Enhancing the Information Literacy Conversation by
Engaging the Voice of New Zealand Small Businesses

A thesis presented in partial fulfilment of the requirements
for the degree of

Master of Business Studies

in

Communication Management

at Massey University, Distance Learning – Manawatu, New
Zealand

Mke Ninces

July 2017

Abstract

This research contributes to a small but expanding body of research about information literacy in the workplace. Through the development of a conceptual framework and through a survey of New Zealand small businesses (NZSBs), the goal of this research was to explore the links among the concepts of information literacy, information culture, knowledge management and organisational learning. The survey of NZSBs also identifies NZSBs' current information practices, the value of information-related skills to NZSBs and how familiar NZSBs are with the terms of information literacy, information culture, knowledge management and organisational learning. This research is significant, being the first of its kind when it comes to attempting to add the voice of NZSBs to information literacy. Amongst other things, the research findings raise questions about source acknowledgement in the workplace, and reinforces the idea of social interaction being a vital aspect of information literacy in the workplace.

Acknowledgements and Dedication

Firstly, I must thank everybody who participated in this research. Without you, I would not have a thesis.

Secondly, to Dr. Angela Feekery and Dr. Niki Murray. Angela, thank you for agreeing to supervise your first thesis and thank you for introducing me to the concept of information literacy, or putting a label on something I have known for all my life. I hope my thesis has done the concept justice. Niki, thank you for agreeing to be the co-supervisor for this thesis. I admire your persistence in the survey research field and I appreciate the guidance you have graciously given me and Angela. I also wish to thank both of your families for enabling you to support me.

To Dr. Andrew Chrystall and Dr. Margaret Brunton, when I started your papers in semester one, 2013, I had taken a leap of faith by changing from a Bachelor of Arts, to a Bachelor of Communication. Your papers made me feel like I was home. I hope that one day, I can make a future student feel the same. Your advice, wisdom and input will always be treasured.

My caseworkers at Geneva Elevator: Belinda, Tessa, Momina, Sheridan & Libby. I want you to know that your loyalty and long hours don't go unnoticed and are much appreciated.

This thesis would not have been possible without the TalkLink Trust so a massive thanks to the TalkLink Trust, especially to Ann Smaill. You gave me a voice and I hope it is a voice that will inspire many.

Long time friends, Amy Nielson, Aline Rohr, Shayna Lawton, Sharon Jooste and Darius Braun; Sailability Auckland especially Steve Cranch; Sailability Hawkes Bay – Katy, Mark, Paul, Dennis, Otis, Tim, Annabelle and their extended families. You keep me sane by providing me with social and sporting outputs.

I wish to acknowledge my grandparents: Brenda and Lennard Nicholson, Kevin and Pat Kench, and Jacqueline and Cyril "Lucky" Walles. Your dreams for me mean everything and I hope your dreams are now a reality, or at the very least, are a work in progress.

Contents

List of Tables

List of Figures

Part I: Research Background
CHAPTER ONE:
Introduction

"Access to information affects our lives from economic well-being to privacy rights, from workplace management and monitoring to policy and decision making and from daily errands to transnational business."

- McCreadie and Rice (1999, p. 45)

Having access to information is an essential part of our lives. As handling information is such an inherent part of being human, it manifests as an implicit or unconscious process, which, as Fister (2011, para. 2) suggests is just like breathing. As a result, the complexity of skills, values and behaviours which underpin information handling are rendered invisible. Consequently, most people do not think about their information handling processes until a problem arises, when the need to think about these processes becomes important.

Researchers have acknowledged the importance of information to organisations (Davenport, Eccles & Prusak, 1992; De Saulles, 2007; Nelson, 1994; Hatala & Lutta, 2009), widely focussing on information behaviour (Aydin, 2015; Ikoja-Odongo & Mostert, 2006; Robson, 2013). However, the scope of their research has been limited, and, according to Ikoja-Odongo and Mostert (2006), the need exists for research to focus on "people's daily information behaviour" (p. 156).

Since the 1990's, a small but growing body of research has revealed that employees struggle to get the information they need to do their jobs, especially because the information age has increased the amount of information people encounter (Davenport, et al., 1992; Nelson, 1994; Hatala & Lutta, 2009). In fact, a 2007 study estimated that small enterprises in the UK collectively wasted between £3.7 billion and £8.2 billion a year looking for information (De Saulles, 2007). Despite acknowledging the importance of information to organisations and the potential consequential financial implications, there has been "no sense of urgency" to ensure there is a universal understanding of the information-handling

skills which are essential for people to have (Kapitzke, 2003) to work efficiently and effectively.

Yet, a particular term has been specifically coined to capture the skills people need to handle and use information in the most effective and ethical manner possible. The term is "information literacy" and it has become well established in some areas, such as the library and information science sectors and academic contexts   (O'Farrill, 2008; Rader, 2002). For example, many universities have now aligned some of their courses to reflect suggested "information literacy" curricula (Feekery, 2013) and to advertise their graduates as being "information literate." However, the inclusion of information literacy and its encompassing skills in curricula and learning outcomes does not mean that students understand what information literacy is or what being information literate means, especially if the content of lectures never explicitly covers information literacy. Furthermore, a question exists regarding whether businesses which hire supposedly "information-literate" graduates share the same understanding of "information literacy" which universities do. In response to this question, a small body of research currently exists on how information literacy relates to businesses (Weiner, 2011). However, no research still exists on information literacy in the New Zealand business context.

1.1 Scope and Significance of This Research

The aim of this research was to identify New Zealand small businesses (hereafter, NZSBs) current information practices, how they value information-related skills and whether the terminology and concepts used in business communication curricula are relevant to NZSBs. This research is significant because it has a dual purpose.

Firstly, the research provides insights into how NZSBs find, value and use information. Such insights are key for organisations, the government and other parties interested in creating future policies and guidelines related to what information skills individuals need in the New Zealand workforce. For example, this research may help to inform organisational policies regarding employees' maintaining their skills through organisational learning and professional development.

Secondly, this research outlines the explicit connections between information literacy, a general term that academics use,and information culture, organisational learning and knowledge management, specific concepts taught to business and communication students.

These insights could help tertiary educators to understand where in their curricula the implicit skills captured within information literacy could be embedded to ensure that graduates are workforce ready.

1.2 Research Questions and Objectives

The purpose of this research was to establish an understanding of information literacy in NZSBs by exploring the following research questions and associated objectives:

1. What comprises the information landscape(s) of NZSBs?
    - Establishing the kinds of information which New Zealand employees:
        - encounter on a daily basis
        - access to complete required tasks
        - find reliable and trustworthy

2. To what extent is information literacy and its related abilities valued in NZSBs?

    Determining whether NZSBs:

    - perceive various information-related skills as being important to their organisations
    - explicitly teach employees the information-related skills that the organisations value
    - assess employees to see if the staff possess the information-related skills that the organisations value
    - find various information-related skills to be difficult.
    - believe that the majority of employees possess the information-related skills that the organisations value.

3. How do the concepts of information culture, knowledge management, and organisational learning relate to information literacy?

Determining whether:

- the existing literature implicitly or explicitly demonstrates connections among the terms of information literacy, information culture, organisational learning and knowledge management
- NZSBs use the terms of information literacy, information culture, organisational learning and knowledge management
- representatives from NZSBs are familiar with these terms and can define them
- representatives from NZSBs associate these terms with any specific information-related skills

1.3 Organisation of Thesis

This thesis consists of four parts. Part I contains two chapters: Chapter One, the introduction, and Chapter Two, the literature review. These chapters explore the value of this research by exploring the existing literature and establishing the gap this research will address.

Part II consists of Chapter Three, which explores the philosophical approach to this research and outlines the method used, with a particular focus on the survey used to determine the current information landscape(s) in NZSBs.

Part III focuses on the research results. Chapter Four outlines the survey results relevant to Research Questions 1 and 2. Chapter Five introduces a conceptual framework which shows how existing literature can be interpreted to demonstrate the explicit connection among information literacy, information culture, organisational learning and knowledge management, then outlines the survey results relevant to Research Question 3.

Part IV discusses key learnings from the research. Chapter Six discusses the results of the survey and the answers to the research questions with regards to the existing literature. Chapter Seven concludes the thesis by exploring the limitations of the research, outlining the potential implications for both NZSBs and academics and providing ideas for future research.

CHAPTER TWO:

Literature Review

This chapter reviews current literature, thereby establishing the research gap, and highlighting the need for this research on information literacy in NZSBs. This literature review consists of two sections. Section 2.1 explores the topic of information behaviour and information literacy, and reviews relevant studies about information literacy in the workplace. Section 2.2 then briefly explores the concepts of information culture, organizational learning and knowledge management and how these concepts may relate to information literacy.

2.1 Introducing Section 2.1

The first section explores the topic of information, information behaviour and information literacy; and is divided into six subsections. Section 2.1.1 describes what is meant by the word "information." Section 2.1.2 looks at the different elements of information behaviour. As information literacy research has been dominated by the educational and librarianship fields, Section 2.1.3 explores how information literacy is understood in both academic and workplace contexts. Section 2.1.4 provides an outline of studies that focus on information literacy or information-related skills in a workplace context. Section 2.1.5 then highlights the key themes in the literature and the transferability of the ACRL (2015) framework to a workplace context.

2.1.1 What is information?

Before information behaviour and information literacy can be introduced, it is important to understand what is meant by the word information. Elmborg (2012) states "information is literally any material thing that informs us. For something to be information, there must be a person who is informed" (p. 83). Floridi's (2010) book may be called "Information: A very short introduction" but it is a very comprehensive and complicated analysis of what the word information can mean. Floridi argues that the definition of information may change depending on the context or discipline in which the information is being used. This argument has been previously highlighted by McCreadie and Rice (1999), who suggest that

there are four general ways in which information can be conceptualised. These conceptualisations will be outlined to show how information is understood in this thesis.

Firstly, information can be conceptualised as a resource or commodity. By this, it is implied that humans *have* information and therefore information is perceived as "a message, a commodity, something that can be produced, purchased, replicated, distributed, sold, traded, manipulated, passed along, controlled" (McCreadie & Rice, 1999, p. 47). This perspective of information implies that information is an asset, which may be subjected to individual interpretation and manipulation.

Secondly, it is argued that information *is* data and data is found *in* the environment. Examples of data being found in the environment are "objects, artefacts, sounds, smells, events, visual and tactile phenomena, activities, phenomena of nature" (McCreadie & Rice, 1999, p. 47). This perspective of information implies that everything is information, and thus, humans are unconsciously receiving information on a continuous basis. However, it may be argued that data is also an asset, thus, data is manipulatable and subjected to individual interpretation (Zins, 2007).

Thirdly, information can be understood as being a representation of knowledge. By this, it is implied that "documents, books, periodicals, some visual and auditory representations; abstractions of information (e.g. citations)" (McCreadie & Rice, 1999, p. 47), contain information in the form of representing knowledge. This perspective of information implies that information is simply making implicit and intangible knowledge, a tangible product.

The final way in which information is conceptualised by McCreadie and Rice (1999) is as an element of the communication process. It is argued that handling information is "a part of human behavior in process of moving through time/space to make sense of world" (McCreadie & Rice, 1999, p. 47). This perspective of information implies that information is primarily the consequence of human interactions.

For this thesis, information will be defined as an intangible product of communication between humans, their peers and their environment and other

sources of communication. It includes being a commodity, a source of data, a representation of knowledge and part of the communication process. It can be argued that there is a cyclical relationship between the concepts of information and communication, as shown in Figure 1.
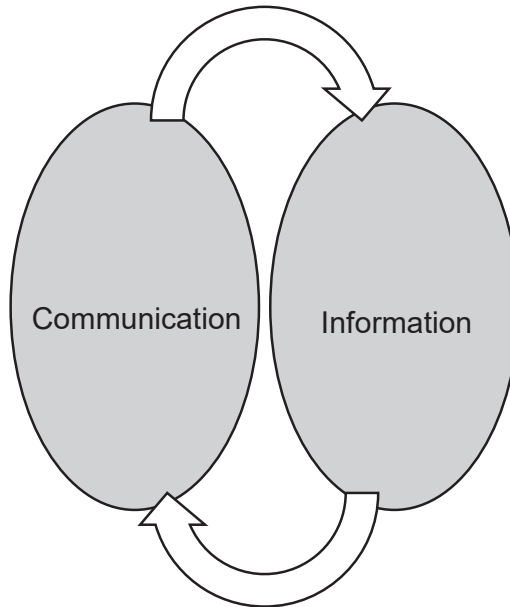
Figure 1. Relationship between communication and information

In essence, communication is the process of sharing information, while information is the manifestation of personal interpretation of communication.

2.1.2 Information behaviour

An area of business research that has been sporadically studied since the 1970's is information behaviour. In academic literature, information behaviour has various definitions. For example, Wilson (2000) provides the following definition: "Information behavior [*sic*] is the totality of human behavior [*sic*] in relation to sources and channels of information, including both active and passive information seeking and information use." (p. 49). Meanwhile, Ingwersen and Jarvelin (2005) define information behaviour as the "generation, acquisition, management, use and communication of information, and information seeking" (p. 259). Robson (2013) concludes that information behaviour is a set of activities, primarily "information seeking and acquisition, use of information and, communication" (p. 2).

As discussed by Ikoja-Odongo and Mostert (2006), Robson (2013) and Aydin (2015), there are many models that attempt to explain information behaviour (see these articles for detailed discussion of the models). However, as this research is only interested in how information behaviour relates to information literacy, a concept introduced in Section 2.2 for this research, only elements of the definitions mentioned above, rather than the models, will be explored.

2.1.2.1 Information seeking and acquisition

As mentioned in the previous section, information seeking or information acquisition is a key part of information behaviour. Like information behaviour, information seeking has many definitions. Case (2002, p. 5) simply defines information seeking as "a conscious effort to acquire information in response to a need or gap in your knowledge." Meanwhile, the complexities of information seeking are acknowledged by Pendleton and Chatman (1998), who suggest that information seeking may be viewed as: a cognitive exercise; a social and cultural exchange; a set of skills employed when confronting uncertainty, and as a basic condition of humanity in which all individuals exist. For this thesis, information seeking will be defined as the purposeful process of finding information.

2.1.2.2 Using and communicating information

Using and communicating information is another key part of information behaviour. The act of knowing why and how one uses information is known as information use (Choo, Bergeron, Detlor & Heaton, 2008). Various models have been developed to highlight key understandings of information use. Taylor (1991) studied the information use environments of a variety of people, who were representative of different occupations, different socioeconomic and minority groups, and different community groups. Based on this research, Taylor (1991) concluded that there were eight ways, in which information could be used, as shown in Table 1.

Table 1

Taylor's Eight Types of Information Uses

Information Uses	Description
	Information is used to:
Enlightenment	Develop a context or to make sense of a situation.
Problem Understanding	Better grasp a particular situation or issue.
Instrumental	Indicate what an individual needs to do and tells how the individual can achieve the task.
Factual	Ascertain the facts of a particular occurrence or situation. These facts can then be combined to depict reality.
Confirmational	Corroborate and validate or disprove other information.
Projective	Calculate what potentially could happen in the future and forecast the future.
Motivational	Gain confidence by initiating or sustaining personal involvement in order to maintain a particular course of action
Personal or Political	Develop relationships, enhance status, reputation, and personal fulfilment

Note: Adapted from Taylor (1991, p. 230).

Three key characteristics of information use can be drawn from the model. Firstly, all of the information uses appear to be reliant on the assumption that individuals can interpret information. Secondly, it appears that some of these information uses require the skill of critical thinking, in terms of looking at information from various ways. Thirdly, the model, particularly the motivational information use, suggests that some people may use information for their own personal gain, leading to the question of the role of ethics in information use.

Kirk's (2002, p. xii) model, by comparison, is an outcome model that examines the different modes by which information use is "understood and experienced" in an organization. It also incorporates the communication of information as well as the use of information. The model, as outlined in Table 2, shows five ways that managers understand and experience information use.

Table 2

Five Ways that Managers Understand and Experience Information Use

Ways that managers understand and experience information use	Description
Information Packaging	Information used as "repackaging existing information in a different form and format so that it is accessible to others." Information packaging is deemed to be a crucial part of assisting with information flow.
Information Flow	Information used as "enabling the flow of information by transmitting it to people or exchanging it with them."
Developing New Knowledge and Insights	Information used as a "forward-looking process" that creates new ideas and meanings.
Shaping Judgments	Information used to justify a position, stance or decision.
Influencing Others	Information used as a way to influence the behaviour of others.

Note: Adapted and directly quoted from Kirk (2002, p. 188-236).

As mentioned earlier, Kirk's (2002) model incorporates the communication of information. For example, *information packaging* requires the ability to communicate information/knowledge effectively. Similarly, *information flow* requires the ability to communicate and share information/knowledge effectively. A logical assumption is that in order for an individual to be able to *package information*, they first must process and analyse the information, reiterating the need for people to have the ability to interpret information. Kirk's (2002) concept of *influencing others* reinforces the idea that information can be a source of power and manipulation as suggested by Taylor's (1991) motivational and personal/political information use. This raises the question of ethics and the idea of using and communicating information effectively.

2.1.2.3 Decision-making

A key information use in organisations is to inform decision-making processes. The idea that information can be used to make decisions or solve problems is implicit in Taylor's (1991) information uses and Kirk's (2002) concepts of "developing new knowledge and insights" and "shaping judgments." Huitt (1992) explains the key differences between problem-solving and decision-

making. Problem solving is a process in which individuals attempt to resolve a gap between a present situation and a desired goal, with the path to the goal blocked by known or unknown obstacles. In general, the situation is one not previously encountered, or where at least a specific solution from past experiences is not known. In contrast, decision-making is a process where an individual needs to select one of two or more possible solutions, to be able to achieve the desired outcomes. Huitt (1992) concludes that in some situations or contexts, problem solving and decision making may be used interchangeably as the steps involved in both processes are quite similar. After reviewing the works of several authors, Citroen (2011) created a seven-step model to explain the decision making process. The steps are:

1. The issue or problem is properly identified and the objectives of the decision are well defined by the decision-makers.
2. The decision-makers actively search for information on potential alternatives.
3. The decision-makers carefully weigh the advantages and the disadvantages of these alternatives and the chances of success for each of them.
4. Even when a preliminary solution is in sight, new information or expert judgment is accepted, studied, and analyzed, even if it contradicts earlier ideas and preferences.
5. Before a final decision is made, positive and negative consequences of all alternatives are re-examined.
6. Provisions for implementation of the decision are prepared, (including a contingency plan that might be required if the implementation fails).
7. A procedure is defined for follow-up of the decision to judge if the purpose has been achieved or has to be reconsidered.

To summarize, the first step of Citroen's (2011, p. 494) model relates to Taylor's (1991) idea of an individual identifying their information needs. Steps two and four refer specifically to the need to actively search for information and

consider existing and new information in the initiation and developing phases of the decision-making process. Steps three and five appear to reinforce Taylor's instrumental, factual, and conformational information uses as information is being used to advise people of the possible alternatives and their consequences and to guide decisions. Finally steps six and seven emphasize putting information into use, enabling a decision to be made, implemented, and reviewed.

2.1.2.4 Information behaviour research in NZ

The topic of information behaviour appears to have been sporadically researched. For example, the only research done on information behaviour in the context of a New Zealand workplace appears to be Chalmers' (1995) study, which reviewed the information needs and uses of 27 people who held managerial positions in New Zealand tourism businesses. The study's main finding was that the respondents did not have a process to systemically seek information when confronted with a new information need. Instead, the respondents tended to recycle information they already possessed to meet their information needs.

2.1.3 Information Literacy

A concept that has been well researched over the last four decades is information literacy. Understanding information literacy is important as the Alexandra Proclamation (as cited in Garner, 2006) states that:

> Information Literacy lies at the core of lifelong learning. It empowers people from all walks of life to seek, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations. (p.3)

Section 2.3 provides an overview of information literacy, from its conception to its establishment in the library, information science, and academic sectors, to shifts towards more holistic understandings of the concept, and finally, to emerging understandings in non-academic contexts, particularly within workplace contexts.

2.1.3.1 From literacy to information literacy

The term "literacy" originally refers to the ability to read and write (Vaccarino, Comrie, Murray, Sligo, & Tilley, 2013). However, the term "literacy" has been generalized to an extent that it can be applied to any area where there is knowledge to be learnt. Dubin and Kuhlman clearly state that "the word [literacy] itself has come to mean competence, knowledge and skills" (1992, p. vi, as cited in Vaccarino, et al, 2013, p. 5). Furthermore, understandings of literacy have shifted away from skills and competencies, and can be viewed as a social practice (Street, 2003, cited in Stordy, 2015). This shift of understanding and the international increase in access to the internet (Stordy, 2015), has led to new modes of literacy being identified, including information literacy, and metaliteracy (Mackay & Jacobson, 2014) (see 2.3.2.1).

Paul G. Zurkowski, a business, copyright and intellectual property lawyer, is commonly acknowledged as the first person to coin the phrase "information literacy" and "information literate" (Badke, 2010; Nazari & Webber, 2012). It is argued that Zurkowski coined these terms after reviewing the skills needed by those employed in the information services sector (Kapistke, 2003) and as a response to the shift towards digital information (Head, 2012). While it is believed that Zurkowski was not intending his phrases to be solely used by librarians and information science professionals (O'Farrill, 2008), since the term emerged in a report addressed to the National Commission on Libraries and Information Science (Badke, 2010; Nazari & Webber, 2012), much research on information literacy has been concentrated on libraries and the education sector (Rader, 2002). O'Farrill (2008) argues that the "information" part of the phrase "information literacy" perhaps limits the use of the concept to the information science arena, and as such, the concept is not widely understood outside the library sector.

2.1.3.2 Definitions and models of information literacy

In the past five decades, numerous definitions and expanded understandings of information literacy have emerged as focus shifts from library skills to broader holistic understandings. In 1989, a definition of information literacy was published in a report, authored by the American Library Association,

and commissioned by for the 1989 Presidential Committee on Information Literacy (ALA, 1989, para. 2), and it was later extended by the Association of College and Research Libraries (ACRL). The definition is "information literacy is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information" (ACRL, 2000, p. 2). The ACRL explained that an information literate person should be able to:

- Determine the extent of information needed.

- Access the needed information effectively and efficiently.

- Evaluate information and its sources critically.

- Incorporate selected information into one's knowledge base.

- Use information effectively to achieve a specific purpose.

- Understand the economic, legal and social issues surrounding the use of information, and access and use information ethically and legally. (ACRL, 2000, p.2-3)

The above definition has been influential, and has led to the development of a wide range of information literacy models (Feekery, 2013; Ferguson 2009). In the 1980's and 1990's, information literacy models such as SCONUL's original model (SCONUL, 1999) focussed on the attainment of information literacy skills in academic contexts, from the easiest to the most difficult. Linear, skills-based approaches to information literacy has been criticised by many, including Bruce (1994), Mokhtar, Majid, and Foo (2004), Ward (2006) and Markless (2009), who feel the approach limits the use and development of information literacy skills in other non-academic contexts, which are not explored in the models. Elmborg (2012) argues that information literacy skills models and standards "played a major role in turning information literacy into a 'thing' we own, but aren't sure what to do with", which in turn "defined our thinking and kept us from seeing other possibilities" (p. 78).

In the mid 1990's, several researchers began to explore information literacy models that took a broader holistic view of information literacy,

understanding the concept as a combination of skills, behaviours, attitudes, knowledge, and values; thus, there began to be a shift towards information literacy models that centred on attitudes and values rather than skills (Feekery, 2013).

2.1.3.2.1 Holistic understandings of information literacy

After researching the embedding of information literacy within the education curricula of developing countries, Dorner and Gorman (2006, p. 284) concluded that an operational and seemingly holistic definition of information literacy would involve encouraging people:

- "To be aware of why, how and by whom information is created, communicated and controlled, and how it contributes to the construction of knowledge.
- To understand when information can be used to improve their daily living or contribute to the resolution of needs related to specific situations, such as at work or school.
- To know how to locate information and to critique its relevance and appropriateness to their context.
- To understand how to integrate relevant and appropriate information with what they already know to construct new knowledge that increases their capacity to improve their daily living or to resolve needs related to specific situations that have arisen."

