisfying their educational needs as well as assisting the university to perform well in a competitive environment. In addressing these challenges some newer universities are found to be performing better than older intuitions for three basic reasons. Firstly, younger mindsets give them flexibility in promptly adapting to change and effectively to compete for the market share. Secondly, not having legacies that they esteem highly, such as large print collections of books and journals and historic buildings, as in some more established AULs, they have a tendency to take prompt leading-edge decisions. Thirdly, the ability to get senior university management support is necessary to improve facilities (i.e. suitable new buildings and electronic information resource bundles). As explained in the Theory of Inflection Point and the concept of disruptive technologies, swiftly adapting to rapidly advancing ICT by higher education institutions, including libraries, can help superior performance stamping the future. A significant finding of this thesis is that some of the newer AULs are adapting to swiftly advancing technologies better than their more established counterparts.

Seventh, although higher education and its clients are increasingly spread worldwide with clients accessing information anytime anywhere, staff in AULs are found to still have strong attachment to the physical library. For example, library staff see the future of library in physical spaces for student collaboration. However, universities are also increasingly providing collaborative study spaces in places other than the library

buildings. This is found to be cost effective for universities considering the use of less manpower in this strategy. Libraries need to think outside the box, outside the physical space, to seek new opportunities in an environment of advancing disruptive technologies. As library clients are increasing in the virtual space, the libraries must cater for their information resource needs as well as consultations by providing access through efficient communication technologies. This research draws attention to the heavy attachment of library staff to physical buildings as a barrier that needs to be broken soon to see libraries evolving as value adding institutions

Eighth, this thesis has developed a framework for change implementation for Australian university libraries (see Figure 5.8) based on the findings of the investigation. The framework points out a number of critical elements for continuing performance improvement – leadership, technology, resources, sustaining relevance, stakeholders, strategy, government policy and learning, teaching and research. The framework also highlights two other critical forces impacting on managing change in AULs, i.e. market forces and advancing ICT. It also includes the need to address barriers to performance as part of the strategy.

Ninth, this thesis has adopted two underpinning theories (i.e. Contingency and Continuity Theories) to explain the effective management of change in AULs. Contingency theory asserts that effectiveness of an organisation is a mesh between organisational structure and other variables like organisational environment, size, and strategy. The investigation in this thesis has revealed that the arguments posited by Contingency Theory are reinforced when the concept of ‘organisational type’ is used as a variable to provide a better theoretical explanation for change management as different types of organisations face different levels of change forces.

Tenth, this investigation found that a stakeholder-focused library framework (see Figure 5.12) is more effective in managing change for continued performance improvement. The proposed framework consists of four components: stakeholder expectations (needs of the clients, staff, and the senior university management), resource needs (includes new knowledge, technology, recruitment, stakeholder inputs, and staff development), organisational culture (stakeholder focus, staff motivation, creativity and innovation, continuous learning, effective strategy, communication, and

leadership), and change adaptation to the needs of the clients, staff, senior university management and advancing technologies. The framework also emphasises the need for the attention to government higher education policy changes as an environmental factor influencing the library, including the support of commercial ventures to make libraries value adding constituents of universities. It is a cyclical framework (see Figure 5.13) for achieving a continuous performance improvement based on the changing needs of stakeholders, government and universities.

6.3 Recommendations and Practical Implications

The rapidly changing AUL environment brings significant challenges to library management requiring suitable amendments to policy and practice. Following is a number of recommendations that will contribute to successful execution of change management in AULs.

Recommendation 1: Within the rapidly changing university environment, it is useful for a university library to have a discussion forum to bring in academics and students at least once a year to discuss the challenges being faced by the library. The discussions will review the library's performance, its adaptation to challenges and identify strengths, weaknesses, opportunities and threats. Discussion forums would help brainstorming to understand the current environment and possible future directions. These forums can also help keep staff informed as well as educating them to operate effectively in the rapidly changing environment of universities. They may also assist in aligning library vision, mission and goals with stakeholders' needs.

Recommendation 2: As universities are increasingly introduce online teaching components, so will student numbers increase. Therefore, AULs need to be mindful of how they can better serve online as well as on-site students. The library should engage in research to determine the relevant issues, particularly relating to technologies and promptly address those issues. Library leadership must look outside their comfort zone, particularly to the business sector, to investigate the best practices.

Recommendation 3: A few libraries have made attempts to recruit staff with specific knowledge and skills to meet the needs of their university libraries. A few libraries have staff members with research degrees who add value to their services. Therefore,

libraries might consider amending their recruitment policy and practices to attract people with required new knowledge and skills in an environment in which knowledge of and skills in leadership, business management, marketing and information technology are critical and university libraries are managed increasingly like businesses.

Recommendation 4: University libraries should regularly explore to understand the needs of their stakeholders to ensure better support and cooperation in making libraries useful to those who matter. Traditional client surveys can help but these alone may not go far enough. Libraries should encourage research to study ways of providing effective support for teaching, learning, and research to add value to university business.

Recommendation 5: Libraries should continually explore how ICT could add value to library services. It would benefit libraries to understand the technological trends shaping the expectations of clients. This knowledge will help libraries to effectively work on appropriate strategies to outsmart the competition from other service providers.

Recommendation 6: Knowledge and skills development of existing library staff are also imperative in a rapidly changing environment. Funding for training and the acquisition of new knowledge and skills of library staff is an important investment as AULs are operating in a competitive information services environment. Therefore, AULs should seriously consider allocating adequate funding for staff development.

6.4 Limitations of the research

This thesis examined the effectiveness of current change management practices of Australian university libraries from the perspective of chief university librarians. Primary data was collected from interviewing chief university librarians of AULs following a qualitative constructivist research methodology. It might add further value to the findings if data also was collected using a survey method. Although it was not possible in this research because of time constraints, it can be considered for possible further research.

Appropriate caution needs to be exercised while applying the findings for libraries outside Australia. The primary reason for this is the socio-economic differences in countries other than Australia. Similarly, the applicability of the findings to other libraries (other than university libraries) in the public sector in Australia can also have limitations depending on the nature of their circumstances.

6.5 Future research

The primary data in this thesis was obtained from the chief university librarians in 18 AULs. It can also be useful to obtain and study the perspectives of other staff and to include clients. Multiple case studies or mixed method studies can also be appropriate for finding new knowledge in this area. Continuing research into the application of new technologies is critical as advancement of new technologies underpins rapid change in university libraries. More research would be useful in the application of business/marketing knowledge as it has become critical for university library management. Other areas needing more research are in the human resource areas such as recruitment and staff development practices as knowledge, skills and capabilities outside librarianship gain increasing significance. More research relating to the future of university libraries in the wake of extensive use of technology in teaching, learning, and research in universities would also be useful.

6.6 Concluding remarks

Managing change in university libraries is a complex subject. In a rapidly changing teaching and learning environment driven by ICT, this phenomenon of change is not readily comprehensible. Therefore, any prescriptions for effectively managing change at this stage of transformation appear to be pre-emptive, or at best notional. The key strategy for the library administrators is to appreciate the emerging reality and ensure adaptability, keeping the focus on adding and creating value to the teaching, learning and research outcomes of universities. University libraries were highly valued by the academia and were considered the gatekeepers of knowledge or the centres of the campus until about the 1990s. With the changes in higher education, driven by ICT, the library's perceived status and value are being increasingly assessed. There appears to be no clear consensus among the library community about future directions. The

emerging belief among the library community about new collaborative study spaces as the way ahead for the university library may also not be of value as it is a service that can be provided anywhere within the campus by other constituents of the university.

University libraries seem to be operating in a time of paradigm shift in which libraries are moving from traditional roles to non-traditional roles. In a deregulated environment in which market forces are impacting on higher education, AULs are expected to add value for the money spent. With changes in higher education and stakeholders' needs, government policies and the rapid advances in ICT, AULs must explore new opportunities and exploit non-traditional knowledge, skills and capabilities that are becoming critical in finding their way forward. Historical evolution of the library is a story of change. As Scott (2005, p 472) stated, '*like all systems, institutional arrangements are subjected to entropic forces*', and so are libraries. AULs have been going through a considerable transformation over the past few decades. Change is part of our growth and our future. A university library is an integral component of the learning experience, but functions as a repository of knowledge and wisdom that extends far beyond the life of an individual library. To ensure that the library is recast fittingly, managing change effectively is not only critical, it is existential.

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APPENDICES

Appendix 1 Notice of ethics Approval



**Business College Human
Ethics Advisory Network
(BCHEAN)**

Building 108, Level 11
239 Bourke Street
Melbourne VIC 3000

GPO Box 2476V
Melbourne VIC 3001
Australia

Tel. +61 3 9925 5555
Fax +61 3 9925 5624

Notice of Approval

Date: 18 March 2014

Project number: 17311

Project title: *Change, Leadership and University Libraries*

Risk classification: Low Risk

Principal Investigator: Dr Alan Montague
Student Investigator: Mr Matara Gunapala
Other Investigators: Dr Sue Reynolds

Project Approved: From: 18 March 2014 To: 4 March 2017

Terms of approval:

- Responsibilities of the principal investigator**
It is the responsibility of the principal investigator to ensure that all other investigators and staff on a project are aware of the terms of approval and to ensure that the project is conducted as approved by BCHEAN. Approval is only valid while the investigator holds a position at RMIT University.
- Amendments**
Approval must be sought from BCHEAN to amend any aspect of a project including approved documents. To apply for an amendment submit a request for amendment form to the BCHEAN secretary. This form is available on the Human Research Ethics Committee (HREC) website. Amendments must not be implemented without first gaining approval from BCHEAN.
- Adverse events**
You should notify BCHEAN immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
- Participant Information and Consent Form (PICF)**
The PICF must be distributed to all research participants, where relevant, and the consent form is to be retained and stored by the investigator. The PICF must contain the RMIT University logo and a complaints clause including the above project number.
- Annual reports**
Continued approval of this project is dependent on the submission of an annual report.
- Final report**
A final report must be provided at the conclusion of the project. BCHEAN must be notified if the project is discontinued before the expected date of completion.
- Monitoring**
Projects may be subject to an audit or any other form of monitoring by BCHEAN at any time.
- Retention and storage of data**
The investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Regards,

Professor Roslyn Russell
Chairperson
RMIT BCHEAN

Appendix 2 Approved email to interview participants

Name

Job Title

Organisation

Address

Re: PhD Research

Title of PhD: Change, Leadership and University Libraries: A Critical Examination of Factors Affecting the Management of Change in Australian University Libraries

Dear

As an expert in the field we wish to invite you to participate as an informant for a doctorate of philosophy (PhD) research project.

The aim of this PhD research is to investigate the effectiveness of change management practices and the role of leadership in Australian university libraries. The aim is to develop sound research by asking you to participate in an interview. The research focuses on change and leadership issues that are within the control of library managers and control that may be less so given the transformations of the workplace that are imposed due to rapid advances in technology in university libraries and other factors such as government policies and university funding.

We are approaching all chief public university librarians in Australia to gather information given their expert knowledge in library management and as leaders in managing change in university libraries within the context of the skills, knowledge and technological changes of the 21st century.

The academic investigators in this project include:

- Matara Gunapala -as the research student Email: matara.gunapala@rmit.edu.au Ph. (03)9925-5430
- Dr. Alan Montague (Senior Supervisor), Email: alan.montague@rmit.edu.au; ph. (03) 9925 5653
- Dr. Sue Reynolds (Associate Supervisor) Email: sue.reynolds@rmit.edu.au; ph. (03) 9925 1310

The anticipated outcomes of the research will include a thesis, journal articles, a student report or presentation at conferences on issues likely to include:

- the complexity of management and leadership in a university library setting due to swift technological changes
- trying to anticipate and judge what products to purchase in an environment of budgetary frugality
- skills new recruit's may need given the constant transition in service products
- approaches to adopt with human resource development among staff to address student and academic needs

If you are agreeable to an interview we would ask if your comments can be recorded in response to questions posed by Mr Gunapala for further analysis. Your personal data collected in the course of the research will be available to you on request?

If you do not wish the interview to be recorded Mr Gunapala is quite willing to take notes. The interview may take a maximum of one hour. All the names of people interviewed will remain anonymous; pseudonyms will be used at all times and the university you represent will not be linked specifically to any individual comments recorded or reproduced in research publications. All data will only be accessible to the three investigators and will be stored on the password protected server at RMIT. The research data will be kept securely at RMIT for 5 years and then destroyed.

The benefits of this research will include providing you with a summary of comments made by your colleagues, again maintaining strict anonymity in compliance with RMIT's ethics committee which has approved this research. Any publications, including the thesis will be made accessible to you as a courtesy. No harm is foreseen as a result of your participation in this research; however you have the right to decline to participate and to withdraw from the research without any consequences as this is a key aspect of the RMIT ethics practices that we respect.

In summary your rights as a participant include:

- The right to withdraw from participation at any time
- The right to request that any recording cease
- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for you as the participant.
- The right to have any questions answered at any time.
- Your personal data collected will be available on request. However once your recording is transcribed to text we would prefer to send it to you via your email address enabling you to amend any issues that you wish to clarify further and add comments if you are so desire.

In the event that you have any concerns or questions at any time please contact the senior supervisor - Dr Alan Montague – and his contact details are listed above.

Mr Gunapala will contact you to arrange a time to interview you hoping you are amenable to participating in this research. In the event that you kindly agree to participate Mr Gunapala will ask you to sign the attached consent form that will be provided at the interview.

Thank you for considering our request.