Meanwhile, Elmborg (2012) argues for a critical information literacy approach, which highlights the relationships between information and people, rather than a focus on skills development. Elmborg (2012) describes information literacy as "a set of complex interwoven processes … that are mobile, flexible, and malleable, residing in various places and in constant flux" (p. 77).

Secker and Coonan (2013) also used a holistic definition of information literacy, when developing their 'A New Curriculum for Information Literacy' (ANCIL) model, a curriculum for tertiary students. Information literacy is defined as: "a continuum of skills, behaviours, approaches and values that is so deeply entwined with the uses of information as to be a fundamental element of learning, scholarship and research" (Secker & Coonan, 2013, p. xxii).   This holistic

definition captures the shifting and expanding understanding of literacy (see 2.1.3.2), as it encompasses competence, knowledge, and skills.

2.1.3.4.2 Information literacy as a metaliteracy

Since 2010, the idea of information literacy as a metaliteracy has emerged in information literacy conversations (Kurbanoglu, 2013; Mackey & Jacobson, 2011). Mackey and Jacobson (2011) define metaliteracy as "an overreaching and self-referential framework that integrates emerging technologies and unifies multiple literacy types" (p. 1). Acknowledging that existing conceptions of information literacy fail to adequately account for the competencies needed to successfully navigate new information and media environments, Mackey and Jacobson (2014) argue that information literacy is the uniting metaliteracy, which underpins many other literacies. Mackey & Jacobson (2011) argue the aim of many literacies is the retrieval, creation, and dissemination of information, and therefore the various definitions of information literacy often overlap with the definitions of other literacies. Kurbanoglu (2013) lists basic literacy, visual literacy, computer literacy, digital literacy, and media literacy as being under the umbrella of information literacy. This reconceptualization positions information literacy as the metaliteracy, or umbrella term, which encompasses other identified literacies, as shown in Table 3.

This view of information literacy as a metaliteracy aligns with the holistic views and definitions of information literacy, recognising the role of context to determine information needs, uses, and meaning-making.

Table 3

Examples of Various Literacies under the Information Literacy Metaliteracy Umbrella

Literacy	Definitions
Basic Literacy	An umbrella term for reading and writing abilities (Kurbanoglu 2013, p. 83),
Computer Literacy	"A general understanding of what computers can do" and possessing the ability to use computers in an effective manner (Kurbanoglu, 2013, p. 82).
Digital Literacy	"The awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process." (Martins 2006, p. 135-136).
Functional Literacy	"The training of adults to meet independently the reading and writing demands placed on them" (Gray, 1956, p. 21).
Network Literacy	"The ability to identify, access and use electronic information from the network" (McClure, 1994, p.115).
Media Literacy	"A media literate person … can decode, evaluate, analyse and produce both print and electronic media. The fundamental objective of media literacy is a critical autonomy to all media. Emphases in media literacy ranges widely, including informed citizenship, aesthetic appreciation and expression, social advocacy, self-esteem, and consumer competence." (Audferheide, 1997 p. 79)
Visual Literacy	"The ability to analyse and interpret images, and other visual material, although critical, is not by itself sufficient for full visual literacy; it must be accompanied by some ability to create visual material." Brumberger (2011, p. 21)
Workplace Literacy	"The training and basic skills necessary for employees to obtain new employment, maintain or achieve promotions in current careers, make current jobs easier or their work more productive." (Blake, 2016).

(Information Literacy encompasses all of the above literacies as shown by the bracket in the left margin.)

2.1.3.5 ACRL (2015)

In 2015, the ACRL revised and updated its information literacy framework to align with the holistic understandings emerging throughout the first decade of the new millennium. Past ACRL frameworks (2000) outlined specific learning outcomes and a list of corresponding skills (ACRL, 2015). The specificity of these frameworks has discouraged use in places that lie outside the area of tertiary education, including businesses, which could not follow the specific implementation strategy. To encourage more people to actively engage with information literacy, the new holistic framework was based on "a cluster of interconnected core concepts, with flexible options for learning outcomes" (ACRL, 2015, p. 2). The ACRL now defines information literacy as "the set of

integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (p.2).

Unlike the ACRL's (2000) definition, this definition does not list the specific abilities required to be information literate. Instead, the definition describes information literacy as a discovery process that has values embedded into it, emphasising the importance of information literacy to learning and knowledge creation.

The new ACRL framework is divided into six components, with each component consisting of a concept central to information literacy and a corresponding set of potential abilities, known as knowledge practices and dispositions (see Appendix A). The framework also identifies the differences in abilities of novices and experts for each component. The six components/concepts and the corresponding abilities of novices and experts are outlined in Table 4.

Table 4

The Six Components of the 2015 ACRL Framework

Component	Description	Abilities of Novice Learners	Abilities of Expert Learners
Authority is Constructed and Contextual	Reliability and validity of information depends on the expertise and credibility of the individual or organization providing the information. The validity of information also depends on the context in which the information is being used and how the information will be used. The context in which the information is being used and how the information will be used, determines the authority of information provided.	• Question the origins and context of information. • Determine whether the information fulfils their current information need. • Use basic indicators such as type of publication details to determine authority and validity.	• Understand that authority is a kind of influence known or exercised within a community. • Be justifiably sceptical about authority. • Be open to new perspectives, additional voices, and changes in schools of thought. • Understand the validity of information differs, depending on which authorities created the information. • Acknowledge biases that may influence information's validity.
Information Creation as a Process	Information, regardless of its format, is created to express a message and is shared via a chosen delivery method. How information is researched, created, revised, and disseminated, information can vary. Subsequently, the resulting information reflects the differences in production.	• Begin recognizing the importance of how information is created and how the creation process influences the information. • Understand their rights, responsibilities when using, and creating information. • Select resources regardless of formats.	• Recognize information is formatted differently, depending on the context in which the information is used and presented. • Recognize that the production of information is valued. • Considers the production of information important in critically evaluating the information.
Research as Inquiry	Research occurs when increasingly complex or new questions are asked. In turn, answering these questions may lead to additional questions or other lines of inquiry.	• Acquire "strategic perspectives on inquiry." • Increase their selection of investigative methods. •	• View inquiry as focussing on unresolved problems or open questions. • Recognize research as an ongoing process which requires collaboration to extend and expand knowledge in a chosen field.

Table 4 Continued

Component	Description	Abilities of Novice Learners	Abilities of Expert Learners
Information has Value	"Information possesses several dimensions of value, including as a commodity, as a means of education, as a means to influence, and as a means of negotiating and understanding the world." Subsequently, legal and socioeconomic interests influence how information is created and shared.	• Unable to understand that information can be valuable in many different ways. • Able to view information as having value instead of being free, by encountering copyright and plagiarism notices.	• Understand that information can be valuable in many different ways. • Understand the value of information can be determined by powerful individuals/organizations, which may restrict other voices. • Understand individuals are responsible for making an informed decision, when choosing to comply with or contest the current (legal or socioeconomic) values of information
Scholarship as Conversation	"Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations."	• Add to conversations by referencing and elaborating on past research.	• Recognize a question may have more than one answer. • Recognize a topic may have several competing theories/perspectives. • Seek out alternative or competing theories/perspectives. • Add to and deepen conversations by using debate and dialogue.
Searching as Strategic Exploration	"Searching for information is often non-linear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops."	• Use a limited number of search strategies. • Use a limited variety of resources.	• Select and use what they deem to be the best search strategies. • Use a variety of resources.

Source: Adapted and directly quoted from (ACRL, 2015, p. 4-9).

The first component of the 2015 ACRL Framework is *Authority is Constructed and Contextual*, meaning that the validity and reliability of information is a matter of interpretation. For example, a student may be seen as an expert on their specific subject amongst their family and friends, but would not

be seen as a credible authority within that subject's scholarly community. The second component is *Information Creation as a Process*, meaning how and why the information has been created and distributed is just as important as the information itself. The third component is *Information has Value*, meaning that information can be viewed as an asset. This reinforces the beliefs of Kirk (2002), McCreadie and Rice (1999), and Taylor (1991) that information has the power to be a valuable and influential commodity (see section 2.2.2). The fourth component is *Research as Inquiry*, which suggests that research is a continuous process as answering research questions often leads to more questions and other lines of inquiry. For example, information literacy has been well-researched in an academic context, which has led to questions about what information literacy looks like in other contexts. The fifth component is *Scholarship as Conversation*, which suggests that research helps to create and maintain conversations within scholarly communities. The sixth component is *Searching as Strategic Exploration*, which recognises that searching for information is not a linear process. Subsequently, information seekers must have the adaptability to pursue emerging avenues of research. However, the key feature of the ACRL (2015) framework is the recognition that these information literacy-related competencies, knowledge, and skills are developmental and can be taught, and therefore measured or assessed.

2.1.4 Workplace information literacy research

This literature review now shifts focus towards exploring a small but growing body of research on information literacy conducted in workplace contexts. As already discussed, the concept of information literacy may be less understood outside the library and academic contexts (Head, 2012; Sayyad-Abdi, Partridge & Bruce, 2013). The section begins with an overview of Christine Bruce's 1997 and 1999 study of the seven faces of information literacy in both academic and workplace contexts. The remainder of the section then chronologically outlines other studies centred in workplace information literacy published since 2000.

2.1.4.1 Seven faces of information literacy

This section provides an overview of Christine Bruce's (1997) Seven Faces of Information Literacy (hereafter, SFIL) and her subsequent (1999) model of Seven Faces of Workplace Literacy (hereafter, SFWIL), one of the earliest and most influential research studies of information literacy in the workplace. In 1997, Bruce researched the different ways in which university students could understand and experience information. The research resulted in Bruce creating the SFIL model, which outlines the seven ways in which university students appeared to understand and experience information. These ways, which Bruce describes as faces or conceptions, are outlined in Table 5.

Table 5

Bruce's Seven Faces of Information Literacy

Conception	Description
Information Technology	Focus on tools to retrieve information, and interact and network socially.
Information Sources	Knowledge of sources of information and ability to find and access information independently.
Information Process	Information use to solve problems, and make informed decisions.
Information Control	Ability to effectively store and retrieve information in both hard copy and electronically.
Knowledge Construction	Building personal knowledge through critical information use, adopting personal perspectives.
Knowledge Extension	Gaining insight for new ideas or creative solutions through experience and reflection, recognising the value of information.
Wisdom	Using information wisely to benefit others through considered judgment; recognition of personal attitudes, values and beliefs, while seeing information in the broader context.

Note: Reprinted with Permisson from Feekery (2013, p. 325)

Bruce's SFIL appears to focus on human activity, that is in how individuals handle information. Subsequently, Stordy (2015) identifies Bruce's model takes on an ideological-conventional perspective as the model is "focused on how experienced information users experience information literacy" (p. 467), therefore, social practices are central to this model of information literacy.

An important point to note is that two or more of the conceptions cannot be experienced simultaneously, but may be experienced by the same person in

different contexts at different times. The context of the information interaction determines the relevant conception; therefore, it is expected that as information needs change, how individuals understand and experience information also changes, resulting in a differing conception. However, Bruce (1997) emphasizes that the conceptions are not necessarily sequential, meaning that there is no form of progression amongst the conceptions. Furthermore, there is no suggestion that some conceptions are superior or inferior to the others. This means individuals do not need to strive towards progressing through the seven faces. Continuing her research, Bruce (1999) then explored the experiences of professionals to determine their experiences of information literacy. This study resulted in the creation of the SFWIL framework, which is described in Table 6.

Table 6

Bruce's Seven Faces of Workplace Information Literacy

Conception	Description
	During this conception…
Information Technology	information technology is seen as the crucial component of information literacy. Individuals use technology, such as computers to find and share information.
Information Sources	locating information/knowledge is seen as the crucial component of information literacy. Individuals tend to rely on others, who already have the knowledge to find and share information.
Information Process	information literacy is defined by the ability to recognise information needs and satisfy those needs through information processes.
Information Control	personally managing and understanding information/knowledge is seen as the crucial component of information literacy
Knowledge Construction	information literacy is defined by the ability to critically analyze information and reflect on it. This enables knowledge, shaped by personal perspectives of the information, to be created.
Knowledge Extension	experiences and existing knowledge are used, with further research to create new insights, knowledge and ideas
Wisdom	experiences and existing knowledge are used to the benefit of others. This particular conception seems to promote open and honest communication between individuals.

Note: Adapted from Bruce (1999, pp 36-40).

As shown in Tables 5 and 6, there are noticeable similarities between the knowledge construction, knowledge extension, and wisdom conceptions of Bruce's (1997) SFIL and Bruce's (1999) SFWIL. A plausible explanation for this

could be the influence of the context in which this research was conducted. Bruce's (1999) SFWIL study was still situated in a tertiary institutional context. The professionals Bruce selected to participate in the study mainly worked in Australian universities and were divided into four categories: academics from various disciplines; staff from counselling services; librarians and information technology professionals; and staff developers. Given that all of the participants worked in an academic setting, it is possible that their information behaviour reflects an academic environment rather than a typical business.

However, there do seem to be key differences between the other conceptions of Bruce's (1997) SFIL and Bruce's (1999) SWIL. Firstly, the information technology conception in Bruce's (1997) SFIL model is centred around using non-specific tools to engage with social networking to get information. In comparison, the information technology conception in Bruce's (1999) SWIL model is more reflective of its name and emphasises the use of information technology in the search and distribution of information. Secondly, the information sources conception in Bruce's (1997) SFIL model seems to imply a solitary approach to sourcing information whereas the information sources conception in Bruce's (1999) SWIL model emphasises that colleagues tend to act as a workers' main source of information. Thirdly, the information process conception seems to be more generalized in Bruce's (1999) SWIL model than in Bruce's (1997) SFIL model. Finally, the information control conception in Bruce's (1997) SFIL model refers to an individual's capability to store and retrieve information. This sentiment is generalized and elaborated on in the information control conception in Bruce's (1999) SWIL model, which focuses on the personal management and understanding of information. All the differences between these conceptions may be potentially explained by the fact that workers have more varied information needs than students.

Although the volume of research on information literacy in the workplace has increased in recent years (Goldstein, 2016), Bruce's work remains prominent and relevant. The following sections 2.4.2 – 2.4.10 provide a brief overview of other studies conducted since 2000 centred on information literacy in workplace contexts.

2.1.4.2 Information literacy as a social and embodied practice

Since the mid 2000's, Annemarie Lloyd, another well respected information literacy scholar, has recognised that the educational perspective of information literacy is so dominant that other experiences of information literacy struggle to be identified and understood (Lloyd, 2005). To investigate how information literacy may be understood in vocational workplaces, Lloyd conducted research with firefighters and paramedics, exploring how they handle information with regard to organizational learning (Lloyd, 2005; Lloyd, 2006; Lloyd, 2007). The most significant finding was while firefighters could source information from manuals and books and learn from their colleagues' knowledge, the information the firefighters and paramedics gained through their own experience was the most important in gaining professional competence. Subsequently, the shift towards practical on-the-job experiences being the key information source, while reliance on textual sources decreased, has led Stordy (2015) to conclude that Lloyd's research has "illuminated attitudes and competencies related to information and information literacy hitherto undiscovered" (p. 468).

Lloyd's (2005, 2006, 2007) research has reiterated the idea that information literacy is a context-based phenomenon, or a framed by a socio-cultural perspective. This means that information literacy should be "understood as a socially and culturally influenced process and practice, shaped by the situated nature of interaction between people and through embodied experience in specific information experience in specific information landscapes" (Lloyd, 2006, p. 579). Subsequently, Lloyd has expressed concern over the dominance of information literacy research in the education sector. Lloyd's primary concern is that relevant understandings of information literacy in other information landscapes is missing, and that the voices of those for whom information literacy is essential, remain silenced.

2.1.4.3 Information literacy and job skills

Using quantitative data from an occupational information database, Louise Klusek and Jerry Bornstein (2006) correlated ACRL information literacy standards with employers' job specifications in business and finance. They found

information literacy skills were not grouped into a specialized set of skills required for different jobs. Instead information literacy skills were seen as key competencies needed for most jobs in business and finance. This finding supported the authors' philosophy that an individual who continues to learn, and who can locate, organise, and use information, and teach colleagues to do the same, is an example of a person who is information literate in the workplace.

2.1.4.4 Information literacy and efficient searching

Using a survey of UK small to medium enterprises (SME) along with analysis of UK information policies, Martin De Saulles (2007) investigated whether those policies were sufficient in helping these companies navigate the ever-increasing volumes of information accessible over the internet. As already mentioned in Chapter 1, this research showed that UK SMEs wasted over £3.7 billion in 2005, in terms of time spent inefficiently using the internet as a research tool. This was the first time that a financial cost figure had been applied to inefficient searching by these organisations.

2.1.4.5 Information Literacy and workplace information consumption

Bonnie Cheuk recognises the relationship between information seeking, information use (see section 2.1) and information literacy in her 1998 and 2008 studies. Both studies involved interviewing Singaporean auditors, to create "an information literacy process model" or "information seeking and using process model in the workplace" (Cheuk, 1998, p. 377)

Cheuk's (1998) model consists of five stages, associated with how auditors seek and use information. Stage 1 is the *task initiating situation* and involves auditors learning about their new auditing task, therefore learn about their occupational information needs. Stage 2 is the "focus formulating situation" in which the auditors continue to refine their information needs. Stage 3 is the *ideas forming situation* in which the auditors gather the relevant information, to their primary line of enquiry and using that information to draw conclusions. Subsequently, the auditors may choose to seek information that either corroborates or contradicts their conclusions. Stage 4 is the *ideas finalising situation* and involves auditors meeting with their superiors and the client to ensure that their findings satisfy these parties' brief and expectations. Stage 5 is

the *passing on ideas situation* and involves using the information they have gathered and communicating it to the relevant parties, thereby ending that specific job task.

Building on from the 1998 study, Cheuk's (2008) work resulted in another model for workplace information literacy. The resulting two-stage model examines how effectively auditors can consume information and supply information. Information consumption refers to the auditor's ability to define information needs and seek and use appropriate information to meet their needs, while information supply refers to the auditor's ability to interpret, communicate, and share information to satisfy previously defined information needs.

Cheuk's work is important as it demonstrates how transferring the information literacy conversation from an academic context to a workplace context may be beneficial in addressing organisational problems, such as information overload.

2.1.4.6 Applying information literacy frameworks to a workplace

Ruben O'Farrill (2010) used phenomenographic interviews with 42 nurses, and analysed the documented knowledge management strategies of NHS24, a British government health information and consultation call centre. The study characterised information literacy at this workplace from the staff's perspective and examined the relevance and applicability of mainstream institutional information literacy frameworks, "endorsed by the major librarianship associations and professional bodies of the English-speaking countries," including the ACRL (2000) framework and the SCONUL framework. The study found that the frameworks did not accurately reflect how the staff at NHS24 handle and use information. In particular, the models lacked the acknowledgment of social practices, which were seen by the staff, to be an important factor in their handling and use of information.

2.1.4.7 Information literacy experiences of graduates

Jason Sokoloff (2012) interviewed 15 James Madison University business school graduates to explore their workplace experiences of information. The research revealed that graduates lacked the ability to source information from

other people as this ability is not taught at tertiary level, although it is essential in the workplace. This study reiterates the gap between the academic sector and workplaces.

2.1.4.8 Employers' expectations and graduates' experiences of information literacy

Alison Head, Michele Van Hoeck, Jordan Eschler and Sean Fullerton (2013) interviewed 23 employers and had discussions with 33 graduates about the information-related skills used by new graduates beginning employment. The research showed that employers are interested in the modern and more technologically advanced information seeking skills that graduates possess. However, employers are disappointed when these graduates only use technologically-mediated information seeking skills, rather than engaging with knowledgeable colleagues in the worklace, or using more tradiational, in-depth methods for exploring the range of information soruces availale offline. Employers emphasize the importance of employees possessing a range of information seeking skills, which equip them to conduct robust, in-depth searches using a range of available tools and resources.

2.1.4.9 Value of information literacy for employers

Using a case study approach, Stephanie Goldstein and Andrew Whitford (2016) investigated the information landscapes of three anonymous UK organisations, to determine the value of information literacy for employers. Although this research appears to be the start of an ongoing project, the preliminary results show that the value of information literacy for employers relates to organizational investments. The four kinds of investments associated are: investments in the professional development of staff and the active fostering of organizational culture; investments in information technology; investments in the physical workplace environment; and investments to improve communication between organizations and their environments.

2.1.4.10 Latest Information Literacy and Workplace Research

Stacy Gilbert (2017) recently published a study about the information literacy skills potential employees of advertising agencies were expected to have.

This study consisted of analysing 469 job descriptions issued by 68 advertising agencies over two months. The research reiterated the skills, desired by employers, as found in the literature review. These categories are synthesis of information, using and creating information, technologies and technological skills, collaboration with colleagues, and evaluation of information.

Also, in 2017, Marc Forster edited a book titled "Information Literacy in the Workplace." The book contains an assortment of studies, focussing on information literacy in the workplace. Although the book emerged during the final stages of this research and therefore cannot be used to support the research method and findings, its publication is evidence that information literacy in the workplace is currently topical amongst researchers.

On an end note, it is important to recognise that most of the researchers contributing to the research on information literacy in workplace contexts, including Bruce, Lloyd, Klusek, Bornstein, Goldstein, Whitford, come from a library, educational/academic, or an information science background. Furthermore, some of the studies mentioned have been published in education, librarianship, or information science specific journals. This indicates that although there has been a move to transfer information literacy research from an academic context to a workplace context, the research is still published and read as part of the traditional, academic-focussed, information literacy conversation. This may mean that other audiences such as employers, whom these findings may interest, are still unable to access the research.

2.1.5 Skills employers value

Some research suggests that competencies related to information literacy may be recognised in a workplace context, but not identified using the terms associated with information literacy or other academic concepts. For example, Conley and Gil (2011, p. 232) found that businesses associated the concept of information literacy with the following phrases: "critical thinking," "decision making," "business resourcefulness," "complex problem solving," "business intelligence", and "knowledge management." Weiner (2011, p. 9) argues that academic literature or reports that look into the skills lacking in today's labour force or the skills desired by employers are relevant to information literacy. The

following table shows the top 10 soft skills desired by employers, based on two of multiple studies, reviewed by Stewart, Wall, and Marciniec (2016, p. 278).

Table 7

Top 10 Soft Skills Desired by Employers

Hart Research Associates	National Association of Colleges and Employees
Verbal Communication	Leadership
Teamwork	Teamwork
Written Communication	Written Communication
Ethical Judgment / Decision Making	Problem Solving
Critical / Analytical Thinking	Verbal Communication
Applying Knowledge and Skills to the Real World	Work Ethic
Problem Solving	Initiative
Learning, Organising and Evaluating Information	Analytical / Quantitative
Innovation / Creativity	Flexibility / Adaptability
Staying Current on Changing Technologies	Technical

Note: Adapted from Stewart and Colleagues (2016, p. 278).

Many of these soft skills are relevant to the idea of information literacy. The soft skill of "learning, organising and evaluating information" can be argued to be a paraphrase of the ACRL's (2000) definition of information literacy. Meanwhile, this soft skill could be argued to relate to Bruce's (1999, p. 40) *knowledge extension* conception as information is being critiqued and assessed. The soft skill of innovation and creativity also relates to Bruce's (1999, p. 40) *knowledge extension* conception as new knowledge is being produced or existing knowledge is being applied creatively in a new way.