Yours sincerely

Dr Alan Montague, BA. MEd, Doc Ed

Dr Sue Reynolds BEd. MLS, PhD

Mr Matara Gunapala B.A. Dip Lib. M Lib.

If you have any concerns about your participation in this project, which you do not wish to discuss with the researchers, then you can contact the Ethics Officer, Research Integrity, Governance and Systems, RMIT University, GPO Box 2476V VIC 3001. Tel: (03) 9925 2251 or email human.ethics@rmit.edu.au

Participant Consent Form

1. I have had the project explained to me, and I have read the information sheet
2. I agree to participate in the research project as described
3. I agree:
 - to be interviewed
 - that my voice will be audio recorded
4. I acknowledge that:
 - (a) I understand that my participation is voluntary and that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied (unless follow-up is needed for safety).
 - (b) The project is for the purpose of research. It may not be of direct benefit to me.
 - (c) The privacy of the personal information I provide will be safeguarded and only disclosed where I have consented to the disclosure or as required by law.
 - (d) The security of the research data will be protected during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes may be provided in a thesis, journal articles, at conferences, and student presentations but any information which will identify me will not be used.

Participant Consent

Participant :

Date:

(Signature)

As a participant you will be provided with a photocopy of this form after it has been signed by you.

Appendix 3 List of interview questions

Interview questions

1. Could you please tell me about your background and experience within the library field?

Change:

2. What are the significant changes in general you have seen in university libraries over the last two decades?
3. What other complexities do you consider you, your colleagues and staff face given the acceleration of changes when reflecting on the last 20 years?
4. In what ways have you adapted to managing change in your library?
5. How do you consider managing change has been addressed in university libraries in general?

Technology:

6. a) What technological advances have impacted on libraries in the last two decades?
b) What changes do you foresee in the next ten years?
7. How are decisions made to purchase new technologies? How difficult is it to make these decisions?
8. a) How do you keep your knowledge up to date with technological changes and new products?
b) Do you undertake research and attend conferences or at times delegate this to other staff and seek reports?
9. It could be argued that the technological advances in the library may be alien to academic staff and students. In other words, staff and students may not have knowledge of what the library offers or possess the technological know-how to access the resources? How do you address these issues?

HRD:

10. When recruiting staff are you calling for a new set of knowledge, skills and capabilities to address the needs of the 21st Century?
11. Are librarianship/information management courses providing students with the right skills?
12. How do you maintain the necessary knowledge/skills/competencies of staff in your library?

Leadership:

13. How would you describe your leadership style and how suitable it is for managing change in your library?
 14. In what ways your leadership practices and the application of new technologies affect your library administration and services?
 15. Some libraries have adopted strategic models to address change in their libraries such as Total Quality Management for example. Have you undertaken any development programs to assist you to effectively manage change in your library or used specific strategic models to assist the process?
- 16.**Do you have any further comments on the complex role of leadership or the change management and the future of university libraries?

Appendix 4 List of interview questions (includes additional prompts)

Start:

- **Sign letter**

- Thank you for agreeing to this interview
- Information provided in this interview will be kept very confidential and will not be quoted by name or institution.
- It is very helpful if I could record this interview. Do you mind that?
- Please excuse me if I take some notes.

TURN ON RECORDER

RECORD

Interview questions

1. Could you please tell me about your background and experience within the library field?

Change:

2. What are the significant changes in general you have seen in university libraries over the last two decades?
 - Change to business model of management
 - E-resources, access important, no ownership
 - Change in the physical environment, no storage but space for interaction
 - Declining public funding
 - Physical library is mostly used by students. Academics do not use the physical library.
3. What other complexities do you and your staff face because of rapid changes during the last 20 years?
 - New student diversity/different type of students/Wants and need of students. Expectations are greater; want it now, more pressure for lib staff.
 - University teaching, learning and research
 - Technology, platforms
 - Internet?
 - Library as a one stop shop
 - Staffing levels – declining
 - Any threats for the future of the university library