The soft skills of verbal communication, written communication, technical skills, and staying current on changing technologies are arguably covered by the various literacies inherent in information literacy. Similarly, the soft skills of "problem solving," "ethical judgment / decision making" and "applying knowledge and skills to the real world" arguably relate to Taylor's "Eight Types of Information Uses" and Kirk's (2002) model as they are focused on how information is used. Consequently, there is clear evidence to suggest that the majority of skills

employers feel workers should possess, fall under the umbrella of information literacy and, therefore, information literacy is relevant in the workplace.

2.1.6 Key themes in information behaviour and workplace information literacy research

The previous sections have introduced the concepts of information behaviour and information literacy, and also outlined key research in these areas. The following section highlights key themes, relating to information behaviour and information literacy found throughout the literature already mentioned.

2.1.6.1 Information use

Although people unconsciously use and handle information on a daily basis, the conscious use of information is a key focus for both information behaviour and information literacy (ACRL, 2000; ACRL, 2015; Citroen, 2011; Choo, etal., 2008; Kirk, 2002; Taylor, 1991). It is important that different uses of information are acknowledged as this may lead to different information-seeking techniques and different ways of creating and distributing information. Additionally, if an information need is not appropriately identified, ethical concerns may arise regarding the use of the information.

2.1.6.2 Information sources

The ability to find and use information from various information sources is important to workplace information literacy (Bruce, 1999). The types of information encountered in the workplace vary, although a focus on industry-related information seems to exist (Sokoloff, 2012). Sources of information include but are not limited to *organisational* sources, such as material that professional/trade associations publish; *technological* sources, such as the internet and computers; *print* sources such as newspapers and specialist magazines, and *human* sources in the forms of colleagues and contacts/friends (Bruce, 1999; De Saulles 2007; Head et al., 2013).

2.1.6.2.1 Human Sources

Compared with academic information literacy, more emphasis seems to be placed on social sources of information when it comes to workplace

information literacy. This is due to the collaborative nature of the workplace (Lloyd, 2010; O'Farrill, 2010; Sokoloff, 2012). Furthermore, employers may expect employees to engage with colleagues when seeking information (Cheuk, 2008; Head et al., 2013). Although Bruce (1999) hinted that social interaction between colleagues is an important aspect of information literacy in workplace contexts, more recent studies explicitly highlight the importance of social interaction to information literacy in the workplace. For example, in De Saulles' (2007) study, colleagues were ranked as the second most important information source for United Kingdom Small and Medium Enterprises (hereafter, UKSMEs). Additionally, O'Farrill's (2010) study found that the information that the NHS24 staff used was largely gained through informal collaboration, for example, by asking the person next door. Subsequently, it was important to the staff to firstly recognise who held relevant knowledge and, secondly, to successfully communicate with that party to access the desired information.

2.1.6.2.2 Information Technology and Technological Sources

Information technology is seen to beas important in workplace information literacy because "information technology helps users to stay informed and to communicate with colleagues within the organisation and across the globe," (Bruce, 1999, p. 36). Technology is clearly essential for employees accessing information through online sources, as indicated by Solokoff (2012). However, Bruce (1999) implies that the extent to which information technology is used within the realms of workplace information literacy varies. For this reason, Bruce (1999) argues that more focus should be placed on the "intellectual manipulation of information" rather than on the skills associated with information technology. Klusek and Bornstein (2006, p. 5) second this sentiment, arguing that "the information-literate individual will have technology skills in the use of computers, presentation software and databases, but he or she will use these skills in the support of the cognitive activities of information literacy" such as decision-making In De Saulles' (2007) study, the internet was listed as the most important source for UKSMEs, indicating the importance of technology in accessing information for work purposes.

Graduates have a tendency to predominantly use online sources, rather than a range of other print or social sources (Head et al., 2013). For example,

Google and work-specific online databases are frequently used to source information in the workplace, while some workers even use social media (Sokoloff, 2012).

2.1.6.3 Evaluating information sources

A key factor important to both information behaviour and information literacy is an individual's ability to critically evaluate both information and its sources. For example, information may be subjected to individual interpretation and manipulation (McCreadie & Rice, 1999). Consequently, it is important for individuals to be able to critically evaluate information for trustworthiness, reliability, credibility and authority, as many models of information literacy suggest (ACRL, 2000; ACRL 2015; Feekery, 2013).

2.1.6.4 Transferable Components of ACRL (2015) Framework to the Workplace

This literature review highlights that although much research on information literacy has concentrated on libraries and the education sector (Rader, 2002), a conscious shift towards a holistic understanding of information literacy has emerged in the past decade which takes into account varying contexts, attitudes, values and behaviours involving information seeking and use. For this reason, current information literacy models are expected to be able to be applied to non-academic contexts, such as in the workplace. Yet, some elements of the ACRL 2015 framework still appear to be closely applicable to academic rather than various other contexts.

The component of *Authority is Constructed and Contextual* refers to acknowledging and establishing the credibility of sources. This is relevant in the academic context, where researchers are required to reference and justify their sources of information. However, this component could be transferred to the workplace context because, for example, employees may be expected to justify why they are working on particular tasks or be asked who provided them with particular information. The component of *Information Creation as a Process* is transferable to the workplace context. For example, the primary purpose of public relations companies is to create and share information in a manner which is most

appropriate for their clients and intended audiences. The component of *Information Has Value* can be applied to a range of various contexts. For example, in the business world, competing companies may choose to withhold certain information to gain a competitive advantage over their competitors. *Research as Inquiry* and *Scholarship as Conversation* are the two components which cannot be easily transferred to the workplace context because they centre on using academic sources to justify ongoing debates in academic knowledge development.

2.1.7 Section Summary

This section has provided insight into different kinds of research centred on engaging with information in varying contexts. It has been established that workplace information literacy is an emerging area of research interest. Currently, no voice has existed for New Zealand businesses in the information literacy conversation; therefore, it is appropriate for this research to provide a platform for this collective voice. This voice will be heard through the results of a survey, the creation and implementation of which are outlined in Chapter Three which is centred on the research philosophy and methodology.

On an entirely different note, this literature review has raised questions, regarding how the information-related terminology used in the workplace relates to information literacy. This is of particular interest to the researcher, a business and communications student, who, before this literature review, had never encountered the term information literacy. Subsequently, this matter is explored in the next section.

2.2 Connecting between Information Literacy, Information Culture, Organisational Learning, and Knowledge Management

Chapter Five of this thesis presents a conceptual framework for exploring the relationship between information literacy, information culture, organisational learning, and knowledge management, communication concepts taught in academic business curricula. This section of the literature review explores these concepts and connects them to the information literacy research presented so far.

2.2.1 Information Culture

The phrase "information landscape" has been used throughout this thesis. However, what is meant by "information landscape" has not been clearly established. This section defines the information landscape and its synonyms, then defines information culture, a similar concept which has been created within business academia. An information landscape can also be referred to as an informational landscape, infoscape, information ecology or informational ecology (Skovira, 2004). An information landscape "is a holistic approach to understanding information use and creation" (Skovira, 2004, p. 309). Essentially, an information landscape influences how information is used and created, both organisationally and individually.

Similarly, information culture, as it is understood in the organisational communication literature, as, is defined by Curry and Moore (2003) as:

> A culture in which the value and utility of information in achieving operational and strategic success is recognised, where information forms the basis of organisational decision making and Information Technology is readily exploited as an enabler for effective Information Systems. (p.94).

Choo, Bergeron, Detlor and Heaton (2008) argue that information culture consists of three key components: relationships, the organisational environment and information management. Furthermore, Choo and colleagues (2008) see information culture as the collection of the elements of an organisation's culture which influence its management and use of information. Information culture is expressed in the organisation's values, norms and practices. In turn, the organisation's values, norms and practices affect how information is understood, created and applied. It can be argued that for information culture to be expressed in the organisation's values, norms and practices, employees must have learned to reflect the organisation's information culture, although this knowledge may be subconscious (Choo et al., 2008). This suggests that the information culture may be communicated to employees on an unconscious level.

2.2.2 Organisational Learning

The connection between information literacy and lifelong learning is explicit in the literature. The Alexandra Proclamation (as cited in Garner, 2006) supports the need for a more holistic definition of information literacy as being a key element of lifelong learning. Cropley (1979, p. 105), on behalf of the United Nations Educational, Scientific and Cultural Organisation (hereafter UNESCO), state: "lifelong education as involving a fundamental transformation of society, so that the whole of society becomes a learning resource for each individual." This means that people should constantly be learning through their day-to-day interactions with the world around them. As many adults' day-to-day interactions occur in working environments, it may be argued that organisational learning is as relevant to information literacy as lifelong learning is. The following section defines organisational learning, presents a model of organisational learning and explains how organisational learning can be interpreted to connect to the information literacy literature.

Organisational learning, a concept captured in business and communication studies, is defined by Wiseman (2007) as being: "a cyclical process through which knowledge that is learned on an individual or group level is objectified on the organisational level, institutionalized and embedded in the organisational memory" (p. 1113). Wiseman (2007) elaborates further, saying: "objectification is the process through which shared knowledge becomes common property and is collectively accepted as being reliable, valuable and useful by the organisation's members" (p. 1113). O'Farrill (2010) recognises that being able to identify organisational learning opportunities, which emerge in relation to an organisation's information landscape, is a skill.

In 1999, Crossan, Lane and White presented a model of organisational learning called the "4I framework" (Wiseman, 2007, p. 1114). The framework identifies the four main processes of intuiting, interpreting, integrating and institutionalising, which enable learning to occur throughout an organisation. The four processes of the 4I framework are discussed below:

1. Intuiting:

   This occurs when individuals recognise similarities between experiences/situations and their current situations (Crossan, et al., 1999; Wiseman, 2007). Consequently, individuals recall knowledge related to past situations to determine whether this knowledge could potentially be used in their current work environments.

2. Interpreting:

   Interpreting is the process through which individuals verbalise or discuss their intuitions with other people (Crossan et al., 1999; Wiseman, 2007). Clarifying these intuitions can help people to understand one another and agree on a course of action. Interpreting cannot occur if people are unable to communicate their thoughts effectively.

3. Integrating:

   Integrating is when the agreed-upon course of action becomes common knowledge in the organisation; thus, the course of action and supporting beliefs and theories can be replicated (Crossan et a., 1999l; Wiseman, 2007). Consequently, over time, the actions and beliefs become engrained in the organisation.

4. Institutionalisation:

   Institutionalisation is the procedure of entrenching learning that has occurred among staff and other stakeholders into the organisation's culture (Crossan et al., 1999; Wiseman, 2007). At this stage, a deliberate effort occurs to embed knowledge at the organisational level so that it may continue to exist within the organisation, with any employee being able to recall it in the future.

The process of intuiting has an emphasis on learning from past experiences (Crossan, et al., 1999; Wiseman, 2007). Both Lloyd (2005, 2006, 2007) and O'Farrill (2010) emphasise the importance of hands-on experiences and reflecting on past experiences to information literacy.

The process of interpreting involves learning through conversing with and seeking clarification from other people (Crossan, et al., 1999; Wiseman, 2007). Similarly, Lloyd's (2005, 2006, 2007) and O'Farrill's (2010) studies all found that

learning via ongoing reflection and learning both from and alongside peers was an important factor in navigating the various information landscapes in question. This suggests that organisational learning is a social and embodied practice similar to information literacy (Lloyd, 2006).

Meanwhile, the remaining processes of integrating and institutionalising are key in the development of an information culture. For example, during the integrating and institutionalising process, the current information practices of key employees may become the accepted practices for all employees and may continue to exist within the organisation, after influential employees vacate their positions. As one of the purposes of organisational learning is to ensure that knowledge is retained at both a personal level and an organisational level (Wang & Ahmed, 2003), it is often linked to the concept of knowledge management (Cheong & Tsui, 2011; Vince, Sutcliffe & Olivera, 2002; Wang & Ahmed, 2003), which will be explored in the next section.

2.2.3 Knowledge management

The effective use of knowledge is commonly seen as crucial in businesses having success in this age of globalisation (Grant, 2011). Subsequently, how organisations manage their knowledge has become a large focus in both the academic and the corporate sector. By identifying the similarities and differences between information and knowledge, this section focusses on understanding how the management of knowledge relates to information literacy.

Three reasons exist as to why information differs from knowledge, as Jones (2011) describes. Firstly, Jones (2011, p.144) argues that "information is a thing; knowledge is not." By this, Jones is implying that information is a tangible product (section 2.1), whereas knowledge is an abstract contract. As such, knowledge is embedded in information. For example, a "no smoking" poster placed in a staffroom is considered to be information, as it communicates to staff that they are not allowed to smoke. Over time, employees should know they are not allowed to smoke in the staffroom, without reading the poster; this is when information becomes knowledge. This is an example of the institutionalising process which Crossan and colleagues (1999) and Wiseman (2007) describe.

Secondly, Jones (2011, p. 144) argues that "there is no management of knowledge except through the management of information." Continuing on from his first point, Jones explains that knowledge cannot be communicated or controlled. Instead, knowledge is inferred from information, which can easily be communicated or controlled. Pauleen and Gorman (2011) have specifically highlighted how personal knowledge management may be seen in Dorner and Gorman's (2006) characteristics of information literacy:

- To be aware of why, how and by whom information is created, communicated and controlled, and how it contributes to the *construction of knowledge.*
- To understand when information can be used to improve their daily living or *contribute to the resolution of needs* related to specific situations, such as at work or school.
- To know how to locate information and to *critique its relevance and appropriateness* to their context.
- To understand how to *integrate relevant and appropriate information with what they already know to construct new knowledge* that increases their capacity to improve their daily living or to resolve needs related to specific situations that have arisen. (Pauleen & Gorman, 2011, p. 11-12, italicised emphasis added).

Pauleen and Gorman (2011, p. 12) therefore conclude that "information literacy can be viewed as an essential process and set of skills" for personal knowledge management.

Thirdly, Jones (2011, p. 144) argues that "Personal Knowledge Management is a very useful subset of PIM (Personal Information Management)" meaning the only way to manage knowledge is to manage information, and vice versa. O'Farrill (2010, p. 707) argues that the primary goal in information literacy is "effective information use" which emphasises the need for information management, collaboration, and communication. These elements are also identified by Seng, Zannes and Pace (2002, p. 144), who outline five key steps in managing knowledge as shown in Table 8.

Table 8

Five Steps of Knowledge Management

Knowledge Management Step	Description *This step involves the employee:*
Capturing Knowledge	documenting how they sourced their knowledge.
Storing Knowledge	storing knowledge in an appropriate manner, for either personal use or use by a colleague.
Processing Knowledge	organising, evaluating and filtering knowledge.
Sharing Knowledge	sharing knowledge through conversation or records (paper files, electronic information).
Using Knowledge	using knowledge to be able to solve problems and complete tasks to achieve organisational goals and objectives.

Note: Adapted from Stewart and Colleagues (2002, p. 143)

These five steps of knowledge management are able to be clearly linked to the key competencies inherent in information literacy. The first step of *capturing knowledge* relates to the locating of information because it involves documenting the search process so that the same information can be found if the search process is repeated. A second key part of information literacy is the ability to locate information (ACRL, 2000) as described in section 2.2. This is covered by the *storing knowledge* step of Seng and colleagues' (2002) approach to knowledge management, as the step implies that the employee needs to know how to store knowledge so that the knowledge can be relocated in the future. The third step of *processing knowledge* is about organising, evaluating and filtering information, processes which are central to many of the definitions of information literacy referenced earlier. It could be argued that this step is similar to the *Information Creation as a Process* component of the ACRL's (2015) framework because information needs to be processed for more information to be created. The fourth step of Seng and colleagues' (2004) approach to knowledge management, *sharing knowledge*, relates to the ability to communicate information/knowledge effectively, which is also a component of information literacy, according to ACRL (2000) and also key in organisational learning (O'Farrill, 2010). Finally, the *using knowledge* step (2002) is almost identical to one of the attributes of an information literate person according to the ACRL

(2000, p. 2-3): "use information effectively for a specific purpose", and also relates to the final two steps of Citroen's (2011) model (see section 2.1.3.1).

On the basis of the information above, there is a clear connection between the skills needed to be able to manage knowledge and the skills of an information literate individual. This is important as although the concept of information literacy is scarcely found in literature aimed at businesses, as established by Chapter 2 and O'Farrill (2010), this section has provided evidence that the term should be just as important to businesses as the term knowledge management.

2.8 Summary

This chapter has provided an insight into different kinds of research centred around engaging with information in varying contexts. It has been established that workplace information literacy is an emerging area of research interest. It has also outlined three business concepts connected to information literay that form the basis of the conceptual framework presented in Chapter Five. The next chapter focusses on the research philosophy and methodology.

CHAPTER THREE:
Research Philosophy and Methodology

Methodology can be described as the design, setting, sample, methodological limitations, and the techniques of data collection and data analysis used for the research (Burns & Groves, 2003). These research elements are informed by underlying theories and principles. A research philosophy or paradigm consists of four components: ontology, epistemology, methodology, and methods (Crotty, 1998; Scotland, 2012). This chapter outlines the ontology and epistemology for this research, as well as the methodology and methods used.

3.1 Ontology and Epistemology

Ontology is the branch of metaphysics that deals with the nature of being and of reality (O'Gorman & MacIntosh, 2015, p. 54). Subjective ontology can be described as the assumption that facts are affected by context (O'Gorman & MacIntosh, 2015). This is because they are subject to people's various behaviours, attitudes, experiences, and interpretations, meaning there is no such thing as reality and indisputable facts. However, subjective ontology is best explained by Crotty's (1998) tree analogy: "We need to remind ourselves here that it is human beings who have constructed it as a tree, given it the name and attributed to it the associations we make with this" (p. 42). By this, Crotty is implying that knowledge is what humans make it to be. Pring (2000, p. 251) and Scotland (2012, p. 12) argue that knowledge is shaped by people sharing thoughts and a consensus being reached; thus, knowledge is dependent on context.

Similarly, the term "information literacy" has been constructed by humans. However, while what the word "tree" symbolizes and represents is universally accepted by English speakers, the concept "information literacy" is relatively new and therefore has limited understanding, especially outside the academic field. Consequently, the research of exploring how NZSBs understand the concept of "information literacy" is framed by a subjective ontology.

Epistemology is "the branch of metaphysics that deals with the nature of knowledge, its presuppositions and foundations, and its extent and validity" (O'Gorman & MacIntosh, 2015, p. 54). While ontology focusses on the nature of reality itself, epistemology focusses on how this reality is captured (Hudson & Ozanne, 1988) and may be defined as the connection between the researcher and the reality (Carson, Gilmore, Perry & Gronhaug, 2001).

The epistemology, which will be used in this research, is critical realism. This is because, like subjective ontology, critical realism acknowledges that reality is subjected to people's various behaviours, attitudes, experiences and interpretations (Krauss, 2005). Furthermore, the conscious and unconscious behaviours, attitudes, experiences and interpretations of the researcher influence the entire research project itself. This means that although the research determines what the current information landscape potentially looks like for NZSBs, the researcher acknowledges that this is only one interpretation.

3.2 Methodology

As noted in section 1.1, this research has a dual purpose. The first purpose is to provide insights into how NZSBs find, value, and use information, thereby helping to establish their voice in the information literacy conversation Section 3.2 describes the rationale, limitations, development, and implementation of the research instrument, used for this aspect of the study.

The other purpose of this thesis is to present a conceptual framework, which will connect the concept of information literacy to the concepts of information culture, organisational learning and knowledge management. The conceptual framework will be explored in Chapter Five.

3.2.1 Rationale and limitations

The data collection method for this research was an online survey. Surveys are frequently used in business and management research (Adams, Khan & Raeside, 2014). Surveys enable information to be gathered from a larger range of people than case studies or qualitative interviews generally allow (Adams et al., 2014; Thomas, 2003). It was important that a large number of people were invited to participate in this study to ensure that NZSBs in different

industries, in different locations and of different sizes were represented. Additionally, unlike interviews and observation techniques, postal, phone and email surveys enable research participation, regardless of the researchers' and participants' different geographical locations (Adams et al., 2014; Thomas, 2003). As the purpose of this research was to explore information literacy in NZSBs, using a survey was the most practical way to ensure the respondents came from across New Zealand.

However, as with all research methodologies, there are limitations to survey research. The first major limitation is that surveys, in general, tend to have a low response rate. Mellahi and Harris (2016) report average response rates of 59.36% for face to face surveys, 43.09% for postal, 37.34% for phone, and 37.45% for online surveys. This creates concerns as to the perspectives of non-responders. Although postal surveys have a slightly higher response rate than online surveys (Mellahi & Harris, 2016), postal surveys are costly, both financially and in terms of time. By contrast, there is minimal cost and time involved with emailing a link to an online survey and receiving responses via survey software (Wright, 2005).

The second limitation is that there is no way to verify whether the survey respondents are providing honest answers (Wright, 2005). However, the issue of attaining reliable and honest answers (an issue for any study) was considered minimal for this study, given the anonymity of the survey and the lack of personal information gathered. Subsequently, it was decided the benefits of an electronic survey delivered to respondents via email, namely the lack of geographical restrictions (Adams et al., 2014) and minimal cost and time involved with distributing surveys electronically (Wright, 2005), outweighed the highlighted limitations (Adams et al., 2014; Mellahi & Harris, 2016; Thomas, 2003; Wright, 2005). The next section outlines the design of the electronic survey, used in this research.

3.2.2 Survey Design

As the topic of Information Literacy in NZ Workplaces has not been investigated before, this research is exploratory and thus a new survey had to be designed. An online survey was created and distributed to respondents using

the Qualtrics Survey website. The Qualtrics software kept a record of incomplete and completed surveys and recorded identifier numbers to prevent respondents from answering multiple times. Section 3.2.2 outlines an overview of various sections and elements of the survey and an explanation for their inclusion. For the full survey, please see Appendix B.

While there is a tendency for research to be either qualitative or quantitative research, Glesne and Peshkin (1992, p. 8) suggest that qualitative and quantitative research can be compatible, saying researchers may use both types of research, "enjoying the rewards of both numbers and words." A critical realism approach to research also supports the use of both qualitative and quantitative research (Healy & Perry, 2000). In this study, both open-ended questions (qualitative) and close-ended questions (quantitative) were used in the survey to ensure that the research questions were addressed as effectively as possible.

The first six questions were general demographic questions designed to gain knowledge of the participant and an understanding of the general workplace landscape. The question about industry type provided response options equivalent to the industry choices used in New Zealand's 2013 census (Statistics New Zealand, 2013).

The next three questions (questions 7 to 9) focussed on the kinds of information businesses handled and how this information was accessed. These questions were important to ask to establish the current information landscape of NZSBs. It was important that the 'information' questions started with open-ended questions so that the survey participants were not exposed to ideas throughout the survey that could, in turn, influence their answers to subsequent questions.

Questions 10 to 23 and question 25 asked participants to reflect on a series of information literacy–related abilities. Please see Appendix C for a full review of the development of the refined list. In brief, based on an analysis of the literature review and the sources included in the literature review as suggested by (Jabareen, 2009), 31 abilities were identified as being inherent in information literacy. These are shown in the left column of Table 9. The 31 abilities were then categorised into 10 general thematic groups, which were traditional literacy,

ability to problem solve, ability to use electronic technology, establishing the need for information, finding information, sorting information, judging information, storing information, using information and sharing information.

These general themes then needed to be reworked to make meaningful statements which the survey could explore. Following the exploration of other information literacy surveys, specifically Raish and Rimland's (2016) survey, the list was further refined to 13 statements with the broad skills identified and a brief explanation of necessary abilities, for example:

Interpersonal skills: the ability to listen to and communicate with others

However, to recognise the holistic shift away from skills, the statements were further refined to verb-driven statements, for example:

Communicate with colleagues in a socially appropriate manner via speech, text or visuals.

After two more iterations, the final list of abilities was created, and the 14 statements outlined in column 2 of Table 9, formed the basis of the survey questions.

Table 9

Refinement of Statements Used in the Survey

List of Ability Statements – Draft Version 1	List of Ability Statements – Refined Version
Ability to read.	The ability to interpret information in text, oral, numerical and/or visual formats
Ability to write.	
Ability to communicate.	The ability to have a clear understanding of occupational or organisational information needs.
Ability to listen.	
Ability to problem solve.	The ability to capture, sort and organise information for efficient storage and retrieval.
Ability to use electronic technology.	
Ability to know when information is needed.	The ability to use standard software and databases to access relevant information to accomplish tasks.
Ability to use information from past knowledge/experiences.	
Ability to know why information is needed.	The ability to use standard software and databases to share relevant information.
Ability to formulate research questions.	
Ability to know where to locate information.	The ability to identify and use various sources of information.
Ability to develop search strategies.	The ability to recognise colleagues as a valuable and knowledgeable information source.
Ability to find information.	
Ability to find a range of sources	The ability to consistently acknowledge sources in an appropriate manner.
Ability to find a range of source types.	
Ability to find accurate information.	The ability to judge the accuracy and legitimacy of information.
Ability to capture information.	The ability to ensure the right information is provided to the right people in a timely manner.
Ability to store information.	
Ability to organise information	The ability to use existing information to extend current knowledge and/or create new ideas.
Ability to filter information to gather the relevant data.	
Ability to analyse information.	The ability to use appropriate information to justify existing or new perspectives.
Ability to know how to use information.	
Ability to critically evaluate information.	The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.
Ability to judge reliability of information.	
Ability to judge validity of information.	
Ability to judge the appropriateness and reliability of an information source / communication channel.	The ability to understand the ethical implications of accessing and using information.
Ability to apply information to a current situation/ problem.	
Ability to use information to shape opinions and judgements	
Ability to share information.	
Ability to use appropriate channels of communication.	
Ability to produce new ideas based on current knowledge.	

It is helpful for survey respondents if harmonisation exists within the survey (Adams et al., 2014), meaning the format of the survey questions are similar. For this reason, and in relation to the abilities listed in Table 9, questions 10 to 23 asked the survey participants to consider each ability according to the following statements in Table 10 and to respond by indicating the extent to which they agreed or disagreed with the question statements.

Table 10

Question Statements Used in the Survey

Question Statements
This ability is important in my workplace.
This ability is explicitly taught in my workplace.
This ability is explicitly assessed as part of our organisation's performance review.
This ability is considered difficult in our workplace.
This ability is possessed by the majority of our staff.

These statements in Table 10 were developed on the basis that they would give insight into how NZSBs value each of the abilities. For example, if a NZSB valued a particular ability, it would make sense for the NZSB to ensure that the majority of their staff possessed the ability, by including a specific reference to this ability in workplace performance assessment procedures.

The scale of agreement for these statements was a five-point Likert scale as per Johnson and Morgan (2016). The Likert scale provided respondents with the options of 'Strongly Agree', 'Agree', 'Disagree', 'Strongly Disagree' and 'I Don't Know'. Given the closed-ended nature of this set of questions, after each, a comment box was included so that the survey participants could provide rationales behind their answers if they wished to do so.

Question 24 asked whether the survey participants and their organisations were familiar with the information-related concepts (information literacy, information culture, organisational learning and knowledge management), which are discussed in Chapter Five. This question was necessary to determine whether NZSBs were using the same terminology featured in a business/organisational university curriculum. Questions 24.1 to 24.4 enabled the survey participants to elaborate on the meaning of each concept to their organisations, if they had indicated that their organisations used that concept.

This was done to gain an understanding of how these concepts may be defined in NZSBs.

In Question 25, participants were given the option to align each of the abilities with one or more of the information-related concepts (information literacy, information culture, organisational learning, and knowledge management), or to state that they associated one ability with another concept altogether. A final option was to state they did not know whether a certain ability fit with any of the concepts or another concept. This question was asked to further establish how NZSBs understand these concepts and how the concepts may be interrelated.

A comment box was also included at the end of the survey so that participants could communicate any other thoughts they had about their organisation's information practices or abilities.

3.2.3 Ethics

The ethical considerations for this study were deemed low-risk by the researcher and her two supervisors largely due to the anonymous nature of the survey and no risk of harm to participants, thus, a low-risk notification was lodged with the Massey University Human Ethics Office (Ethics Notification Number: 4000016532).

3.2.4 Pilot Survey

To ensure that the survey was successful in achieving its purpose, a pilot study was undertaken. Section 3.2.4 reviews the pilot study.

3.2.4.1 Sample

Five small businesses/charities from the disability sector were chosen to be involved in the pilot study. The pilot businesses/charities were a sample of convenience (Ferber, 1977) as they were known contacts of the researcher.

3.2.4.2 Procedure

The organisations involved in the pilot study received their survey link via email on the 30th of August 2016. A cover letter was attached to the email to outline the purpose of this research and its significance (see Appendix D).

Contact information of the researcher and research supervisor were provided in case a respondent had any questions or comments.

These organisations were asked to complete the main survey, and then complete another questionnaire to provide feedback on the main survey. They were given a week to complete both the survey and feedback questionnaire. The feedback questionnaire is attached in Appendix E.

3.2.4.3 Findings

Two of the pilot businesses/charities provided feedback on the survey. On average, the survey took 25 minutes to complete. One of the respondents elaborated: "there were a lot of questions but as I went through them I could see the logic of needing to ask them all." This comment justified the length of the survey. Neither respondent felt the survey was overly difficult or that the survey software was overly complicated to use. The only other comment made in relation to whether the respondents thought that any questions were particularly difficult to answer was: "Not really - probably the concepts in question 24 onwards as they are terms that we know about but don't use on a day to day basis". This highlighted a potential disconnect between the terms organisations know about and the terms they use which was useful information for the survey to gather. The feedback received from the pilot sample, did not result in any changes to the survey.

A disadvantage of the pilot participants working in the same sector was that they should handle similar types of information, and therefore similar responses could indicate that questions were understood in the same way. However, this did not guarantee that future respondents from other industries would understand the questions in the same way, and may interpret the questions differently.

3.2.5 Main Survey

Section 3.2.5 reviews elements of the main study.

3.2.5.1 Sample

As of May 2016, there were 487,602 small enterprises, consisting of 20 or fewer employees, accounting for 97% of all organisations in New Zealand, according to the Ministry of Business, Innovation, and Employment (MBIE) (2016). Subsequently, sampling small enterprises could be considered a fair representation of New Zealand workplaces. For this research, it was important that the organisations had enough employees but not too many that different roles in the organisation would have an entirely different information experience. For this reason, it was decided that only small enterprises consisting of 6 to 19 employees would be surveyed. Based on the fact that there are 37,239 enterprises, consisting of 6 to 19 employees (MBIE, 2016), it was calculated using Creative Research Systems survey software (Creative Research Systems, 2012), that 381 businesses would need to be surveyed to ensure a representative sample at the 95% confidence level. However, as mentioned in section 3.2.1, surveys of various means have been susceptible to low response rates. Additionally, there is no consensus for what an acceptable response rate is (Mellahi & Harris, 2016), with research publications accepting studies with "widely variable response rates" (Carley-Baxter, Hill, Roe, Twiddy, Baxter, & Ruppenkamp, 2017). However, higher response rates increase the validity and reliability of the research. As the response rates for small business surveys such as the survey in the current study are generally 27% (Bartholomew & Smith, 2007), a target response rate of 30% was set. Therefore, to achieve the minimum sample size of 381 respondents, a minimum of approximately 1200 businesses needed to be invited to complete the survey.

Massey University has free but restricted access to several business databases. To meet the criteria of the survey, the chosen database needed to have comprehensive current coverage of NZSBs, was required to show email addresses, and needed to show the precise number of employees. Both Database A and Database B met these requirements (databases are not named to protect the relationship Massey University has with the database suppliers). Database A was chosen first as a search for businesses that had between 1 and 25 employees, revealed 12207 results (the database did not allow for searches of between 6-19 employees). However, technical issues with the website,

including trouble logging on and continual changes to the data, meant that only 2,000 of the records could be viewed. Of the records viewed, only 800 met the research criterion of having between 6 and 19 employees, and many of these did not have email addresses. After enquiring with the firm responsible for running the database, it was discovered that the firm was no longer maintaining the database due to the instability of the server. Consequently, it was decided that the information collected could not be deemed reliable. Subsequently, Database B was employed. Database B was used to search for businesses which had between 6 and 19 employees and revealed 4592 results. However, Database B also experienced technical issues due to continuous updates, and therefore, the contact information of 3749 businesses was collected over a week's time. Every effort was made to collect the entire sample, including requesting assistance from the database company. However, no further records could be sourced. A total of 3749 businesses were emailed and invited to complete the survey.

3.2.5.2 Procedure

The businesses involved in the main study received the survey on the 11th of October 2016 and were given until the 7th of November 2016 to complete it. A follow-up reminder was also sent out on the 27th of October 2016.

3.3 Data Analysis

All of the quantitative data wasanalysed through SPSS frequency analyses. Qualitative data were thematically analysed using a similar process to the one outlined in Braun and Clarke's (2006) journal article. The process involved the following steps:

1. The researcher reviewing the raw data.

2. The researcher categorizing the data into different themes.

3. The researcher labeling the themes.

Please refer to Appendix F and Appendix G to see how the qualitative responses were thematically analysed.

Part III: Findings
CHAPTER FOUR
Survey Results Part A

The previous chapter described the creation and implementation of a survey, e-mailed to NZSBs. Chapter four begins by looking at how many NZSBs took part in the survey. This chapter then presents the results of the survey questions, regarding demographics and Research Questions 1 and 2.

4.1 Response Rate

In total, 180 businesses out of the 3749 NZSBs (4.8%) either partially or completely answered the survey. A potential explanation for the low response rate was brought up by some of the NZSBs, who declined to participate in the study. It appears that some NZSBs are suffering from survey fatigue, meaning that they had been approached by several researchers in the same week.

Out of the 180 respondents, 133 stated that their organisation had between 6 or 19 employees, and therefore were eligible to participate in this research. However, 27 of the 133 respondents left their survey entirely blank and another 12 respondents only provided demographic data, therefore 94 businesses provided usable responses, a usable response rate of 2.31% (or 52.22% of those who responded). Consequently, conclusions drawn from this research are unable to be generalised and applied to the whole population of NZSBs. However, the data provides indicative information useful for future research in the area.

4.2 Demographics

Demographic data were collected to help determine whether different characteristics potentially influenced the respondents' answers. Although the lack of response has meant that there has been minimal analysis of responses by demographics, both demographics of the businesses involved and the individual respondent from the business are provided below.

4.2.1 Business Demographics

The businesses involved in this study came from a variety of industries, as shown in Table 11, and they also came from various locations in New Zealand, as shown in Table 12.

Table 11

Responding NZSBs by Industry

Industry type	N	%
Accommodation and Food Services	2	2.13%
Agriculture, Forestry and Fishing	2	2.13%
Arts and Recreation Services	1	1.06%
Construction	8	8.51%
Education and Training	2	2.13%
Electricity, Gas, Water and Waste Services	1	1.06%
Financial and Insurance Services	4	4.26%
Healthcare and Social Assistance	1	1.06%
Information Media and Telecommunications	6	6.38%
Manufacturing	24	25.53%
Mining	1	1.06%
Other	13	13.83%
Professional, Scientific and Technical Services	14	14.89%
Public Administration and Safety	2	2.13%
Rental, Hiring and Real Estate Services	1	1.06%
Retail Trade	1	1.06%
Transport, Postal and Warehousing	4	4.26%
Wholesale Trade	7	7.45%
Total	94	100.00%

The majority of the sample was from the Manufacturing sector (25.53%), followed by the Professional, Scientific, and Technical Services sector (14.89%), and the 'Other' sector which included Imports/Exports, Book Publishing, and Tourism for example (13.83%). The remaining industries in the sample reflected 1 to 8 businesses respectively. The majority of the sample was from the Auckland region (25.53%), followed by the Wellington region (25.53%), and Canterbury region (25.53%). The remaining locations in the sample reflected 0 to 8 businesses each.

Table 12

Location Breakdown of Businesses in Sample

Location	N	%
Northland	2	2.13%
Auckland	29	30.85%
Waikato	5	5.32%
Bay of Plenty	8	8.51%
Gisborne	4	4.26%
Hawke's Bay	0	0.00%
Taranaki	2	2.13%
Manawatu-Whanganui	4	4.26%
Wellington	17	18.09%
Tasman	0	0.00%
Nelson	1	1.06%
Marlborough	1	1.06%
West Coast	0	0.00%
Canterbury	9	9.57%
Otago	6	6.38%
Southland	1	1.06%
National	8	8.51%
International	0	0.00%
Total	94	100.00%

4.2.2 Individual Demographics

In total, 44 females and 50 males participated in the survey as shown in Table 13. Having a similar number of females and males respond means that the results of the survey will equally reflect the perspectives of both females and males.

Table 13

Age and Gender Demographics of Individual Respondents

Age Range (years)	Gender	
	Female %	Male %
20-29	5.32%	1.06%
30-39	3.19%	3.19%
40-49	17.02%	11.70%
50-59	11.70%	19.15%
60-69	4.26%	13.83%
70-79	1.06%	3.19%
Unspecified	4.26%	1.06%
Total	46.81%	53.19%

All of the participants chose to specify their gender, although they were given the choice not to do so. On average, the female participants were younger than the male participants were, with an average age of 47 years and 51 years respectively.

The question regarding the respondents' job roles was qualitative; therefore, the researcher thematically analysed and grouped the responses based on the perceived status of the role (see Appendix F). Interestingly, but not directly relevant to the research, the male participants were more likely to identify themselves as being a 'business owner, CEO, board member, chairperson, director or partner', whereas females were more likely to identify themselves as being 'a manager, department head, or team leader'.

4.3 Research Question 1 - Information Sources

To determine whether information literacy is relevant to NZSBs, it was important to establish the kinds of information which the organisations encountered. Subsequently, the NZSBs were asked about the information sources their organisations use on a daily basis, how they accessed these information sources, and what information sources they found reliable and trustworthy. As mentioned in section 3.3, qualitative questions were thematically analysed and sorted into categories (see Appendix F). Table 14 shows the three categories, which encapsulated the most and least number of responses for each of the three question areas.

Table 14

Frequency of the Information Sources Used, Information Sources Accessed and Information Sources Found Trustworthy and Reliable Among NZSBs

Ranking		Information sources		
		Use	**Access**	**Reliable and trustworthy**
Highest Frequency	1	Online (65)	Online (52)	Online (32)
	2	Verbal Communication (45)	Computer (35)	Industrial or Organisational Sources (29)
	3	Industrial or Organisational Sources (38)	Email (28)	Unspecified Interpersonal Communication (23)
Lowest Frequency	1	Social Media (4)	Data / Statistics (0)	Social Media (1)
	2	Written / Text (5)	Written / Text (0)	Visuals e.g. Images (1)
	3	Academic or Professional Research Sources (5)	Academic or Professional Research Sources (1)	Technology e.g. Fax or Phone (2)

The research indicates that communication through online sources, interpersonal communication and industrial sources are acknowledged by the NZSBs in the sample as being key in how NZSBs handle information. In particular, it seems that NZSBs in the sample widely used, accessed and trusted online sources, with these types of sources assuming the top spot for each of the three questions.

4.4 Research Question 2 - Abilities Which NZSBs Value

The purpose of Research Question 2 was to determine whether organisations value information skills associated with information literacy. The NZSBs were asked about the extent to which they agreed with a series of statements.

4.4.1 Importance of Certain Abilities

The first question asked respondents to note if certain abilities were important to their organisations. The results are shown in Table 15.

In general, the results revealed that the majority of the NZSBs in the sample agreed or strongly agreed that most of the abilities were important to their organisation. Despite the high endorsement of the importance of these abilities, for each ability at least one of the NZSBs in the sample disagreed that the ability was important to their organisation. However, the only ability which received an answer of strongly disagree as regards importance was the *ability to understand the ethical implications of accessing and using information*. Meanwhile, there were only four abilities that some of the NZSBs indicated they did not know if they were important to their organisation: *the ability to consistently acknowledge sources in an appropriate manner*; *the ability to use appropriate information to justify existing or new perspectives*; *the ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving* scenarios; and *the ability to understand the ethical implications of accessing and using information*.

Table 15

Agreement with Statement that Certain Abilities are Important in Participant's Workplace

Abilities	N	Options given to survey respondents						
		Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
The ability to interpret information in text, oral, numerical and/or visual formats	89	**0.00%**	0.00%	1.12%	**1.12%**	21.35%	77.53%	**98.88%**
The ability to have a clear understanding of occupational or organisational information needs.	87	**2.30%**	0.00%	3.45%	**3.45%**	40.23%	54.02%	**94.25%**
The ability to capture, sort and organise information for efficient storage and retrieval.	85	**0.00%**	0.00%	1.18%	**1.18%**	32.94%	65.88%	**98.82%**
The ability to use standard software and databases to access relevant information to accomplish tasks.	83	**0.00%**	0.00%	3.61%	**3.61%**	25.30%	71.08%	**96.39%**
The ability to use standard software and databases to share relevant information.	83	**0.00%**	0.00%	12.05%	**12.05%**	34.94%	53.01%	**87.95%**
The ability to identify and use various sources of information.	81	**0.00%**	0.00%	6.17%	**6.17%**	38.27%	55.56%	**93.83%**
The ability to recognise colleagues as a valuable and knowledgeable information source.	79	**0.00%**	0.00%	1.27%	**1.27%**	22.78%	75.95%	**98.73%**
The ability to consistently acknowledge sources in an appropriate manner.	79	**2.53%**	0.00%	22.78%	**22.78%**	43.04%	31.65%	**74.68%**
The ability to judge the accuracy and legitimacy of information.	85	**0.00%**	0.00%	1.18%	**1.18%**	32.94%	65.88%	**98.82%**

Table 15 Continued

Abilities	N	Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
					Options given to survey respondents			
The ability to ensure the right information is provided to the right people in a timely manner.	78	**0.00%**	0.00%	1.28%	**1.28%**	29.49%	69.23%	**98.72%**
The ability to use existing information to extend current knowledge and/or create new ideas.	78	**1.28%**	0.00%	3.85%	**3.85%**	35.90%	58.97%	**94.87%**
The ability to use appropriate information to justify existing or new perspectives.	78	**5.13%**	0.00%	5.13%	**5.13%**	42.31%	47.44%	**89.74%**
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	74	**2.70%**	0.00%	4.05%	**4.05%**	47.30%	45.95%	**93.24%**
The ability to understand the ethical implications of accessing and using information.	74	**6.76%**	1.35%	6.76%	**8.11%**	44.59%	40.54%	**85.14%**

4.4.2 Do NZSBs explicitly teach certain abilities?

The second statement respondents reported on was whether the abilities were explicitly taught in their organisation. The results are shown in Table 16. In general, the results revealed that 50.00% to 87.18% of the NZSBs in the sample agreed or strongly agreed that the abilities were explicitly taught in their organisation. However, all of the abilities except the ability *to ensure the right information is provided to the right people in a timely manner*, had a disagree or strongly disagree response rate above 22.00%. Two abilities had rates over 40%: The ability to *consistently acknowledge sources in an appropriate manner* was the ability which had the highest rate of disagreement (43.75%). The ability to *identify and use various sources of information* returned a disagreement rate of 42.5%, the ability to *use appropriate information to justify existing or new perspectives* and the ability to *use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving* scenarios were 37.18% and 37.84% respectively, and the ability to *use standard software and databases to share relevant information* had a disagreement rate of 38.55%. Meanwhile, for eight of the abilities, a small percentage (between 1.25% and 8.11%) of the NZSBs surveyed indicated that they did not know if their organisation explicitly taught this ability to their employees.

Table 16

Agreement with Statement that Certain Abilities are Explicitly Taught in Participant's Workplace

					Options given to survey respondents			
Abilities	n	Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
The ability to interpret information in text, oral, numerical and/or visual formats	89	2.25%	1.12%	30.34%	31.46%	52.81%	13.48%	66.29%
The ability to have a clear understanding of occupational or organisational information needs.	87	2.30%	0.00%	28.74%	28.74%	47.13%	21.84%	68.97%
The ability to capture, sort and organise information for efficient storage and retrieval.	85	0.00%	4.71%	18.82%	23.53%	57.65%	18.82%	76.47%
The ability to use standard software and databases to access relevant information to accomplish tasks.	83	0.00%	1.20%	21.69%	22.89%	45.78%	31.33%	77.11%
The ability to use standard software and databases to share relevant information.	83	0.00%	1.20%	37.35%	38.55%	42.17%	19.28%	61.45%
The ability to identify and use various sources of information.	80	0.00%	0.00%	42.50%	42.50%	41.25%	16.25%	57.50%
The ability to recognise colleagues as a valuable and knowledgeable information source.	80	1.25%	1.25%	21.25%	22.50%	46.25%	30.00%	76.25%
The ability to consistently acknowledge sources in an appropriate manner.	80	6.25%	0.00%	43.75%	43.75%	38.75%	11.25%	50.00%
The ability to judge the accuracy and legitimacy of information.	85	0.00%	4.71%	18.82%	23.53%	57.65%	18.82%	76.47%

Table 16 Continued

Abilities	N	Don't know	Strongly disagree	Disagree	Total disagreed	Agree	Strongly agree	Total agree
The ability to ensure the right information is provided to the right people in a timely manner.	78	**0.00%**	1.28%	11.54%	**12.82%**	44.87%	42.31%	**87.18%**
The ability to use existing information to extend current knowledge and/or create new ideas.	78	**2.56%**	2.56%	28.21%	**30.77%**	42.31%	24.36%	**66.67%**
The ability to use appropriate information to justify existing or new perspectives.	78	**6.41%**	1.28%	35.90%	**37.18%**	37.18%	19.23%	**56.41%**
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	74	**5.41%**	1.35%	36.49%	**37.84%**	40.54%	16.22%	**56.76%**
The ability to understand the ethical implications of accessing and using information.	74	**8.11%**	0.00%	29.73%	**29.73%**	41.89%	20.27%	**62.16%**

Options given to survey respondents

4.4.3 Do NZSBs explicitly assess certain abilities?

The third statement asked for respondent's level of agreement that certain abilities were explicitly assessed as a part of their organisation's performance review processes. The results are shown in Table 17.

The results for this statement were mixed. For the following abilities, the results revealed that 51.19% to 78.21% of the NZSBs in the sample agreed or strongly agreed that the below abilities were explicitly assessed as part of their organisations' performance reviews:

- The ability to interpret information in text, oral, numerical and/or visual formats.
- The ability to have a clear understanding of occupational or organisational information needs.
- The ability to capture, sort and organise information for efficient storage and retrieval.
- The ability to use standard software and databases to access relevant information to accomplish tasks.
- The ability to use standard software and databases to share relevant information.
- The ability to recognise colleagues as a valuable and knowledgeable information source.
- The ability to judge the accuracy and legitimacy of information.
- The ability to ensure the right information is provided to the right people in a timely manner.
- The ability to use appropriate information to justify existing or new perspectives.
- The ability to use existing information to extend current knowledge and/or create new ideas.