4. In what ways have you adapted to managing change in your library?
- How change decisions are made (being flexible, use of technology, rethink the situation and doing things differently, not holding on to the past), Flexibility/Adaptability
 - Would you have leadership group to support you? How would you decide/appoint? Getting in unsuitable people/snakes (HEW levels)
 - How would you deal with getting staff support and dealing with those who are not convinced/suspicious or not motivated? (working groups, and getting them involved, can express opinions)
 - Factors significant in successful implementation of a change program? What is your experience? Critical factors, important factors?
 - 1) Vision,
 - 2) Establish a sense of urgency/speed,
 - 3) Recognise resistance as a natural reaction/dealing,
 - 4) Communication,
 - 5) Tight alignment of people to organisational Goals,
 - 6) Transparency
 - 7) Adequate staff training,
 - 8) Strong/Effective Leadership,
 - 9) Ownership (exploiting tacit knowledge) – consultation, getting them involved
 - 10) Embed the Change in the Culture,
 - 11) Progress measurement, what measurement
 - 12) People as a resource (HDR - compassion, motivation/supportive and challenging environment, creativity, staff development and organisational learning, workforce planning, managing stress + delegation, barriers/cynicism to change, organisational democracy, teamwork, tacit knowledge),
 - 13) Strategy,
 - 14) Supportive workplace culture & Teamwork
 - 15) Proper implementation
 - Is finding clients' needs important and in what ways can you find it? Customer utilisation?
 - What else is important in successfully managing change?
 - Any problems you came across or lessons learnt from your experience?

5. How do you consider managing change has been addressed in university libraries in general? (Like a business)

Technology:

6. What technological advances have impacted on libraries in the last two decades?
- E-books/digital material
 - Internet
 - Mobile phones
 - Skype
 - Social networking, library is part of it
 - University teaching, learning and research (MOOCs /distance education+ library support+ in what disciplines)
 - What changes do you foresee in the next ten years?
7. How are decisions made to purchase new technologies? How difficult is it to make these decisions? (No new technologies. Use of cloud based technologies cheaper)
8. a) How do you keep your knowledge up to date with technological changes and new products?
b) Do you undertake research and attend conferences or at times delegate this to other staff and seek reports?
(Trade exhibitions in conferences, being part of groups)
9. It could be argued that the technological advances in the library may be alien to academic staff and students. In other words, staff and students may not have knowledge of what the library offers or possess the technological know-how to access the resources? How do you address these issues?

HRD:

10. When recruiting staff are you calling for a new set of knowledge, skills and capabilities to address the needs of the 21st Century?
- Debate - Librarians as teachers, recognition by academics, qualifications, problems, librarians in universities similar to academic staff/similar to school librarians, discipline knowledge for librarians (SLLs)
 - New blood, but they do not want to come to library profession. Do salary levels affect in getting quality people?
11. Are librarianship/information management courses providing students with

the right skills (soft/hard)?

12. How do you maintain the necessary knowledge/skills/competencies of staff in your library?
- Staff development?
 - How useful is the concept of learning organisation?
 - How creativity & innovation is supported?
 - How do you motivate staff?
 - Any other

Leadership:

13. How would you describe your leadership style and how is it suitable for managing change in your library?
(participative/consultative/democratic/directive/mix)
- Leadership roles and promotion of it?
 - Relationship between leadership and rest of the staff? (cordial, compassionate, respect, as colleagues)
 - Communication between leadership and rest of the staff (feed forward, feedback, exploiting tacit knowledge, Middle-out)
 - Training people from inside for leadership positions?
 - Middle managers/leaders in the middle, how important are they?
14. In what ways your leadership practices and the application of new technologies affect your library administration and services?
15. Some libraries have adopted strategic models to address change in their libraries such as Total Quality Management for example. Have you undertaken any development programs to assist you to effectively manage change in your library or used specific strategic models to assist the process?
- What is your method of finding out, analysing, implementing a solution and method of measuring the outcome?
 - Do you have review/progress measurement processes in place? What were the key findings of the latest one?
16. Do you have any further comments on the complex role of leadership or the change management?
- Are library resources are underutilised by academics and students? How can the library deal with it?
 - What could be the future of university libraries? How to address any challenges or address the issue?

STOP RECORDING

TURN OFF RECORDER

Conclusion:

- Provided lots of valuable information. I really enjoyed this interview.
- Can I have access to library annual reports, library strategic plan and evaluation reports
- Can I contact you again in case if I need additional information from you?
- Thank you very much for your valuable time today and it is for a good cause.
- Can I send you the transcript of the interview for any corrections?
- The final thesis will be available through the RMIT website. Happy to send a copy if you wish.
- **Send copy of the sign letter to senior supervisor.**

Appendix 5 Abbreviations used for Australian university libraries

ANU	Australian National University Library
CDU	Charles Darwin University Library
DU	Deakin University Library
FUA	Federation University Australia
LTU	La Trobe University Library
MOU	Monash University Library
QUT	Queensland University of Technology
RMIT	RMIT University Library
UA	University of Adelaide
UNSW	University of New South Wales Library
UQ	University of Queensland Library
UT	University of Tasmania Library
UTS	University of Technology Sydney Library
UWA	University of Western Australia Library
VU	Victoria University Library