Table 17

Agreement with Statement that Certain Abilities were Explicitly Assessed as a Part of the Participant's Workplace's Performance Review

Abilities	N	Options given to survey respondents						
		Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
The ability to interpret information in text, oral, numerical and/or visual formats	89	**3.37%**	4.49%	26.97%	**31.46%**	48.31%	16.85%	**65.17%**
The ability to have a clear understanding of occupational or organisational information needs.	86	**4.65%**	1.16%	25.58%	**26.74%**	50.00%	18.60%	**68.60%**
The ability to capture, sort and organise information for efficient storage and retrieval.	85	**1.18%**	5.88%	30.59%	**36.47%**	45.88%	16.47%	**62.35%**
The ability to use standard software and databases to access relevant information to accomplish tasks.	83	**2.41%**	6.02%	33.73%	**39.76%**	37.35%	20.48%	**57.83%**
The ability to use standard software and databases to share relevant information.	84	**1.19%**	3.57%	44.05%	**47.62%**	32.14%	19.05%	**51.19%**
The ability to identify and use various sources of information.	81	**2.47%**	2.47%	49.38%	**51.85%**	33.33%	12.35%	**45.68%**
The ability to recognise colleagues as a valuable and knowledgeable information source.	79	**3.80%**	3.80%	30.38%	**34.18%**	39.24%	22.78%	**62.03%**
The ability to consistently acknowledge sources in an appropriate manner.	79	**8.86%**	2.53%	56.96%	**59.49%**	21.52%	10.13%	**31.65%**
The ability to judge the accuracy and legitimacy of information.	85	**1.18%**	5.88%	30.59%	**36.47%**	45.88%	16.47%	**62.35%**

Table 17 Continued

Abilities	N	Options given to survey respondents						
		Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
The ability to ensure the right information is provided to the right people in a timely manner.	78	**1.28%**	2.56%	17.95%	**20.51%**	44.87%	33.33%	**78.21%**
The ability to use existing information to extend current knowledge and/or create new ideas.	77	**5.19%**	3.90%	31.17%	**35.06%**	46.75%	12.99%	**59.74%**
The ability to use appropriate information to justify existing or new perspectives.	78	**10.26%**	2.56%	43.59%	**46.15%**	33.33%	10.26%	**43.59%**
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	74	**8.11%**	2.70%	50.00%	**52.70%**	28.38%	10.81%	**39.19%**
The ability to understand the ethical implications of accessing and using information.	73	**13.70%**	2.74%	47.95%	**50.68%**	24.66%	10.96%	**35.62%**

On the other hand, for the following abilities, the results revealed that the majority of the NZSBs in the sample, ranging from 50.64% to 59.49% disagreed or strongly disagreed that the specific ability was explicitly assessed as a part of their organisation's performance review:

- The ability to identify and use various sources of information.
- The ability to consistently acknowledge sources in an appropriate manner.
- The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making and problem-solving scenarios.
- The ability to understand the ethical implications of accessing and using information.

4.4.4. NZSBs' Perceived Difficulty of Certain Abilities

The fourth statement was that certain abilities were considered difficult in the NZSBs' workplace. The results are shown in Table 18.

In general, the results revealed that 66.22% to 82.50% of the survey respondents thought their organisations regarded the abilities as easy rather than difficult. However, all of the abilities had response rates for agree or strongly agree which ranged from 16.25% to 25.68%, indicating that a small portion of the NZSBs surveyed considered these abilities to be difficult to attain, develop or master. More than 25.00% of the NZSBs in the sample agreed or strongly agreed that the ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios was difficult. Also, the ability to use existing information to extend current knowledge and/or create new ideas (23.08% agre e or strongly agree) is worth mentioning. Meanwhile, for all of the abilities, a small portion (<9.00%) of the NZSBs surveyed indicated that they did not know if they considered the particular skills to be difficult.

Table 18

Agreement with Statement that Certain Abilities were Considered Difficult in Participant's Workplace

Abilities	N	Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
					Options given to survey respondents			
The ability to interpret information in text, oral, numerical and/or visual formats	89	**1.12%**	30.34%	49.44%	**79.78%**	17.98%	1.12%	**19.10%**
The ability to have a clear understanding of occupational or organisational information needs.	87	**2.30%**	20.69%	55.17%	**75.86%**	20.69%	1.15%	**21.84%**
The ability to capture, sort and organise information for efficient storage and retrieval.	85	**1.18%**	23.53%	56.47%	**80.00%**	17.65%	1.18%	**18.82%**
The ability to use standard software and databases to access relevant information to accomplish tasks.	83	**1.20%**	26.51%	55.42%	**81.93%**	12.05%	4.82%	**16.87%**
The ability to use standard software and databases to share relevant information.	83	**0.00%**	25.30%	55.42%	**80.72%**	14.46%	4.82%	**19.28%**
The ability to identify and use various sources of information.	81	**1.23%**	16.05%	64.20%	**80.25%**	17.28%	1.23%	**18.52%**
The ability to recognise colleagues as a valuable and knowledgeable information source.	80	**1.25%**	27.50%	55.00%	**82.50%**	12.50%	3.75%	**16.25%**
The ability to consistently acknowledge sources in an appropriate manner.	80	**7.50%**	10.00%	63.75%	**73.75%**	17.50%	1.25%	**18.75%**
The ability to judge the accuracy and legitimacy of information.	85	**1.18%**	23.53%	56.47%	**80.00%**	17.65%	1.18%	**18.82%**

Table 18 Continued

Abilities	N		Options given to survey respondents					
		Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
The ability to ensure the right information is provided to the right people in a timely manner.	77	1.30%	19.48%	61.04%	80.52%	16.88%	1.30%	18.18%
The ability to use existing information to extend current knowledge and/or create new ideas.	78	2.56%	20.51%	53.85%	74.36%	16.67%	6.41%	23.08%
The ability to use appropriate information to justify existing or new perspectives.	78	8.97%	14.10%	57.69%	71.79%	17.95%	1.28%	19.23%
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	74	8.11%	13.51%	52.70%	66.22%	20.27%	5.41%	25.68%
The ability to understand the ethical implications of accessing and using information.	74	8.11%	17.57%	50.00%	67.57%	24.32%	0.00%	24.32%

4.4.5. Certain Abilities Which the Majority of Staff Possess

The fifth statement dealt with the level of agreement that the majority of the staff in the NZSBs possessed certain abilities. The results are shown in Table 19.

The results revealed that for each ability, between 58.23% and 91.11% of the survey respondents thought the majority of their organisations' staff possessed the ability. However, all of the abilities had response rates for disagree or strongly disagree which fell between 9.20% and 36.71%. This indicates that a small proportion of the survey respondents did not believe that the majority of their staff possessed certain abilities. The ability to consistently acknowledge sources in an appropriate manner had the highest rate of disagreement.

Meanwhile, a small percentage (<9.00%) of the NZSBs surveyed indicated that they did not know if the majority of their employees possessed specific abilities.

Table 19

Agreement with Statement that Certain Abilities are Possessed by the Majority of Staff in Participant's Workplace

Abilities	N	Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
					Options given to survey respondents			
The ability to interpret information in text, oral, numerical and/or visual formats	90	**0.00%**	0.00%	8.89%	**8.89%**	54.44%	36.67%	**91.11%**
The ability to have a clear understanding of occupational or organisational information needs.	87	**2.30%**	1.15%	8.05%	**9.20%**	65.52%	22.99%	**88.51%**
The ability to capture, sort and organise information for efficient storage and retrieval.	85	**0.00%**	0.00%	20.00%	**20.00%**	57.65%	22.35%	**80.00%**
The ability to use standard software and databases to access relevant information to accomplish tasks.	83	**1.20%**	1.20%	15.66%	**16.87%**	46.99%	34.94%	**81.93%**
The ability to use standard software and databases to share relevant information.	83	**0.00%**	1.20%	24.10%	**25.30%**	51.81%	22.89%	**74.70%**
The ability to identify and use various sources of information.	81	**0.00%**	0.00%	25.93%	**25.93%**	53.09%	20.99%	**74.07%**
The ability to recognise colleagues as a valuable and knowledgeable information source.	80	**0.00%**	0.00%	15.00%	**15.00%**	53.75%	31.25%	**85.00%**
The ability to consistently acknowledge sources in an appropriate manner.	79	**5.06%**	2.53%	34.18%	**36.71%**	44.30%	13.92%	**58.23%**
The ability to judge the accuracy and legitimacy of information.	85	**0.00%**	0.00%	20.00%	**20.00%**	57.65%	22.35%	**80.00%**

Table 19 Continued

Abilities	N	Don't know	Strongly disagree	Disagree	Total disagree	Agree	Strongly agree	Total agree
					Options given to survey respondents			
The ability to ensure the right information is provided to the right people in a timely manner.	78	**0.00%**	0.00%	11.54%	**11.54%**	57.69%	30.77%	**88.46%**
The ability to use existing information to extend current knowledge and/or create new ideas.	78	**3.85%**	2.56%	21.79%	**24.36%**	52.56%	19.23%	**71.79%**
The ability to use appropriate information to justify existing or new perspectives.	78	**8.97%**	2.56%	24.36%	**26.92%**	48.72%	15.38%	**64.10%**
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	74	**6.76%**	1.35%	27.03%	**28.38%**	54.05%	10.81%	**64.86%**
The ability to understand the ethical implications of accessing and using information.	74	**6.76%**	1.35%	13.51%	**14.86%**	59.46%	18.92%	**78.38%**

4.4.6 Value of information-related skills

This section summarises section 4.4 by comparing how each of the abilities performed across the five statements. Table 20 shows how the abilities were ranked in comparison with each other, against the different statements. It is important to note that only the rankings for all abilities (across all rows) were analysed and not the rankings of their importance, for example (down all column). This is because while within the columns, there may be a ranking of one and another of two, statistically some of the results are very similar with only a 0.01% difference.

In addition, it is important to note that the rankings are essentially in reverse order in the 'considered difficult in the workplace' column. A higher ranking indicates the ability was considered more difficult than the abilities who were assigned lower ranks. For example, a ranking of 1 indicates that the ability was considered the least difficult whereas a ranking of 14 indicates that the ability was considered the most difficult. However, in general, the survey respondents reported that they did not perceive these abilities to be overly difficult.

Overall, there appears to be no relationship between how the NZSBs in the sample rank information-specific abilities concerning the statements in Table 20. For each of the abilities, there is a degree of consistency in many of the rankings. The most consistent rankings were achieved by *the ability to consistently acknowledge sources in an appropriate manner*. This ability was consistently ranked as number 13 across four of the five categories, suggesting that it is not as valued in the workplace as many of the other-information related abilities.

Two other noteworthy mentions are the *ability to capture, sort and organise information for efficient storage and retrieval* and *the ability to judge the accuracy and legitimacy of information* as these ranked identically, (second, third, fourth, eighth and sixth respectively) across all five of the statements. This indicates that the NZSBs in the sample valued both of these abilities to the same extent.

Table 20

Ranking of the Abilities Across the Statements

Abilities	Statements				
	Important in the Workplace	Explicitly Taught in Workplace	Explicitly Assessed in Workplace	Considered Difficult in Workplace	Possessed by majority of staff
The ability to interpret information in text, oral, numerical and/or visual formats	1	7	3	7	1
The ability to have a clear understanding of occupational or organisational information needs.	7	5	2	4	2
The ability to capture, sort and organise information for efficient storage and retrieval.	2=	3=	4=	8=	6=
The ability to use standard software and databases to access relevant information to accomplish tasks.	5	2	7	12	5
The ability to use standard software and databases to share relevant information.	11	9	8	5	8
The ability to identify and use various sources of information.	8	10	9	10	9
The ability to recognise colleagues as a valuable and knowledgeable information source.	3	4	5	13	4
The ability to consistently acknowledge sources in an appropriate manner.	13	13	13	9	13
The ability to judge the accuracy and legitimacy of information.	2=	3=	4=	8=	6=
The ability to ensure the right information is provided to the right people in a timely manner.	4	1	1	11	3
The ability to use existing information to extend current knowledge and/or create new ideas.	6	6	6	3	10
The ability to use appropriate information to justify existing or new perspectives.	10	12	10	6	12
The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	9	11	11	1	11

4.5 Summary

This chapter has presented the results of the survey questions regarding the demographic data and Research Questions 1 and 2. Chapter Five will present the results of the survey questions related to Research Question 3 after introducing a conceptual framework.

CHAPTER FIVE
Conceptual Framework Creation and Survey Results Part B

As established in section 2.4, information literacy in the workplace has not been extensively researched. A potential implication of this lack of research is organisations may not be familiar with the term information literacy. However, as shown by Conley and Gil's (2011) and Stewart, Wall, and Marciniec's (2016) research, this does not mean information literacy is non-existent in organisational academic curricula and therefore organisations themselves. Instead, it is more likely that these parties use other terminology/concepts to describe various concepts underpinned by information literacy. Chapter Five demonstrates the relationship between information literacy and the concepts of information culture, organisational learning, and knowledge management, by creating a conceptual framework based on existing literature and presenting the survey results for Research Question 3.

5.1 Creating A Conceptual Framework

A conceptual framework is defined as a network of interlinked concepts (Jabareen, 2009). The purpose of the conceptual framework presented in section 5.1.4 is to demonstrate the theoretical relationship between information literacy, information culture, organisational learning, and knowledge management. A traditional aspect of creating a conceptual framework is conceptual analysis, which involves examining texts to see how many times a specific concept is mentioned, either explicitly or implicitly (Jabareen, 2009).

A wide range of terminology, used in workplaces and business communication courses, could potentially relate to information literacy. This framework focuses on three of these concepts identified by the researcher as prevalent terms used in organisational communication literature and business studies curricula and having similarities to information literacy.

5.1.2 The conceptual framework

The connections between information literacy and the concepts of information culture, knowledge management, and organisational learning have

been implicitly suggested within relevant literature, as explored in sections 5.1.1, 5.1.2, and 5.1.3. The following framework has been created by the researcher and research supervisor as a means of explicitly showing how the concepts of information literacy, information culture, knowledge management, and organisational learning may relate.

The conceptual framework can be seen in Table 21. Through analysis of the literature review and sources included in that literature review, a process (Jabareen, 2009), a series of information related competencies were identified. These competencies are situated in the first column of the table. Drawing from relevant literature explored in sections 5.1.1, 5.1.2, and 5.1.3, the final three columns then identify how each competency may be specifically understood in relation to information literacy overall and information culture, organisational learning, and knowledge management specifically.

Table 21

A Conceptual Framework Relating the Concepts of Information Literacy, Information Culture, Knowledge Management, and Organisational Learning

CONCEPTS →	Information Literacy	Information Culture	Organisational Learning	Knowledge Management
COMPETENCY ↓	People who possess the following competencies are able to:			
Literacy skills	Read and interpret text, images and oral messages, and produce information effectively for a range of organisational tasks.	Understand which types of information are valued in the organisation and participate in the collation, creation and dissemination of such information.	Read and interpret text, images and oral messages within a particular organisational context. Understand visual metaphors to learn about various work concepts.	Comprehend information in any format and manage the use of various source types in a range of oral, written of visual formats.
Interpersonal skills	Listen to and communicate with others to create, use and share information.	Willingly exchange information with others. Avoid engaging in behaviours that knowingly withhold important information from others.	Teach and learn from each other, valuing and respecting colleagues as a valuable source of information and knowledge.	Ensure the right people can access the right information. Understand the impacts of giving or withholding information from certain information.
Technological skills	Use technology to access and convey information.	Openly share relevant information using suitable technologies.	Adopt and learn to use specialized software and databases for the information-related tasks.	Use electronic storage systems to store and access information.
Sharing skills	Share appropriate information with the right people.	Understand the importance of shared knowledge and be able to express alternative visions to others.	Understand that information needs to be shared to prevent information loss during staff turn overs.	Obtain resources and share stored information using relevant techniques within the organisation.
Rationalizing information needs	Explain why and when particular information is needed.	Explain why certain information is valued within the organisational context and how it is used to effectively complete tasks.	Provide training to employees relating to organisational behaviours, values and norms, relating to information creation, use and dissemination for specific tasks.	Provide reasons for why knowledge management systems need to be understood and utilized to ensure effective information flows within an organisation

Table 21 Continued

CONCEPTS →	Information Literacy	Information Culture	Organisational Learning	Knowledge Management
COMPETENCY ↓	People who possess the following competencies are able to:			
Locating information through material resources	Look up databases, books or reports. Find information to solve the problem or various alternatives to a decision.	Understand the contribution of various information sources for differing tasks.	Engage in training about how to locate information through various organisational resources.	Locate information through internal knowledge management systems.
Locating information through social resources	Recognise people can be knowledgeable, reliable and efficient sources of information.	Value knowledge and expertise of the people with and an organisation and welcome ideas and input from colleagues.	Explore availability and forms of social resources/expertise and ensuring all employees know how to access these sources/expertise..	Ensure that those with knowledge of the organisation have the capacity and resource to make that knowledge available to others.
Organise, capture and store information	Select relevant information to record and store for immediate and future use. Ability to select and compare relevant information for each possibility.	Filter information to select the most important and relevant information	Explore necessary information on how to capture and store information effectively and efficiently easily accessible to staff.	Use knowledge management systems to filter and record information. Find information that matches the required use of the information.
Innovation skills	Ability to think outside the box and use information to engage in innovative problem-solving.	Value and use creative ways to comprehend large amounts of information.	Apply previously learnt information for new situations. Think of new solutions and decision alternatives	Adopt innovative ways of storing, accessing and sharing information to meet information needs effectively and efficiently.
Justification skills	Use information to support a perspective; or rationalize a particular method of communication is being used.	Justify why particular sources of information are being used for a particular purpose within the organisational context.	Ensure people learn why certain behaviours, values and norms can appropriately justify a course of action. Regularly reflect on decisions made or solution implemented for future opportunities and challenges.	Justify why information is stored in particular ways for the most effective and efficient use.
Critical thinking skills	Judge the accuracy and legitimacy of information.	Filter information based on its merit Assess the potential outcomes / consequences of decisions	Reflect on the appropriateness of using particular information for existing and future tasks.	Understand the opportunities and challenges inherent in existing and potential knowledge management systems.

Table 21 Continued

	Understand the social, ethical, moral and legal implications of accessing, using and communicating information.	Abide by copyright/fair use and intellectual property regulations. Value the importance of acknowledging information sources and ensure information is consistently used ethically.	Explore the ethical implications of organisational behaviours, values and norms relating to information creation, sharing and use.	Ensure sensitive information can be stored confidentially and managed discretely to maintain privacy.
Ethical awareness				

Within the framework, information literacy is seen to be an overarching theme, with all of the other concepts embedded within it.

The competencies in the information culture column centre on values and attitudes towards information use and sharing within the organisation. Positive information culture may be characterised by:

- the willingness to openly share information, to support both established and new ideas

- the ability to understand the value of information sources and recognise the expertise of people within the organisation

- the ability to critically and creatively use information

- the ability to filter information based on relevance, merit and legitimacy to be able to justify decisions made.

- the ability to recognise ownership of information and acknowledge information sources to ensure it is used ethically.

The competencies, in relation to organisational learning, meanwhile focus on individual learning and development and the embedding of this learning at an organisational level. Adequate organisational learning may be characterised by:

- Employees identifying and having the opportunities to professional develop the within the workplace.

- The ability to capture individual workers' knowledge and transform it into an organisational asset.

- The ability to recall prior learning and knowledge and use it in new situations and new ways.

The competencies, in relation to knowledge management, meanwhile focus on the more physical aspects of gathering and distributing information. Good knowledge management may be characterised by:

- the ability to use different types of databases or similar systems to store and retrieve information.

- the ability to share information with the appropriate people, via the appropriate channel.

- the ability to access and share information, within the bounds of personal and organisational ethics.

5.1.3 Using the conceptual framework

As implied by the name, this framework is conceptual, meaning the framework should be viewed as the first step in connecting information literacy with concepts potentially known to organisations. Furthermore, this framework is the product of how the researcher and the supervisor interpreted the relevant literature, and is untested within the scope of this research timeframe. Consequently, future research is required to determine the usefulness of this conceptual framework to inform curriculum development.

However, in its current state, this conceptual framework may be of benefit to those who teach business communication, to enable them to understand how they could explicitly discuss information literacy with their business communication students. This would be significant as if the concept of information literacy can be introduced to new relevant audiences such as business communication students, there is an opportunity to expand the information literacy conversation beyond an academic context.

5.2 Survey Results for Research Question 3

In relation to the conceptual framework presented in section 5.1, the last section of the survey focussed on how the survey respondents and their

organisations understand the concepts of information literacy, information culture, knowledge management, and organisational learning.

5.2.1 Use of Concepts by NZSBs and their Employees

Firstly, not many of the survey respondents reported that their organisations use the concepts of information literacy, information culture, knowledge management, and organisational learning regularly as shown by Table 22.

Table 22

Workplaces' and Respondents' Familiarity with Information Literacy and Other Organisational Communication Concepts (n=73)

Concepts	Level of Familiarity			
	Workplace uses the term and the majority of staff are familiar with it	Only certain departments or a small group of staff in the workplace use this term	Individual respondent has heard of the term but the term is not used in the workplace	Individual respondent has not heard of the term until this survey
Information Literacy	8.22%	12.33%	47.95%	31.51%
Information Culture	10.96%	10.96%	45.21%	32.88%
Organisational Learning	16.44%	23.29%	30.14%	30.14%
Knowledge Management	17.81%	19.18%	30.14%	32.88%

The responses were consistent across the four levels of familiarity and the four concepts. Just under a third of the respondents indicated that before the survey, they had not heard of a specific concept (further analysis below). However, the results clearly showed that if a survey respondent recognised the term, they more than likely encountered it in another context rather than in relation to their workplace.

5.2.1.1 Information literacy

With regards to information literacy, 47.95% (35 people) said they individually had heard of the concept but that it was not used in the workplace, and 31.51% had not heard of the term until they took part in the survey. A fairly even split was found in terms of gender (17 female, 18 male). The majority were in the 40-49 age group; they mainly identified as Managers, Department Heads,

or Team Leaders, and were mainly in three industries: Manufacturing, Professional, or Other. The largest number were based in Auckland and had 6-19 employees. This demographic data is of interest because it will be used to identify whether or not the same respondents indicated their level of familiarity for the other concepts.

5.2.1.2 Information culture

With regards to information culture, 45.00% (33 people) said they individually had heard of the concept but that it was not used in the workplace, and 32.88% had never heard of the term. A split was found in terms of gender (14 female, 19 male). The majority were in the 50-59 age group; they mainly identified as Managers, Department Heads, or Team Leaders and were mainly in three industries: Manufacturing, Professional, or Other. The largest number were based in Auckland and had 6-19 employees.

When comparing samples, it was discovered that 25 of the same respondents each indicated a level of familiarity with both information literacy and information culture.

5.2.1.3 Organisational Learning

For organisational learning, 30% (22 people) said they individually had heard of the concept but that it was not used in the workplace, and another 30.14% had never heard of the term. A fairly even split was found in terms of gender (10 female, 12 male). The majority were in the 50-59 age group; they mainly identified as Managers, Department Heads, or Team Leaders and were mainly in three industries: Manufacturing, Professional, or Other. The largest number were based in Auckland and had 6-18 employees. When comparing samples, it was discovered that 17 of the same respondents indicated the same level of familiarity with both information literacy and organisational learning.

5.2.1.4 Knowledge Management

With regards to knowledge management, 30% (22 people) said they individually had heard of the knowledge management concept but that it was not used in the workplace, and 32.88% had never heard of the term. Yet again, an even split was found in terms of gender (11 female, 11 male). The majority were

in the 50-59 age group; they mainly identified as Managers, Department Heads, Team Leaders, or Other/Unknown, and were mainly in the Manufacturing industry. The largest number were based in Auckland and had 6-18 employees.

In terms of whether the same people were in each of the information literacy and knowledge management samples for this response, they shared 16 of the same people.

5.2.1.5 Summary

The analysis of the survey respondents' demographics in relation to their responses has shown no patterns, with regards to whether individual survey respondents' have the same level of familiarity with each concept. Subsequently, no conclusions can be drawn about whether specific demographic groups demonstrate a similar level of familiarity across all four concepts.

5.2.2 Defining of concepts by NZSBs' employees

The survey respondents, which suggested that their businesses used the concepts of information literacy, information culture, knowledge management and organisational learning regularly were given the opportunity to define the concept(s). Interestingly, none of these survey respondents chose to provide definitions for any of the concepts. However, despite not being familiar with or knowing how to define the concepts, many of the NZSBs in the sample were willing to assign the information abilities explored earlier to these concepts. The results of this question are shown in Table 23.

As indicated by the highlighting in Table 23, often one of the concepts was assigned to a particular ability more frequently than the other concepts were. For example, information literacy is strongly associated with the following abilities:

- The ability to interpret information in text, oral, numerical, and/or visual formats
- The ability to capture, sort, and organise information for efficient storage and retrieval.
- The ability to use standard software and databases to access relevant information to accomplish tasks.

- The ability to use standard software and databases to share relevant information to accomplish tasks.
- The ability to identify and use various sources of information
- The ability to judge the accuracy and legitimacy of information.

Table 23

Association of Information Literacy Concepts with Specific Abilities by Respondents (bolding denotes concept most associated with ability)

Abilities	Concepts					
	Information Literacy	Information Culture	Organisational Learning	Knowledge Management	Other concept(s)	Don't know
Interpret information in text, oral, numerical and/or visual formats	**87.76%**	26.53%	22.45%	0.00%	4.08%	0.00%
Have a clear understanding of occupational or organisational information needs.	42.86%	14.29%	19.64%	**62.50%**	3.57%	8.93%
Capture, sort and organise information for efficient storage and retrieval.	**63.16%**	24.56%	17.54%	43.86%	7.02%	10.53%
Use standard software and databases to access relevant information to accomplish tasks.	**55.17%**	20.69%	25.86%	51.72%	5.17%	6.90%
Use standard software and databases to share relevant information.	**56.14%**	24.56%	24.56%	52.63%	5.26%	7.02%
Identify and use various sources of information.	**62.07%**	25.86%	18.97%	31.03%	5.17%	12.07%
Recognise colleagues as a valuable and knowledgeable information source.	17.54%	**61.40%**	40.35%	36.84%	5.26%	7.02%
Consistently acknowledge sources in an appropriate manner.	33.93%	**39.29%**	16.07%	35.71%	7.14%	17.86%
Judge the accuracy and legitimacy of information.	**65.52%**	17.24%	8.62%	37.93%	6.90%	8.62%
Use existing information to extend current knowledge and/or create new ideas.	31.58%	42.11%	**43.86%**	36.84%	3.51%	8.77%
Ensure the right information is provided to the right people in a timely manner.	17.24%	39.66%	24.14%	**62.07%**	3.45%	6.90%
Use appropriate information to justify existing or new perspectives.	33.93%	23.21%	32.14%	**37.50%**	3.57%	16.07%
Use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.	36.21%	29.31%	39.66%	**43.10%**	6.90%	12.07%
Understand the ethical implications of accessing and using information.	25.00%	**55.36%**	12.50%	28.57%	5.36%	12.50%

Meanwhile, information culture is associated with:

- The ability to recognise colleagues as a valuable and knowledgeable information source.
- The ability to consistently acknowledge sources in an appropriate manner.
- The ability to understand the ethical implications of accessing and using information.

Organisational learning is associated with:

- The ability to use existing information to extend current knowledge and/or create new ideas.

Knowledge management is associated with:

- The ability to have a clear understanding of occupational or organisational needs.
- The ability to ensure the right information is provided to the right people in a timely manner.
- The ability to use appropriate information to justify existing or new perspectives.
- The ability to use appropriate manner to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.

The concept of knowledge management was not linked with *the ability to interpret information in text, oral, numerical, and/or visual formats* by any of the survey respondents. This is remarkable given that each of the other abilities were linked to the four concepts by at least one survey respondent. These results suggest that employees recognise that there are similarities between the concepts of information literacy, information culture, organisational learning, and knowledge management. This reinforces the interconnectedness of these concepts, suggested by the conceptual framework in section 5.1.4.

5.3 Summary

Chapter Five has explicitly stated how the concepts of information literacy, information culture, organisational learning, and knowledge management are related by creating a conceptual framework based on analysis and interpretation of existing literature. By presenting the survey results for Research Question 3, this chapter has also provided a NZSBs perspective on this subject. The implications of these findings are discussed in the next chapter.

This chapter will discuss the key findings of this study in relation to each of the three research questions. The significance of the key findings of this study will be explored and comparisons made to findings in other studies.

6.1 Research Question 1: What comprises the information landscape(s) of NZSBs?

The survey results suggest that the information landscape(s) of NZSBs are complex, with employees encountering a wide variety of information sources on a daily basis. To put this into perspective, the researcher could only narrow the responses down to only 15 kinds of information and 16 kinds of information sources when thematically analysing and grouping the qualitative data. Furthermore, it is important to acknowledge that the categories represent a large number of different kinds and sources of information.

Although not enough research data is available to make generalisations about all NZSB information landscapes, the survey results clearly indicate that information landscapes of workplaces are complex, as previous studies have already established (Bruce, 1999; Lloyd, 2006; De Saulles, 2007; Head et al., 2013).

6.1.1 What kinds of information do employees use on a daily basis?

Research Question One had three objectives. The first objective was to determine what kinds of information employees use on a daily basis. The top three kinds of information employees used on a daily basis were online, verbal communication, and industrial or organisational sources.

As shown in sections 4.2 and 4.3, NZSBs often use information that has been communicated to them through their interaction with their colleagues. This reiterates the importance of the social element which is missing from generic academic context definitions of information literacy but has been discovered in past workplace information literacy studies (Cheuk, 2008; De Saulles, 2007; Head et al., 2013; Lloyd, 2010; Sokoloff, 2012).

Similarly, the research has also found that online sources are widely used by the NZSBs in the sample (see section 4.3). This raises the question of what is meant by online, a question which is also raised by Feekery (2013). More research needs to be done to address the question of what New Zealand employees mean by "online" as not knowing has repercussions for the research findings. For example, it is unknown whether any of the respondents intended for their response of "online" to encapsulate the likes of social media. Consequently, this research can neither support or counter Sokoloff's (2012) finding that some workers frequently source information from social media.

6.1.2 How do employees access information?

The second objective was to determine how businesses accessed this information. The top three responses were online, computer, and emails. This is an important finding as it reiterates previous findings that the use of technology is important in sourcing information in the workplace (Bruce, 1999; De Saulles, 2007; Head et al., 2013). This finding also reinforces the overlapping of computer, digital, and network literacy, with information literacy as suggested by Kurbanoglu (2013) suggested.

6.1.3 What kinds of information do NZSMEs find reliable and trustworthy?

The third objective was to determine what information sources businesses found reliable and trustworthy. The top three responses were online, industrial or organisational sources, and unspecified interpersonal communication.

A large part of information literacy is about critiquing information for its authority and validity (ACRL, 2015). Due to the difficulty with verifying information sourced directly online, such as general websites, or sourced through interpersonal communication, such as conversations with another person, these are viewed as unreliable and untrustworthy sources of information in academic contexts. Subsequently, it is common knowledge within tertiary institutions and amongst academics that these types of sources of information should be not used in an academic work, as a general rule of thumb. However, if these sources are used, they should be used in conjunction with other academic sources which can back up their reliability. Yet, this study has shown that employees frequently use information

sourced online and through verbal and unspecified interpersonal communication (see section 4.3) and consider the information to be reliable and trustworthy. More research is needed to determine how, why and to what extent NZSBs and their employees are critiquing their sources of information, and whether any standard criteria are used in various sectors.

6.2 Research Question 2: To What Extent is Information Literacy and its Related Abilities Valued in NZSBs?

The research established that NZSBs value the information-related abilities mentioned in the survey, as the respondents have clearly indicated that these abilities are important to their organisations. However, the research revealed that many of the employees considered many of the specific information abilities easy to attain and also thought that these skills were possessed by the majority of their staff. These findings are discussed in the following sections.

6.2.1 The importance of information literacy and information-related abilities to NZSBs

As shown in section 4.4.1, most of the survey respondents agreed that the information-related abilities mentioned in the survey were important to their organisations. This is a noteworthy finding, as it suggests that the abilities, which were implicitly emphasised by the literature review, are relevant in the workplace.

It is understandable that the *ability to interpret information in text, oral, numerical and/or visual formats* received the greatest rate of agreement (98.87%) with regards to its importance in the workplace. This is because this ability basically summarises traditional literacy and, therefore, underpins every other ability listed (Kurbanoglu, 2013). Consequently, it could be argued that this ability is integral for all workers in all positions and industries.

6.2.2 The perceived difficulty of information literacy and information-related abilities within NZSBs

In general, the results revealed that the majority of respondents considered the abilities not to be difficult. However, the three abilities that the most survey respondents agreed were considered difficult in their organisations were *the ability to*

use appropriate information to explore and evaluate plausible alternatives in decision-making and problem-solving (25.68%), *the ability to understand the ethical implications of accessing and using information* (24.32%) *and the ability to use existing information to extend current knowledge and/or create new ideas* (23.08%). These findings suggest that many New Zealand employees struggle to view information and its uses from different perspectives and therefore may not be using information as ethically and efficiently as they could be. This is of concern as these abilities are often desired by employers (). However, it makes sense that the abilities which fewer people master are the ones desired by employers.

6.2.3 Perceived possession of information literacy and information-related abilities amongst staff

In general, the results revealed that many of the survey respondents agreed that the majority of their staff possessed most of the abilities provided. As discussed earlier, *the ability to interpret information in text, oral, numerical and/or visual formats* is essentially basic literacy; therefore, it is understandable that this ability was the top ability that survey respondents said the majority of their staff possessed (Kurbanoglu, 2013). It is interesting that *the ability to have a clear understanding of occupational or organisational information needs* and *the ability to ensure the right information is provided to the right people in a timely manner* were ranked as the second and third most common abilities which the majority of staff possessed as these abilities directly relate to organisational needs (see Cheuk, 2008)

The three abilities which were indicated as being least common for staff to possess were *the ability to consistently acknowledge sources in an appropriate manner, the ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios and the ability to use appropriate information to justify existing or new perspectives.* Interestingly, these abilities were regarded as the most difficult of the abilities surveyed as stated in the last section. Subsequently, a relationship appears to exist between the abilities that survey respondents perceived to be more difficult and the perceived number of staff members who possessed the abilities.

6.2.4 The teaching of information literacy and information-related abilities within NZSBs

Less agreement was found amongst the survey respondents when it came to their workplaces' teaching the information-related abilities. The two abilities that received the most favourable/agreeable responses with a total agreement rate of 87.18% and 77.11% respectively were *the ability to ensure that the right information is provided to the right people in a timely manner* and *the ability to use standard software and databases to access relevant information to accomplish tasks*.

As O'Farrill (2010), Grant (2011) and Jones (2011) discussed, organisations rely on the effective management of information and knowledge to ensure that they are competitive and successful. The effective management of information and knowledge relies on employees' handling information ethically and competently by following certain processes, for example, Seng and colleagues' (2002) five steps of managing knowledge. The element of collaboration is key in both knowledge management and workplace information literacy (see sections 2.1.4 and 2.2.3). For these reasons, it is understandable that *the ability to ensure the right information is provided to the right people in a timely manner* was the top ability that organisations report explicitly teaching.

Meanwhile, the fact that *the ability to use standard software and databases to access relevant information to accomplish tasks* was the second top ability that organisations reported explicitly teaching, which serves to reiterate that the use of technology is important in the workplace as previously stated in section 6.1.

6.2.5 The assessment of information literacy and information-related abilities within NZSBs

Again, less agreement was found amongst the survey respondents when it came to their workplaces' assessing the information-related abilities. With a total agreement rate of 78.21% and 68.60% respectively, the two abilities that were the most commonly assessed in the workplace: *the ability to ensure the right information is provided to the right people in a timely manner* and *the ability to have a clear understanding of occupational or organisational information needs*. Again, this finding is understandable given its relevance to knowledge management (O'Farrill; 2010, Grant 2011; Jones, 2011).

The abilities, which were least taught by NZSBs, were the ability to consistently acknowledge sources (43.75%) and the ability to identify and use various sources of information (42.5%). Again, this brings up the question of source acknowledgement and information corroboration in the workplace, as previously discussed in Section 6.1.3.

6.3 Research Question Three: How do the concepts of information culture, organisational learning, and knowledge management relate to information literacy?

The connection between the concepts of information literacy, information culture, organisational learning, and knowledge management was established in the literature review and has been highlighted by the development of a conceptual framework. This section brings together the connection between the concepts, as demonstrated by the literature review, the conceptual framework and the NZSBs.

6.3.1 Information literacy

In the literature review, information literacy is seen as encompassing a broad array of skills and competencies (Feekery, 2013), and argued to be a metaliteracy (Kurbanoglu, 20143) (see section 2.1). For this reason, within the conceptual framework, it is argued that information literacy underpins information culture, organisational learning and knowledge management. Subsequently, it was not unexpected that information literacy was the concept which had several abilities more closely associated with it in comparison to the other three concepts. These abilities were *the ability to interpret information in text, oral, numerical, and/or visual formats*; *the ability to use standard software and databases to access relevant information to accomplish tasks*; *the ability to use standard software and databases to share relevant information to accomplish tasks*; *the ability to identify and use various sources of information*; and *the ability to judge the accuracy and legitimacy of information* in comparison to the other three concepts. These abilities are quite general and, therefore, it is understandable why many of the survey respondents associated them with information literacy.

6.3.2 Information culture

In the literature review, information culture was seen as a collection of elements of an organisation's culture that influence its management and use of information (Choo et al., 2008). For this reason, within the conceptual framework, information culture is centred on values and attitudes towards information use and sharing within the organisation. Subsequently, it was understandable that out of the four concepts, information culture was the one most associated with *the ability to recognise colleagues as a valuable and knowledgeable information source; the ability to consistently acknowledge sources in an appropriate manner; and the ability to understand the ethical implications of accessing and using information*. These abilities can be argued to reflect the understansding that an organisation's information culture is designed to inform its information practices (Curry & Moore, 2003; Choo et al., 2008).

6.3.3 Organisational Learning

In the literature review, organisational learning is described as being: "a cyclical process through which knowledge that is learned on an individual or group level is objectified on the organisational level, institutionalized and embedded in the organisational memory" (Wiseman, 2007, p. 1113). Subsequently, organisational learning was included in the framework, encapsulating the idea of individual learning and development and the embedding of this learning at an organisational level. Interestingly, the only ability, which was more closely associated with organisational learning than the other three concepts *was the ability to use existing information to extend current knowledge and/or create new ideas*. This suggests that the NZSBs understand that organisational learning involves recycling information and knowledge, but they may not understand the full complex process of organisational learning.

6.3.4 Knowledge management

Knowledge management can be argued to be a series of processes, relating to the capturing, storing, retrieving and sharing of information (Seng et al., 2002). For this reason, within the conceptual framework, knowledge management was seen as relating to the more physical aspects of gathering and distributing information. Out of the four concepts, knowledge management was the one most associated *with the ability to have a clear understanding of occupational or organisational needs; the*

ability to ensure the right information is provided to the right people in a timely manner; the ability to use appropriate information to justify existing or new perspectives; and the ability to use appropriate manner to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios. These findings are interesting as it suggests that knowledge management is more to do with how people handle information rather than the physical management of information, as suggested by the conceptual framework.

Another interesting finding was knowledge management was not linked *with the ability to interpret information in text, oral, numerical, and/or visual formats* by any of the survey respondents. This is remarkable given that each of the other abilities were linked to the four concepts by at least one survey respondent, and suggests that NZSBs perceive the skills required by knowledge management to be beyond basic literacy.

6.3.5 Associating rather than defining

While many of the survey respondents linked the information-related abilities to the concepts of information literacy, information culture, organisational learning, and knowledge management, no survey respondent defined any of the concepts. This suggests that the survey respondents recognise that there are similarities between the concepts of information literacy, information culture, organisational learning, and knowledge management, but they are unable to define the terms in relation to their workplace. This could be explained by the fact that many of the survey respondents indicated that they were personally familiar with the concept(s), although the concept(s) are not used in their workplace. Consequently, there appears to be a disconnection between the language/terminology taught to business and communication students and the language/terminology used in the workplace.

6.4 Summary

Firstly, this research has found that the concepts information literacy, information culture, knowledge management and organisational learning are interrelated. It also suggests a definition of New Zealand small business information literacy should involve social skills and ability to use information technology.

Secondly, the research has shown that of the NZSBs which responded to the survey, all value the information skills associated with those terms. Unfortunately, how much NZSBs value these terms is questionable, due to the lack of teaching and assessment surrounding them.

Thirdly, while there is clear evidence there is a connection between concepts of information literacy, information culture, organisational learning, and knowledge management, this study has found NZSBs do not generally use these concept(s)

The next chapter summarises the answers of the research questions and explores implications. It also outlines the limitations of the study and looks at the options for future research.

CHAPTER SEVEN:
Conclusion

This final chapter is divided into four sections. The first section outlines the limitations of this research study. Section two reflects on the research by summarising the research finding and exploring possible implications. Section three looks forward by exploring possibilities for future research.

7.1 Addressing the Research Questions

The purpose of this thesis was to establish an understanding of information literacy in the context of NZSBs. This research study has reinforced the complexity of the concept of information literacy. While further research is necessary to determine a precise definition of information literacy for NZSBs and other organisations, the following answers for each specific research question helps to build an understanding of how information literacy could potentially be defined in NZSBs.

7.1.1 Research question 1: What comprises the information landscape(s) of NZSBs?

Research Question One had three objectives. The first objective was to determine what kinds of information employees use on a daily basis. The top three kinds of information employees used on a daily basis were online, verbal communication, and industrial or organisational sources. The second objective was to determine how businesses accessed this information. The top three responses were online, computer, and emails. The third objective was to determine what information sources businesses found reliable and trustworthy. The top three kinds of information sources businesses found reliable and trustworthy were online, industrial or organisational sources, and unspecified interpersonal communication, raising questions about source acknowledgement and information validity. There are two key implications of these findings.

Firstly, this research has shown that social sources are important in workplaces, which is not seen in academic information literacy models. Subseqiuently, there is aa need for future information literacy models to contain social and technological elements, which reflect the information literacy needs of employees.

Secondly, based on this research, it is recommended that academics review their current practices regarding source acknowledgement and determine whether they could another approach or a combination of approaches to ensure graduates have the source acknowledgement skills to see them succeed in both their academic and business careers. Meanwhile, it is recommended that NZSBs review their organisation's management of information and information sources. From an auditing perspective, it is important that NZSBs can explicitly account for all organisational activities such as decision making.

7.1.2 Research question 2: To what extent is information literacy and its related abilities valued in NZSBs?

The research established that NZSBs value the information-related abilities mentioned in the survey as the respondents have clearly indicated that these abilities are important to their organisations. However, the research revealed that many of the employees considered many of the specific information abilities easy to attain and also thought that these skills were possessed by the majority of their staff. Subsequently, it may be argued that employees may be expected to possess many of the abilities associated with information literacy, although their employer and employment contract may not explicitly stipulate these requirements.

However, to what extent information literacy and its related abilities is valued by NZSBs remains unknown. This is because although the research indicates that NZSBs in the sample recognise the importance of the skills surveyed, it appears that many of these NZSBs do not emphasise the value the information-related abilities through information culture and organisational learning, as many NZSBs have not implemented workplace training and assessment around these specific abilities to encourage their staff to develop and/or maintain these skills. In saying this, it is important to acknowledge that while information literacy models, such as the ACRL (2015) framework, recognise that information literacy and its associated skills can be explicitly taught to and demonstrated by individuals, businesses are only entering into the information literacy conversation; therefore, it is reasonable to expect that organisations will begin to question whether they should implement strategies to support the development and mastery of information literacy and its related abilities, within their employees.

7.1.3 Research question 3: How do the concepts of information culture, organisational learning, and knowledge management relate to information literacy?

The connection between the concepts of information literacy, information culture, organisational learning, and knowledge management was evident in the literature review, conceptual framework development and survey results. An implication of this finding is that information literacy could be embedded and explicitly discussed as a part of business communication curricula, which may lead to more awareness of information literacy amongst new graduates who could potentially bring it into workplaces.

While many of the survey respondents linked the information-related abilities to the concepts of information literacy, information culture, organisational learning, and knowledge management, no survey respondent defined any of the concepts and many of the survey respondents indicated that the concept(s) are not used in their workplace. Consequently, there appears to be a disconnect between the language and terminology taught to business and communication students and that used in the workplace. An implication of this finding is that academics should review current business communication curricula, to ensure that graduates learn both the skills and vocabulary used in the workplace.

7.2 Limitations

A major limitation of this study was the survey response rate (2.31%), the consequence of which is discussed in Section 7.2.2. There are two possible causes for the low response rate, although they may not only be the only factors. Firstly, due to the restraints and technical issues experienced with the business databases, it was difficult to attain an ideal sample and to know if the contact and other information provided by the databases were up to date. Consequently, some businesses invited to be involved with the survey did not meet the criteria. The second factor, which contributed to the low response rate, as noted in section 4.1 is survey fatigue amongst NZSBs. On a side note, some of the responses from NZSBs, citing survey fatigue, suggested businesses felt overwhelmed, guilty, and apologetic for declining to participate in the study. Meanwhile, other businesses chose to decline the survey invite in an abusive way, suggesting that some organisations may not understand the

value of contributing their voice to academic research. Business research relies on companies being prepared to contribute their voice to different conversations, which are typically started by academic researchers. For this reason, it is critical, for the future of business research, that academic researchers engage in discussions with the New Zealand business community, to address and hopefully resolve the issues of survey fatigue and sourcing willing survey participants.

Another limitation of this research was the time-frame. This research project has been formulated, carried out and presented within a 16 month window. Due to the researcher's inexperience with the concept of information literacy before embarking on this project, it was important that the researcher established a personal understanding of information literacy, before developing an understanding which related to this particular study. Similarly, the development of the online survey and the subsequent analysis were time-consuming tasks, due to the researcher's inexperience. This meant further research could not be conducted within the time-frame, to better refine and understand the results of the survey; or to test the conceptual framework. However, this provides direction for future research projects.

7.3 Future Research

As noted throughout this study, the exploratory nature of this research has raised many questions, which only can be answered by further research. For example, it would be worthwhile researching what NZSBs exactly mean by "online" to deepen the understanding of the information landscape(s) of NZSBs.

A possible future research project would be to observe organisations to determine exactly how information literacy manifests itself in the workplace. The observing or interviewing of employees or other self-reporting techniques similar to the techniques used in the studies explored in section 2.1.4 could be used to monitor the sourcing and using of information within NZSBs.

This research has connected the concept of information literacy with the business communication concepts of information culture, organisational learning, and knowledge management. There is also an opportunity for future research to explore how other concepts from business communication academia relate to information literacy and to further develop the conceptual framework and strengthen the connections between the concepts explored in this thesis.

References

Adams, J., Khan, H. T., & Raeside, R. (2014). *Research methods for business and social science students.* India: SAGE Publications.

American Library Association (ALA). (1989). *Presidential committee on information literacy: Final report.* Retrieved from http://www.ala.org/acrl/publications/whitepapers/presidential

Association of College and Research Libraries (ACRL). (2000). *Information literacy competency standards for higher education.* Retrieved from website: http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.cmf

Association of College and Research Libraries (ACRL). (2015). *Framework for information literacy for higher education.* Retrieved from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/infolit/Framework _ILHE.pdf

Audferheide, P. (1997). Media Literacy: From a report of the National Leadership Conference on Media Literacy. In R. W. Kubey (Ed.), *Media literacy in the information age: Current perspectives* (pp. 79-88). New Brunswick, NJ: Transaction Publishers.

Aydin, A. M. (2015). *The influence of task and time on information behaviour in organisations* (Doctoral dissertation). Retrieved from Ethos Dissertations and Theses database.

Badke, W. (2010). Foundations of information literacy: Learning from Paul Zurkowski. *Online, 34*(1), 48-50.

Bartholomew, S., & Smith, A. D. (2006). Improving survey response rates from chief executive officers in small firms: The importance of social networks. *Entrepreneurship Theory and Practice*, *30*(1), 83-96. doi:10.1111/j.1540-6520.2006.00111.x

Blake, C. (2016, April 20). Defining workplace literacy: Skills needed to get and keep a job. Retrieved October 23, 2016, from http://online.cune.edu/defining-workplace-literacy/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. doi:10.1191/1478088706qp063oa

Bruce, C. S. (1994). Research students' early experiences of the dissertation literature review. *Studies in Higher Education*, *19*(2), 217-229. doi:10.1080/03075079412331382057

Bruce, C. S. (1997). *The seven faces of information literacy.* Adelaide: Auslib Press.

Bruce, C. S. (1999). Workplace experiences of information literacy. *International Journal of Information Management*, *19*, 33-44.

Brumberger, E. (2011). Visual Literacy and the digital native: An examination of the millennial-learner. *Journal of Visual Literacy*, *30*(1), 19-47. doi:10.1080/23796529.2011.11674683

Burns, N., & Grove, S. K. (2003). *Understanding nursing research: Building an evidence-based practice*. Philadelphia, PA: Saunders Elsevier.

Carley-Baxter, L. R., Hill, C. A., Roe, D. J., Twiddy, S. E., Baxter, R. K., &

Ruppenkamp, J. (2013). Does response rate matter? Journal editors use of

survey quality measures in manuscript publication decisions. *Survey Practice*,

2(7).

Carson, D., Gilmore, A., Perry, C., & Gronhaug, K. (2001). *Qualitative marketing

research*. London, UK: Sage.

Case, D. O. (2002). *Looking for information: A survey of research on information

seeking, needs, and behavior*. San Diego, CA: Academic Press.

Chalmers, A. (1995). Finding out: The use of business information by managers in

New Zealand. *Business Information Review*, *12*(1), 43-56.

doi:10.1177/0266382954235555

Cheuk, B. W. (1998). An information seeking and using process model in the

workplace: A constructivist approach. Asian Libraries, 7(12), 375-390. doi:

10.1108/10176749810241919

Cheuk, B. (2008). Delivering Business Value through Information Literacy in the

Workplace. *Libri*, *58*(3), 137-143. doi:10.1515/libr.2008.015

Cheong, R. F., & Tsui, E. (2011). Exploring the linkages between personal

knowledge management and organizational learning. In D. J. Pauleen & G. E.

Gorman (Eds.), *Personal Knowledge Management: Individual Organisational

and Social Perspectives* (pp. 189-228). Surrey, UK: Gower Publishing Limited.

Choo, C. W., Bergeron, P., Deltor, B., & Heaton, L. (2008). Information culture and

information use: An exploratory study of three organisations. *Journal of the*

American Society for Information Science and Technology, *59*(5), 792-804.

doi:10.1002/asi

Citroen, C. L. (2011). The role of information in strategic decision-making.

International Journal of Information Management, *31*(6), 493-501.

doi:10.1016/j.ijinfomgt.2011.02.005

Conley, T. M., & Gil, E. L. (2011.). Information literacy for undergraduate business

students: Examining value, relevancy, and implications for the new century.

Journal of Business & Finance Leadershio, *16*(3), 213-228.

Creative Research Systems. (2012). Sample size calculator: Confidence level,

confidence interval, sample size, population size, relevant population.

Retrieved from https://www.surveysystem.com/sscalc.htm

Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organisational learning

framework: From intuition to institution. *The Academy of Management

Review*, *24*(3), 522-537. doi:10.2307/259140

Curry, A., & Moore, C. (2003). Assessing information culture: An exploratory model.

International Journal of Information Management, *23*(2), 91-110.

doi:10.1016/s0268-4012(02)00102-0

Davenport, T. H., Eccles, R. G., & Prusak, L. (1992). Information politics. *Sloan

Management*, 53-65.

De Saulles, M. (2007). Information literacy amongst UK SMEs: An information policy

gap. *Aslib Journal of Information Management*, *59*(1), 68-79.

doi:10.1108/00012530710725214

Dorner, D. G., & Gorman, G. (2006). Information literacy education in Asian

developing countries: Cultural factors affecting curriculum development and

programme delivery. *Library and Information Science*, *32*(4), 281-293.

doi:10.1177/0340035206074063

Elmborg, J. (2013). *Critical information literacy: Definitions and challenges*. ACRL.

Feekery, A. J. (2013). *Conversation and change: Integrating information literacy to

support learning in the New Zealand tertiary context* (Doctoral dissertation,

Massey University, Palmerston North, New Zealand). Retrieved from

http://hdl.handle.net/10179/5318

Ferber, R. (1977). Research by convenience. *Journal of Consumer Research*, *4*(1),

57. doi:10.1086/208679

Ferguson, S. (2009). Information literacy and its relationship to knowledge

management. *Journal of Information Literacy*, *3*(2), 6-24.

doi:10.11645/3.2.188

Fister, B. (2015, December 15). Information literacy: Undervalued or ubiquitous?

Retrieved from http://lj.libraryjournal.com/2011/12/opinion/peer-to-peer-

review/information-literacy-undervalued-or-ubiquitous-peer-to-peer-review/#_

Floridi, L. (2010). *Information: A very short introduction*. Oxford, UK: OUP Oxford.

Forster, M. (Ed.). (2007). *Information literacy in the workplace*. Facet Publishing.

Garner, S. D. (Ed.). (2006). *High-level Colloquium on Information Literacy and*

    Lifelong Learning [held at the] Bibliotheca Alexandrina, Alexandria, Egypt,

    November 6-9, 2005: Report of a meeting. Alexandria, Egypt: IFLA.

Gilbert, S. (2017). Information literacy skills in the workplace: Examining early career

    advertising professionals. *Journal of Business & Finance Librarianship*, *22*(2),

    111-134. doi:10.1080/08963568.2016.1258938

Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*.

    White Plains, NY: Longman.

Goldstein, S., & Whitworth, A. (2015). Determining the value of information literacy

    for employers. In S. Kurbanoğlu, J. Boustany, S. Špiranec, E. Grassian, D.

    Mizrachi, & L. Roy (Eds.), *Information Literacy: Moving Toward Sustainability.*

    Communications in Computer and Information Science, vol 552 (pp. 70-79).

    Springer, Cham.

Goldstein, S., & Whitford, A. (2017). Determining the value of information literacy for

    employers. In M. Forster (Ed.), *Information literacy in the workplace* (pp. 67-

    84). Facet Publishing.

Grant, K. (2011). Knowledge management: An enduring but confusing fashion.

    Electronic Journal of Knowledge Management, *9*(2), 117-131.

Gray, W. S. (1956). *The teaching of reading and writing*. Paris, France: UNESCO.

Hatala, J., & George Lutta, J. (2009). Managing information sharing within an

    organizational setting: A social network perspective. *Performance*

    Improvement Quarterly, *21*(4), 5-33. doi:10.1002/piq.20036

Head, A. J. (2012). *Learning curve: How college graduates solve information problems once they join the workplace. Project Information Literacy Research Report.*

Head, A. J., Van Hoeck, M., Eschler, J., & Fullerton, S. (2013). What information competencies matter in today's workplace? *Library and Information Research*, *37*(114), 74-104.

Healy, M., & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, *3*(3), 118-126. doi:10.1108/13522750010333861

Hudson, L. A., & Ozanne, J. L. (1988). Alternative ways of seeking knowledge in consumer research. *Journal of Consumer Research*, *14*(4), 508. doi:10.1086/209132

Huitt, W. G. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs type indicator. *Journal of Psychological Type*, *24*, 33-44.

Ikoja-Odongo, R., & Mostert, R. (2006). Information seeking behaviour: A conceptual framework. *South African Journal of Libraries and Information Science*, *72*(3), 145-15&. doi:10.7553/72-3-1112

Ingwersen, P., & Järvelin, K. (2011). *The turn: Integration of information seeking and retrieval in context.* Dordrecht, Netherlands: Springer.

Jabareen, Y. (2009). Building a conceptual framework: Philosophy, definitions, and procedure. *International Journal of Qualitative Methods*, *8*(4), 49-62. doi:10.1177/160940690900800406

Johnson, R. L., & Morgan, G. B. (2016). *Survey scales: A guide to development, analysis, and reporting.* New York, NY: Guildford Press.

Jones, W. (2011). No knowledge but through information. In D. J. Pauleen & G. E. Gorman (Eds.), *Personal knowledge management: Individual, organizational and social perspectives* (pp. 143-166). Farnham, Surrey: Gower.

Kapitzke, C. (2003). Information literacy: A positivist epistemology and a politics of outformation. *Educational Theory*, *53*(1), 37-53. doi:10.1111/j.1741-5446.2003.00037.x

Kirk, J. (2002). *Theorising information use: Managers and their work* (Unpublished doctoral dissertation). University of Technology Sydney, Sydney, Australia.

Kluesk, L., & Bornstein, J. (2006). Information literacy for business careers. *Journal of Business & Finance Librianship*, *11*(4), 3-21.

Kurbanoglu, S. (2013). An analysis of the concept of information literacy. In *Media and Information Literacy for Knowledge Spcietoes* (pp. 78-87). Moscow, Russia: Interregional Library Cooperation Centre.

Lloyd, A. (2005). Information literacy: Different contexts, different truths and different truths? *Journal of Librarianship and Information Science*, *37*(2), 82-88. doi:10.1177/0961000605055355

Lloyd, A. (2006). Information literacy landscapes: An emerging picture. *Journal of Documentation*, *62*(5), 570-583. doi:10.1108/00220410610688723

Lloyd, A. (2007). Learning to put out the red stuff: Becoming information literate through discursive practice. *The Library Quarterly*, *77*(2), 181-198. doi:10.1086/517844

Mackey, T. P., & Jacobson, T. E. (2011). Reframing information literacy as a metaliteracy. *College & Research Libraries*, *72*(1), 62-78. doi:10.5860/crl-76r1

Mackey, T. P., & Jacobson, T. (2014). *Metaliteracy: Reinventing information literacy to empower learners*. ALA.

Markless, S. (2009). A new conception of information literacy for the digital environment in higher education. *Nordic Journal of Information Literacy in Higher Education*, *1*(1), 25-40. doi:10.15845/noril.v1i1.17

Martin, A. (2005). DigEuLit – An European framework for digital literacy: A progress report. *Journal of eLiteracy*, *2*, 130-136.

McClure, C. R. (1994). Network literacy: A role for libraries? *Information Technology and Libraries*, *13*(2), 115.

McCreadie, M., & Rice, R. E. (1999). Trends in analyzing access to information - Part I: Cross-disciplinary conceptualizations of access. *Information Processing & Management*, *35*(1), 45-76. doi:10.1016/s0306-4573(98)00037-5

Mellahi, K., & Harris, L. C. (2016). Response Rates in Business and Management Research: An Overview of Current Practice and Suggestions for Future Direction. *British Journal of Management*, *27*(2), 426-437. doi:10.1111/1467-8551.12154

Ministry of Business, Innovation and Employment. (2016). *Small businesses in New Zealand - Factsheet: How do they compare with larger firms?* Retrieved from http://www.mbie.govt.nz/info-services/business/business-growth-agenda/sectors-reports-series/pdf-image-library/the-small-business-sector-report-and-factsheet/small-business-factsheet-2016.pdf

Mokhtar, I. A., Majid, S., & Foo, S. (2008). Teaching information literacy through learning styles: The application of Gardner's multiple intelligences. *Journal of Librarianship and Information Science*, *40*(2), 93-109. doi:10.1177/0961000608089345

Nazari, M., & Webber, S. (2012). Loss of faith in the origins of information literacy in e-environments: Proposal of a holistic approach. *Journal of Librarianship and Information Science*, *44*(2), 97-107. doi:10.1177/0961000611436095

Nelson, M. R. (1994). We have the information you want, but getting it will cost you! *Crossroads*, *1*(1), 11-15. doi:10.1145/197177.197183

O'Farrill, R. T. (2008). Information literacy and knowledge management: Preparations for arranged marriage. *Libri*, *58*(3), 155-171.

O'Farrill, R. T. (2010). Information literacy and knowledge management at work: Conceptions of effective information use at NHS24. *Journal of Documentation*, *66*(5), 706-733. doi:10.1108/00220411011066808

O'Gorman, K. D., & MacIntosh, R. (2015). *Global management series: Research methods for business and management*. Oxford, UK: Goodfellow Publishers.

Pauleen, D. J., & Gorman, G. E. (2011). *Personal knowledge management: Individual, organizational and social perspectives*. London, UK: Gower.

Pendleton, V., & Chatman, E. A. (1998). Small world lives: Implications for the public library. *Library Trends*, *46*(4), 732-752.

Pring, R. (2000). *Philosophy of educational research*. London: Continuum.

Radar, H. S. (2002). Information literacy 1973-2002: A selected literature review. *Library Trensa*, *51*(2). Retrieved from 242-259

Raish, V., & Rimland, E. (2016). Employer perceptions of critical information literacy skills and digital badges. *College & Research Libraries*, *77*(1), 87-113. doi:10.5860/crl.77.1.87

Robson, A. S. (2013). *Modelling information behaviour: Linking information seeking and communication* (Doctoral dissertation). Retrieved from Ethos Dissertations and Theses database.

Sayyad Abdi, E., Partridge, H., & Bruce, C. (2013). Website designers: how do they experience information literacy? *The Australian Library Journal*, *62*(1), 40-52. doi:10.1080/00049670.2013.771767

SCONUL Advisory Committee on Information Literacy. (1999). *Information skills in higher education: A SCONUL position paper.* Prepared by the Information Skills Task Force, on behalf of SCONUL.

Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive and critical research paradigms. *English Language Speaking*, *5*(9), 9-16. doi:10.5539/elt.v5n9p9

Secker, J., & Coonan, E. (2013). Introduction. In J. Secker & E. Coonan (Eds.), *Rethinking information literacy: A practical framework for supporting learning* (pp. xv-xxx). London, UK: Facet Publishing.

Seng, C. V., Zannes, E., & Pace, R. W. (2002). The contributions of knowledge management to workplace learning. *Journal of Workplace Learning*, *14*(4), 138-147. doi:10.1108/13665620210427267

Skovira, R. J. (2004). Using informational landscape as a model to understand information use and design within organizations. *Issues in Information Systems*, *5*(1), 308-314.

Sokoloff, J. (2012). Information literacy in the workplace: Employer expectations. *Journal of Business & Finance Librarianship*, *17*(1), 1-17. doi:10.1080/08963568.2011.603989

Statistics New Zealand. (2013, December 3). 2013 Census information by variable. Retrieved from http://www.stats.govt.nz/Census/2013-census/info-about-2013-census-data/information-by-variable/industry.aspx

Stordy, P. (2015). Taxonomy of literacies. *Journal of Documentation*, *71*(3), 456-476. doi:10.1108/jd-10-2013-0128

Taylor, R. S. (1991). Information use environments. In M. J. Voigt & B. Devin (Eds.), *Progress in communication sciences* (10th ed., pp. 217-254). Norwood, NJ: Ablex.

Thomas, R. M. (2003). *Blending qualitative & quantitative research methods in theses and dissertations*. Thousand Oaks, CA: Corwin Press.

Vaccarino, F., Comrie, M. A., Murray, N., Sligo, F., & Tilley, E. (2013). Daring to define literacy in the 21st century. In C. L. Ling, D. T. Lin, J. Muniandy, L. B. Choo, T. C. Hiang, & A. Pandian (Eds.), *New literacies: Reconstructing language and education* (pp. 1-19). Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Vince, R., Sutcliffe, K., & Olivera, F. (2002). Organizational learning: New directions. *British Journal of Management*, *13*(S2), S1-S6. doi:10.1111/1467-8551.13.s2.1

Wang, C. L., & Ahmed, P. K. (2003). Organisational learning: a critical review. *The Learning Organization*, *10*(1), 8-17. doi:10.1108/09696470310457469

Ward, D. (2006). Revisioning information literacy for lifelong meaning. *The Journal of Academic Librarianship, 32*(4), 396-402. doi:10.1016/j.acalib.2006.03.006

Weiner, S. (2011). Information literacy and the workforce: A review. *Education Libraries, 34*(2), 7-14.

Wilson, T. D. (2000). Human information behavior. *Information Science*, *3*(2), 49-55.

Wiseman, E. (2007). The institutionalizational of organisation learning: A neoinstitutional perspective.

Wright, K. B. (2006). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, *10*(3), 00-00. doi:10.1111/j.1083-6101.2005.tb00259.x

Zins, C. (2007). Conceptual approaches for defining data, information, and knowledge. *Journal of the American Society for Information Science and Technology*, *58*(4), 479-493. doi:10.1002/asi.20508

Appendices

Appendix A: Knowledge Practices and Dispositions from the 2015 ACRL Framework

The following information has been taken from 2015 ACRL Framework (ACRL, 2015, p. 4-9) and has been abridged in accordance with the Creative Commons Licence. To see the full document, please visit http://www.ala.org/acrl/standards/ilframework

Authority Is Constructed and Contextual

Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. It is contextual in that the information need may help to determine the level of authority required.

Knowledge Practices

Learners who are developing their information literate abilities:

- Define different types of authority, such as subject expertise (e.g., scholarship), societal position (e.g., public office or title), or special experience (e.g., participating in a historic event).
- Use research tools and indicators of authority to determine the credibility of sources, understanding the elements that might temper this credibility.
- Understand that many disciplines have acknowledged authorities in the sense of well-known scholars and publications that are widely considered "standard," and yet, even in those situations, some scholars would challenge the authority of those sources.
- Recognize that authoritative content may be packaged formally or informally and may include sources of all media types.
- Acknowledge they are developing their own authoritative voices in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability, respecting intellectual property, and participating in communities of practice.
- Understand the increasingly social nature of the information ecosystem where authorities actively connect with one another and sources develop over time.

Dispositions

Learners who are developing their information literate abilities:

- Develop and maintain an open mind when encountering varied and sometimes conflicting perspectives.
- Motivate themselves to find authoritative sources, recognizing that authority may be conferred or manifested in unexpected ways.
- Develop awareness of the importance of assessing content with a skeptical stance and with a self- awareness of their own biases and worldview.
- Question traditional notions of granting authority and recognize the value of diverse ideas and worldviews.
- Are conscious that maintaining these attitudes and actions requires frequent self-evaluation.

Information Creation as a Process

Information in any format is produced to convey a message and is shared via a selected delivery method. The iterative processes of researching, creating, revising, and disseminating information vary, and the resulting product reflects these differences.

Knowledge Practices

Learners who are developing their information literate abilities:

- Articulate the capabilities and constraints of information developed through various creation processes.
- Assess the fit between an information product's creation process and a particular information need.
- Articulate the traditional and emerging processes of information creation and dissemination in a particular discipline.
- Recognize that information may be perceived differently based on the format in which it is packaged.
- Recognize the implications of information formats that contain static or dynamic information.
- Monitor the value that is placed upon different types of information products in varying contexts.
- Transfer knowledge of capabilities and constraints to new types of information products
- Develop, in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys.

Dispositions

Learners who are developing their information literate abilities:

- Are inclined to seek out characteristics of information products that indicate the underlying creation process.
- Value the process of matching an information need with an appropriate product.

- Accept that the creation of information may begin initially through communicating in a range of formats or modes.
- Accept the ambiguity surrounding the potential value of information creation expressed in emerging formats or modes.
- Resist the tendency to equate format with the underlying creation process.
- Understand that different methods of information dissemination with different purposes are available for their use.

Information Has Value

Information possesses several dimensions of value, including as a commodity, as a means of education, as a means to influence, and as a means of negotiating and understanding the world. Legal and socioeconomic interests influence information production and dissemination.

Knowledge Practices

Learners who are developing their information literate abilities:

- Give credit to the original ideas of others through proper attribution and citation.
- Understand that intellectual property is a legal and social construct that varies by culture.
- Articulate the purpose and distinguishing characteristics of copyright, fair use, open access, and the public domain.
- Understand how and why some individuals or groups of individuals may be underrepresented or systematically marginalized within the systems that produce and disseminate information.
- Recognize issues of access or lack of access to information sources.
- Decide where and how their information is published.
- Understand how the commodification of their personal information and online interactions affects the information they receive and the information they produce or disseminate online.
- Make informed choices regarding their online actions in full awareness of issues related to privacy and the commodification of personal information.

Dispositions

Learners who are developing their information literate abilities:

- Respect the original ideas of others.
- Value the skills, time, and effort needed to produce knowledge.
- See themselves as contributors to the information marketplace rather than only consumers of it.
- Are inclined to examine their own information privilege.

Research as Inquiry

Research is iterative and depends upon asking increasingly complex or new questions whose answers in turn develop additional questions or lines of inquiry in any field.

Knowledge Practices

Learners who are developing their information literate abilities:

- Formulate questions for research based on information gaps or on re-examination of existing, possibly conflicting, information.
- Determine an appropriate scope of investigation.
- Deal with complex research by breaking complex questions into simple ones, limiting the scope of investigations.
- Use various research methods, based on need, circumstance, and type of inquiry.
- Monitor gathered information and assess for gaps or weaknesses.
- Organize information in meaningful ways.
- Synthesize ideas gathered from multiple sources.
- Draw reasonable conclusions based on the analysis and interpretation of information.

Dispositions

Learners who are developing their information literate abilities:

- Consider research as open-ended exploration and engagement with information.
- Appreciate that a question may appear to be simple but still disruptive and important to research.
- Value intellectual curiosity in developing questions and learning new investigative methods.
- Maintain an open mind and a critical stance.
- Value persistence, adaptability, and flexibility and recognize that ambiguity can benefit the research process.
- Seek multiple perspectives during information gathering and assessment.
- Seek appropriate help when needed.
- Follow ethical and legal guidelines in gathering and using information.
- Demonstrate intellectual humility (i.e., recognize their own intellectual or experiential limitations).

Scholarship as Conversation

Communities of scholars, researchers, or professionals engage in sustained discourse with new insights and discoveries occurring over time as a result of varied perspectives and interpretations.

Knowledge Practices

Learners who are developing their information literate abilities:

- Cite the contributing work of others in their own information production.
- Contribute to scholarly conversation at an appropriate level, such as local online community, guided discussion, undergraduate research journal, conference presentation/poster session.
- Identify barriers to entering scholarly conversation via various venues
- Critically evaluate contributions made by others in participatory information environments
- Identify the contribution that particular articles, books, and other scholarly pieces make to disciplinary knowledge
- Summarize the changes in scholarly perspective over time on a particular topic within a specific discipline
- Recognize that a given scholarly work may not represent the only - or even the majority - perspective on the issue.

Dispositions

Learners who are developing their information literate abilities:

- Recognize they are often entering into an ongoing scholarly conversation and not a finished conversation
- Seek out conversations taking place in their research area.
- See themselves as contributors to scholarship rather than only consumers of it.
- Recognize that scholarly conversations take place in various venues
- Suspend judgment on the value of a particular piece of scholarship until the larger context for the scholarly conversation is better understood.
- Understand the responsibility that comes with entering the conversation through participatory channels.
- Value user-generated content and evaluate contributions made by others.
- Recognize that systems privilege authorities and that not having a fluency in the language and process of a discipline disempowers their ability to participate and engage.

Searching as Strategic Exploration

Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops.

Knowledge Practices

Learners who are developing their information literate abilities

- Determine the initial scope of the task required to meet their information needs.
- Identify interested parties, such as scholars, organizations, governments, and industries, who might produce information about a topic and then determine how to access that information
- Utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching
- Match information needs and search strategies to appropriate search tools.
- Design and refine needs and search strategies as necessary, based on search results.
- Understand how information systems (i.e., collections of recorded information) are organized in order to access relevant information.
- Use different types of searching language (e.g., controlled vocabulary, keywords, natural language) appropriately.
- Manage searching processes and results effectively.

Dispositions

Learners who are developing their information literate abilities

- Exhibit mental flexibility and creativity.
- Understand that first attempts at searching do not always produce adequate results.
- Realize that information sources vary greatly in content and format and have varying relevance and value, depending on the needs and nature of the search.
- Seek guidance from experts, such as librarians, researchers, and professionals.
- Recognize the value of browsing and other serendipitous methods of information gathering.
- Persist in the face of search challenges, and know when they have enough information to complete the information task.

Appendix B: Copy of Survey Instrument

Information and Related Concepts in New Zealand Small Enterprises Survey

Welcome to the Information and Related Concepts in New Zealand Small Enterprises Survey. The concept "information literacy" has become well established in the tertiary sector. This term captures the skills, people need to have, to handle and use information in the most effective and ethical manner. The aim of this research is to determine whether the tertiary sector and businesses share the same understanding of "information literacy" by identifying the current information practices and related skills valued by New Zealand businesses. This research is significant because it will demonstrate how New Zealand organizations value information, an insight which is necessary for creating future policies and guidelines surrounding what information skills graduates need when they enter the workforce. Your responses will be kept confidential, and if you so choose, anonymous. This survey will require you to answer up to 27 questions, and should take no more than 30 minutes of your time. Please ensure that your responses get recorded by clicking submit at the end of the survey. You can exit the survey at any time. Your responses will be saved and you will receive reminders in case you would like to come back and complete the survey at another time. We thank you in advance for your participation. Please click the arrow to begin the survey.

The following questions are about your and your company's demographic information.

Question 1. What best describes you?

☐　　I am a female.

☐　　I am a male.

☐　　I choose not to specify my gender.

Question 2. How old are you?

Question 3. What is your job title?

Question 4. What industry best describes your workplace?

☐　　Accommodation and Food Services

☐　　Administrative and Support Services

☐　　Agriculture, Forestry and Fishing

☐　　Arts and Recreation Services

☐　　Construction

☐　　Education and Training

☐　　Electricity, Gas, Water and Waste Services

☐　　Financial and Insurance Services

☐　　Information Media and Telecommunications

☐　　Healthcare and Social Assistance

☐　　Manufacturing

☐　　Mining

☐　　Other

☐　　Professional, Scientific and Technical Services

☐　　Public Administration and Safety

☐　　Rental, Hiring and Real Estate Services

☐　　Retail Trade

☐　　Transport, Postal and Warehousing

☐ Wholesale Trade

Question 4.1. If you have ticked other for the previous question, please write the industry that best describe your workplace?

Question 5. How many staff does your workplace employ?

Question 6. In which New Zealand city or town is your organization located? Please write "National" if your organization has different branches around New Zealand.

The following questions are about your company's information uses.

Question 7. What kinds of information does your organization, use on a daily basis? For example, online content, reports, verbal information, visual information or statistics.

Question 8. How do staff access this information?

Question 9. What information sources do staff find to be reliable and trustworthy?

The following questions are about what information-related skills your company values.

Question 10   Please rate the following statement with regard to the 5 categories provided:

The ability to interpret information in text, oral, numerical and/or visual formats.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	❍	❍	❍	❍	❍
Explicitly taught in our workplace.	❍	❍	❍	❍	❍
Explicitly assessed as part of our organization's performance review.	❍	❍	❍	❍	❍
Considered difficult in our workplace.	❍	❍	❍	❍	❍
Possessed by the majority of our staff.	❍	❍	❍	❍	❍

Question 10.1 Do you have any comments to provide additional context to your answers?

Question 11 Please rate the following statement with regard to the 5 categories provided:

The ability to have a clear understanding of occupational or organizational information needs.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 11.1 Do you have any comments to provide additional context to your answers?

Question 12 Please rate the following statement with regard to the 5 categories provided:

The ability to capture, sort and organise information for efficient storage and retrieval.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 12.1 Do you have any comments to provide additional context to your answers?

Question 13 Please rate the following statement with regard to the 5 categories provided:

The ability to use standard software and databases to access relevant information to accomplish tasks.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 13.1 Do you have any comments to provide additional context to your answers?

Question 14 Please rate the following statement with regard to the 5 categories provided:

The ability to use standard software and databases to share relevant information.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 14.1 Do you have any comments to provide additional context to your answers?

Question 15 Please rate the following statement with regard to the 5 categories provided:

The ability to identify and use various sources of information.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 15.1 Do you have any comments to provide additional context to your answers?

Question 16 Please rate the following statement with regard to the 5 categories provided:

The ability to recognize colleagues as a valuable and knowledgeable information source.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 16.1 Do you have any comments to provide additional context to your answers?

Question 17 Please rate the following statement with regard to the 5 categories provided:

The ability to consistently acknowledge sources in an appropriate manner.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 17.1 Do you have any comments to provide additional context to your answers?

Question 18 Please rate the following statement with regard to the 5 categories provided:

The ability to judge the accuracy and legitimacy of information.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 18.1 Do you have any comments to provide additional context to your answers?

Question 19 Please rate the following statement with regard to the 5 categories provided:

The ability to ensure the right information is provided to the right people in a timely manner.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 19.1 Do you have any comments to provide additional context to your answers?

Question 20 Please rate the following statement with regard to the 5 categories provided:

The ability to use existing information to extend current knowledge and/or create new ideas.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 20.1 Do you have any comments to provide additional context to your answers?

Question 21 Please rate the following statement with regard to the 5 categories provided:

The ability to use appropriate information to justify existing or new perspectives.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 21.1 Do you have any comments to provide additional context to your answers?

Question 22 Please rate the following statement with regard to the 5 categories provided:

The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 22.1 Do you have any comments to provide additional context to your answers?

Question 23 Please rate the following statement with regard to the 5 categories provided:

The ability to understand the ethical implications of accessing and using information.

	Strongly agree	Agree	Disagree	Strongly disagree	I don't know
Important in our workplace.	○	○	○	○	○
Explicitly taught in our workplace.	○	○	○	○	○
Explicitly assessed as part of our organization's performance review.	○	○	○	○	○
Considered difficult in our workplace.	○	○	○	○	○
Possessed by the majority of our staff.	○	○	○	○	○

Question 23.1 Do you have any comments to provide additional context to your answers?

Question 24 We are interested to know if you and your workplace are familiar with the following terms. Please select the statement which best describes your situation.

	My workplace uses this term and the majority of staff are familiar with it.	Only certain departments or a small group of staff, in my workplace, use this term.	I personally have heard of this term, for example, at university or at a conference or from reading. However, this term is not used in my workplace.	I have never heard of this term until now.
Information Literacy	○	○	○	○
Organizational Learning	○	○	○	○
Information Culture	○	○	○	○
Knowledge Management	○	○	○	○

Question 24.1 if you have indicated that the term "Information Literacy" is used in your workplace in any capacity; please describe what the term "Information Literacy" means in your workplace.

Question 24.2 If you have indicated that the term "Organizational Learning" is used in your workplace in any capacity, please describe what the term "Organizational Learning" means in your workplace.

Question 24.3 if you have indicated that the term "Information Culture/Society/Economy" is used in your workplace in any capacity, please describe what the term "Information Culture/Society/Economy" means in your workplace.

Question 24.4 If you have indicated that the term "Knowledge Management" is used in your workplace in any capacity, please describe what the term "Knowledge Management" means in your workplace.

Question 25 we are interested to know if businesses associate certain abilities with particular concepts. Please indicate what abilities you associate with each concept. You may associate the abilities with more than one concept.

	Information Literacy.	Information Culture	Organizational Learning.	Knowledge Management.	I associate this skill with another concept.	I do not know.
1. Interpret information in text, oral, numerical and/or visual formats	❏	❏	❏	❏	❏	❏
2. Have a clear understanding of occupational or organizational information needs.	❏	❏	❏	❏	❏	❏
3. Capture, sort and organise information for efficient storage and retrieval.	❏	❏	❏	❏	❏	❏
4. Use standard software and databases to access relevant information to accomplish tasks.	❏	❏	❏	❏	❏	❏
5. Use standard software and databases to share relevant information.	❏	❏	❏	❏	❏	❏
6. Identify and use various sources of information.	❏	❏	❏	❏	❏	❏
7. Recognise colleagues as a valuable and knowledgeable information source.	❏	❏	❏	❏	❏	❏
8. Consistently acknowledge sources in an appropriate manner.	❏	❏	❏	❏	❏	❏
9. Judge the accuracy and legitimacy of information.	❏	❏	❏	❏	❏	❏
10. Use existing information to extend current knowledge and/or create new ideas.	❏	❏	❏	❏	❏	❏
11. Ensure the right information is provided to the right people in a timely manner.	❏	❏	❏	❏	❏	❏
12. Use appropriate information to justify existing or new perspectives.	❏	❏	❏	❏	❏	❏
13. Use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios. (13)	❏	❏	❏	❏	❏	❏
14. Understand the ethical implications of accessing and using information. (14)	❏	❏	❏	❏	❏	❏

Question 26 is there anything else, relating to your organization's information practices; you would like us to know about?

Question 27. Would you like to receive the results of this survey?

❍ Yes
❍ No

27.1 If you have indicated you would like a copy of the survey results. Please provide an email or postal address.

Thank you completing this survey. Please scan this document and send it to mackenzie.louise.kench@gmail.com by November 1st

Appendix C: Development of Ability Statements.

Based on the literature review, the following abilities were determined as being crucial to information literacy.

1. Ability to read.
2. Ability to write.
3. Ability to communicate.
4. Ability to listen.
5. Ability to problem solve.
6. Ability to use electronic technology.
7. Ability to know when information is needed.
8. Ability to use information from past knowledge/experiences.
9. Ability to know why information is needed.
10. Ability to formulate research questions.
11. Ability to know where to locate information.
12. Ability to develop search strategies.
13. Ability to find information.
14. Ability to find a range of sources
15. Ability to find a range of source types.
16. Ability to find accurate information.
17. Ability to capture information.
18. Ability to store information.
19. Ability to organize information
20. Ability to filter information to gather the relevant data.
21. Ability to analyze information
22. Ability to know how to use information.
23. Ability to critically evaluate information.
24. Ability to judge reliability of information.
25. Ability to judge validity of information
26. Ability to judge the appropriateness and reliability of an information source / communication channel.
27. Ability to apply information to a current situation / problem.
28. Ability to use information to shape opinions and judgments.
29. Ability to share information.
30. Ability to use appropriate channels of communication.
31. Ability to produce new ideas based on current knowledge.

Due to the well-documented effects of survey length on respondents (Bogen, 1996) It was decided that asking survey participants about 31 separate abilities may discourage survey participation. Given that some of the abilities overlapped, it made sense for the abilities to be categorized into the following thematic groups:

1. Traditional literacy:

- Ability to Read.
- Ability to Listen.
- Ability to Write.
- Ability to Communicate.
2. Ability to problem solve.
3. Ability to use electronic technology.
4. Establishing the need for information:
    - Ability to know when information is needed.
    - Ability to use information from past knowledge/experiences.
    - Ability to know why information is needed.
    - Ability to formulate research questions.
    - Ability to develop search strategies.
5. Finding Information:
    - Ability to know where to locate information.
    - Ability to find information.
    - Ability to find the most useful and relevant information.
    - Ability to find a number of different sources
    - Ability to find a variety of sources e.g. people vs. databases.
6. Sorting Information:
    - Ability to organize information
    - Ability to filter information to gather the relevant data.
7. Judging Information:
    - Ability to critically evaluate information.
    - Ability to judge reliability of information.
    - Ability to judge validity of information
    - Ability to judge the appropriateness and reliability of an information source / communication channel.
8. Storing Information:
    - Ability to capture information.
    - Ability to store information.
9. Using Information:
    - Ability to analyze information.
    - Ability to know how to use information.
    - Ability to apply information to current situation / problem.
    - Ability to use information to shape opinions and judgments.
    - Ability to produce new ideas based on current knowledge.
10. Sharing Information:
    - Ability to share information.
    - Ability to use appropriate channels of communication.

Although this list enabled the abilities to be sorted into 10 main points of categories, there was a concern that the categories were too general, and this made it difficult to incorporate these categories into survey questions. For fear of being too general,

there was the probability of misunderstanding and incorrect interpretation by survey participants. Consequently, other surveys, for example, Raish and Rimland's (2016, p. 87-113) survey, were consulted to see how different abilities / competencies were worded. The analysis of other surveys resulted in the creation of the following list:

1. Literacy skills e.g. the ability to read and write and do simple mathematics.
2. Interpersonal skills e.g. the ability to listen to and communicate with others.
3. Basic computer skills e.g. the ability to use Microsoft Word and email.
4. Advanced technological skills e.g. the ability to use video conferencing.
5. Sharing skills e.g. the ability to give appropriate information to the right people.
6. Rationalizing information needs e.g. the ability to explain why and when particular information is needed.
7. Locating information through material resources e.g. the ability to look up databases, books or reports.
8. Locating information through social resources e.g. asking a colleague for help,
9. Organize, capture and store information e.g. the ability to summarize and bullet-point information in Microsoft Word then save it.
10. Innovation skills e.g. use existing information to create new ideas; or apply past knowledge to current situations.
11. Justification skills e.g. use information to support a perspective; or rationalize a particular method of communication is being used.
12. Critical thinking skills e.g. judge the accuracy and legitimacy of information.
13. Ethical awareness e.g. the ability to understand copyright/fair use regulations and acknowledge and cite sources.

Although this categorization had an increased number of items from the 10 themes, identified in the previous list, this list of abilities seemed to be more inclusive of the different aspects of information literacy. The labels given to groups of skills and the examples given are related to information literacy. However, as has been established in the literature review, information literacy is more than skills, therefore the word skills seemed inappropriate to use. Furthermore, there were concerns that survey respondents would give an answer based on the examples rather than the skillsets. For this reason, another list was created:

1. Understand information delivered orally or by written text or visuals.
2. Communicate with colleagues in a socially appropriate manner via speech, text or visuals.
3. Use standard software and access simple databases to accomplish work tasks.
4. Use complex and company-specific software and engage in online conferences.

5. Understand the benefits and disadvantages of sharing certain information with particular people.
6. Rationalize why certain information is needed to complete a job task.
7. Recognize information can be found in any type of source and in various formats.
8. Recognize colleagues can be a source of information.
9. Understand the importance of recording and sorting information to store and use it appropriately.
10. Be imaginative and innovative to use old information to create new ideas or offer plausible alternatives to make decisions and solve problems.
11. Justify use and storage of information or use information to justify perspectives and new ideas.
12. Critically evaluate the reasons for using information and assess the merits of the available information.
13. Understand using information has ethical implications and understand information needs to be referenced.

It was hoped that the survey participants would better understand the generalized statements. However, it was decided that some items in this list contained multiple questions, thus, the statements were further refined to the following:

1. Retrieve information through interpreting text or images.
2. Converse with other people, face-to-face or via other means.
3. Utilize technology to handle information.
4. Share or withhold information from the appropriate people.
5. Explain why and when particular information is needed.
6. Access a variety of sources to locate information.
7. Recognize colleagues can be a valuable source of information.
8. Understand the importance of capturing and sorting information so that it can be stored and used.
9. Be innovative and recycle information to create new ideas.
10. Use information to justify opinions, decisions or solve problems.
11. Judge the accuracy and legitimacy of information.
12. Understand ethical implications of accessing and using information.

While this list broke down some of the items into smaller components, it was felt that this list had lost sight of what it had intended to find out. Namely, the ease of survey participation in crucial abilities for information literacy and combining both the encouragement of the participants to surveys as well as correct understanding of the survey avoiding misinterpretation. Subsequently, another list was created, drawing on the best aspects of the preceding lists:

1. Able to interpret information in text, oral, numerical and/or visual formats.
2. Have a clear understanding of the information needs of the organisation.
3. Capture, sort and organise information for efficient storage and retrieval.
4. Use standard software and databases to access relevant information to accomplish tasks.
5. Use standard software and databases to share relevant information.
6. Understand the value of specific information sources in your workplace.
7. Recognise colleagues as a valuable and knowledgeable information source.
8. Ensure sources are acknowledged appropriately and consistently.
9. Able to judge the accuracy and legitimacy of information.
10. Ensure the right information is provided to the right people in a timely manner.
11. Use existing information to extend current knowledge and/or create new ideas.
12. Use appropriate information to justify existing or new perspectives.
13. Use a range of information types to explore plausible alternatives in decision-making, problem-solving and/or to justify opinions.
14. Understand the ethical implications of information use.

However, upon reflection, it still appeared that the phrasing of some of the statements needed more clarification, to ensure a statement only covered one key point. Additionally, the list was not written in a complete sentence form, which would be clearly understood by survey participants. Subsequently, the final list, addressing these issues, was created, adjusting the wording of the previous list which showed to be more or less obscure in some places, also the sentences were deconstructed in order to provide more clarification and avoid for a statement to cover many key points which is considered an obstacle against clear and complete interpretation by participants:

1. The ability to interpret information in text, oral, numerical and/or visual formats
2. The ability to have a clear understanding of occupational or organizational information needs.
3. The ability to capture, sort and organise information for efficient storage and retrieval.
4. The ability to use standard software and databases to access relevant information to accomplish tasks.
5. The ability to use standard software and databases to share relevant information.
6. The ability to identify and use various sources of information.
7. The ability to recognise colleagues as a valuable and knowledgeable information source.
8. The ability to consistently acknowledge sources in an appropriate manner.
9. The ability to judge the accuracy and legitimacy of information.

10. The ability to ensure the right information is provided to the right people in a timely manner.
11. The ability to use existing information to extend current knowledge and/or create new ideas.
12. The ability to use appropriate information to justify existing or new perspectives.
13. The ability to use appropriate information to explore and evaluate plausible alternatives in decision-making or problem-solving scenarios.
14. The ability to understand the ethical implications of accessing and using information.
    13.

It is observed that number 12 stayed the same in the final list and was not changed, this is as it delivers one major key point, namely to justify perspectives, and does not suffer from obscurity as others. The order was slightly changed so as to provide better consecutiveness and clarification thus the participant would not be confused by the shifts in abilities. It is worth noting that this list was the one used in the survey.

Appendix D: Copy of Survey Cover Letter

Information Sheet

Research Background and Aim

The concept "information literacy" has become well-established in the academic field. This term captures the skills, people need to have, to handle and use information in the most effective and ethical manner. Universities have now aligned some of their courses to match suggested "information literacy" curriculums, and advertise their graduates as being "information literate." However, there is a question about whether businesses have the same understanding of "information literacy" as the universities do.

The aim of this research to identify the current information practices and related skills important to New Zealand businesses. By doing this, we will determine whether the understanding of "information literacy" used the academic fields is also relevant to New Zealand businesses. This research is significant because it provides insights into how New Zealand organizations value information, which is necessary for creating future policies and guidelines surrounding what information skills graduates should possess when they enter the workforce. This research could also inform policies regarding employees maintaining their skills through organisational learning and assessment.

Additionally, information and how it is handled is a crucial part of business success. For this reason, it is assumed that businesses are conscious about their information practices. Consequently, the survey may encourage the opportunity for reflection on your organisation's information practices and an assessment on whether these practices could be more efficient.

Survey Procedure

As the survey focusses on the preferred skills of employees, please select the most appropriate person able to comment on the information capabilities of employees in your organisation (e.g. manager, human resources or professional development

personnel) to complete the survey Consent to participate in the research is assumed with the completion of the survey,

Depending on your responses, you will be required to answer 26 questions. This survey should take no more than 30 minutes of your time.

To access the online survey, please click on the link below:

Collection of Demographic Information

Demographic data, regarding you and your organization, will be collected, in the first part of the survey, including:

- Your gender.
- Your age.
- Your job title.
- The industry your organization is in.
- The location of your organization.
- The number of staff in your organization.

The demographic data will enable us to group results together and identify any similarities and differences between these groups.

Participant Rights

Participation in this survey is entirely voluntary.

Your responses will be kept confidential. Only me and my supervisors directly involved in the statistical analysis of the survey will have access to your responses through our Massey University affiliated Qualtrics account.

Any responses is quoted in the subsequent research discussion will be attributed to an anonymous source.

As a survey participant, you have the right to:

- Ask any questions about the survey at any time during the participation.
- Choose to stop the survey after starting it.
- Complete the survey, based on the understanding that your confidentiality will be maintained

- Choose to forgo anonymity by volunteering contact details.
- Be given access to a summary of the survey results.

If you have any questions/comments, please do not hesitate to reply to this email or contact the research project supervisor Dr. Angela Feekery at A.J.Feekery@massey.ac.nz

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

Appendix E: Copy of Pilot Survey Feedback Questionnaire

Pilot Survey Feedback

Welcome to the Feedback Survey for the Information and Related Concepts in New Zealand Small Enterprises Pilot Survey. The feedback is necessary to make sure that the survey questions are clearly understood by different people, thereby, ensuring the survey results will be able to answer the research questions. Your responses will be anonymous and kept confidential. This survey will require you to answer 8 questions, and should take no more than 10 minutes of your time. Please ensure that your responses get recorded by clicking submit at the end of the survey. You can exit the survey at any time. Your responses will be saved and you will receive reminders in case you would like to come back and complete the survey at another time. We thank you in advance for your participation. Please click the arrow to begin the survey.

Question 1: How easy was the survey to complete?

Very Easy	○	○	○	○	○	Very Difficult

Question 2: How functional was the format of the survey?

Very Functional	○	○	○	○	○	Completely Dysfunctional

Question 3: How long did it take you to complete the survey?

Question 4: If you found any questions difficult to understand or to answer, please provide details below.

Question 5: If you thought any of the questions were irrelevant to your organizations, please provide details below.

Question 6: If you had any other difficulties with completing the survey, please provide details below.

Question 7: Do you have any thoughts on how the survey could be improved?

Question 8: Is there anything else, relating to your survey experience, you would like us to know about?

Appendix F: Thematical Analysis of Job Titles

The purpose of this appendix is to show how the researcher has thematically analysed the job titles, which were provided as an the qualitative response in the survey.

Examples of Job Titles provided by Survey Respondents	Job Title – Thematically Analysed
Administrator / Financial Administrator / Office Administrator	Administrator
Administration Director / CEO / CEO Owner / Chief Executive / Company Director / Company Managing Director / Creative Director, Partner / Director / Franchise Director / Managing Director / Owner Manager / Partner/Owner / Property Valuer/Director	Business Owner, CEO, Board Member, Chairperson, Director or Partner
Business Development Executive, CTO	Executive, CTO
Admin Manager / Administration Manager / Business Development Manager / Communications Manager / Corporate Affairs Manager / Customer Servicers Supervisor / Customer Solutions manager / General Manager / Manager / Marketing Manager / Office Manager / Operations Manager / PA & Office Manager / Practice Manager / sales and marketing manager / Sales Manager / South Island Branch Manager / Supply Chain Manager / Terminal & Finance Manager	Manager, Department Head, Team Leader
Accountant / Architect / Editor / Generalist / Marketing/Communications Coordinator / Office Assistant / Sales / Senior Accountant / Senior Economist	Other / Unknown

Appendix G: Thematical Analysis of Qualitative Survey Responses relating to Research Question 3

- The purpose of this appendix is to show how the researcher has thematically analysed the qualitative responses to the following survey questions: *Question 7: What kinds of information does your organization, use on a daily basis? For example, online content, reports, verbal information, visual information or statistics.*
- *Question 8. How do staff access this information?*
- *Question 9. What information sources do staff find to be reliable and trustworthy?*

Example of Qualitative Responses	Category
Academic Journals, Harvard Business Review.	Academic or Professional Research Sources
As above.	As per the answers given in the previous questions
Books, Catalogues, Magazines, Manuals	Books, Catalogues, Magazines, Manuals
Computer, Desktop, Laptop	Computer
Data / Statistics	Data / Statistics
Email	Email
Reports, Standards	Industrial or Organizational Sources
Online, Web, Internet	Online
Research, Metrics, All kinds.	Other / Unspecified
Facebook, Instagram	Social Media
Software, Databases, Xero	Software / Database
Phone, Mobile, Fax	Technology e.g. Fax or Phone
Correspondence, Information from clients and suppliers.	Unspecified Interpersonal Communication
Verbal, Voice	Verbal Communication
Maps, Drawings, Illustrations	Visuals e.g. Images
Written, Text	Written / Text - General

Please note that the computer category was excluded from the thematical analysis of Question 7. This is because very few of the answers mentioned computers, thus, these answers were captured in the technology category. Additionally, instead of the category "As per the answers given the previous questions," question 7 had the category "As per the examples, given in the question.