MEETING INFORMATION NEEDS THROUGH THE USE OF
PUBLIC LIBRARY WEBSITES: A CASE STUDY OF CHINESE
IMMIGRANTS' INFORMATION BEHAVIOUR IN AUCKLAND, NEW
ZEALAND

by

Kasturi Sandra Govender

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Dedication

This thesis is dedicated to our parents Mr and Mrs Chetty who have never failed to give my brothers and sister financial and moral support. Especially to my father, who taught me that the best kind of knowledge is that which is learned for its own sake. It is also dedicated to my loving and caring husband Tony - a very special thank you for your practical and emotional support as I added the roles of wife and then mother, to the competing demands of work, study and personal development.

Thanks to dear Calvin, Quinton and Kieran, for being so supportive - even when being 'without Mum' was sometimes hard. I love you always.

ABSTRACT

MEETING INFORMATION NEEDS THROUGH THE USE OF PUBLIC LIBRARY WEBSITES: A CASE STUDY OF CHINESE IMMIGRANTS' INFORMATION BEHAVIOUR IN AUCKLAND, NEW ZEALAND

Public library services in New Zealand are being re-examined in light of the developments in ICT and an increasingly multicultural population.

The research question investigated was "Can an internet portal on a public library website be used to meet the information needs of new Chinese Mandarin immigrants to the Auckland region of New Zealand?"

In an attempt to effectively answer the research question and sub-questions the researcher conducted a literature review on two aspects relevant to the study: immigration theory and information behaviour (IB). Thirty Chinese Mandarin speaking recent migrants to the Auckland region of New Zealand were interviewed in-depth to determine their information behaviour (IB) and resources used.

The findings indicate that respondents were in need of everyday survival information. The findings suggest that a more coordinated approach to information provision, for example through a library web portal, will assist respondents in their search for information relating to their initial settlement.

KEYWORDS

Digital libraries

Information Behaviour

Migrants

Multicultural library web services

Public libraries

User studies

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

ALIA	Australian Library and Information Association
ARMS	Auckland Regional Migrant Services
ASK	Anomalous States of Knowledge
BAM	Berry's Acculturation Model
CAB	Citizen's Advise Bureau
ELIS	Everyday Life Information Seeking
IB	Information Behaviour
ICT	Information and Communication Technology
IFLA	International Federation of Library Association
IRD	Income Revenue Department
ISP	Information Search Process
LIANZ	Library and Information Association New Zealand Aotearoa
OSS	Open Source Software
SIT	Social Identity Theory
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WINZ	Work and Income New Zealand

CHAPTER 1

AN INTRODUCTION TO THE PROBLEM AND ITS CONTEXT

1.1   INTRODUCTION

Britain's close economic ties with New Zealand were weakened when it joined

the Common Market (EEC) in 1973. However, British settlers continued to be

New Zealand's preferred immigrants, up until 1987 and it was only in 1995 that

Britain ceased to be the main country of origin for immigrants. In the 1980s New

Zealand was becoming increasingly economically alienated from Britain and

began to look towards its Pacific neighbours for economic stability and a New

Zealand identity. Vasil and Yoon (1996:i) writing on migration in New Zealand

maintain that New Zealand was "…deliberately adding an Asian dimension to all

our thinking. We are quite deliberately adding an Asian strand to our national

identity". Hence, as recently as the 1990s there were changes in the immigration

policy, which allowed ethnic minorities from the Asian, Pacific and other regions

to immigrate to New Zealand on the basis of their skills and business

investments.

Also there was a Maori renaissance in the early 1980s and Maori groups were

becoming increasingly resistant to the injustices of the Treaty of Waitangi signed

in 1840 between the indigenous Maoris and the white settlers. White settlers' interpretation of the Treaty differed to the Maori version as a result of one being written in Maori and the other in English. Maori activism and cultural self-assertiveness grew. The New Zealand Government of the 1980s began to address Treaty claims and New Zealand adopted a bicultural strategy according to the Treaty of Waitangi principles. Some institutions, such as public libraries, made a concerted effort to implement a bicultural approach, for example, bicultural signage, special Maori collections, Maori subject headings and so on. While New Zealanders were implementing a bicultural perspective, immigration was making the country increasingly multicultural. There was first an influx of immigrants from the Pacific Islands. This was followed by an increasing number of immigrants from Asia in the mid 1980s and in the 1990s from Africa and the Middle East. There was a change in the demographics of New Zealand society from the early 1990's and onwards. Cities such as Auckland, Christchurch and Manukau attracted an unprecedented large concentration of ethnic minorities such as Asians, Indians, Blacks, Arabic and other smaller ethic groups (Statistics New Zealand, 2010).

The changing and heterogeneous nature of populations, not only in New Zealand but also in countries such as Australia, Canada and South Africa, meant that sociologists had to re-define or clarify what implications the term ethnicity will have in a global society resulting from increased travel and migration. The increasing complexity of ethnic identification has been conceptualized by

sociologists in terms of 'hybridity' (Modood, Beishon & Satnam, 1994) as cited in Walker (2001:7). Hybridity is seen as the consequence of a global society where no 'pure' culture exists and where communication technology, migration and travel have led to 'hybridization' and increasing fragmentation of all cultures. According to this view, multi-layered hybrid ethnic identities offer a 'third space' rather than the assimilation to one culture only. Thompson (2002: 417) states that "we may be entering a new postmodern epoch in which the idea of a single nation-state based identity is giving way to a more fragmented and hybridized spectrum of cultural identities". New media such as cable, satellite, video and internet technologies offer rich sources for constructing such diasporic and hybrid identities.

Technology in general and the internet in particular offer new possibilities in extending existing multicultural library services in public libraries. It is apparent that public libraries in New Zealand today are being subjected to two changes: the expanding use of the internet and the changing demographics as highlighted in the Statistic New Zealand (2010) census report. To adequately perform the task of serving multicultural populations, public libraries must identify ways of assessing the effectiveness of their activities and evaluate their changing roles and responsibilities in light of these changes, since the information environment, particularly the digital information environment, requires a re-conceptualization of the information creation, dissemination and usage processes to cater for the information needs of multicultural populations. Countries such as Australia and

Canada are harnessing the internet's potential to supplement their multicultural

collections. Collections such as newspapers on-line are made readily accessible

via the internet to multicultural communities, through the use of software such as

Unicode, a multilingual and multi-script character set. The use of such software

makes it possible to create multilingual web pages in community languages.

Cunningham's (1999) initial development of Australian Maribyrnong Library

Services web site was a trilingual web site with separate HTML documents in

English, Vietnamese and Chinese (traditional script). Other languages that have

since been added include Arabic, Greek, Russian, Turkish, Albanian and

Amharic. The languages chosen represented the major community languages in

the state of Victoria, in Australia with significant demand for access. Cunningham

(2008) and Cunningham and Stillman (2002) have demonstrated the huge

potential in the use of Unicode in multicultural collection development and

multicultural library service provision. The Library Board of Victoria (2001:22)

states that:

> The Internet offers resources for culturally diverse communities that
> may not be otherwise available (for example, newspapers online). It
> also offers opportunities to maintain cultural links and heritage by
> research and using email. Access is possible in many languages
> including non-Roman scripts. Advances in displaying non-Roman
> scripts will continue, making access easier. Classes should be
> offered, where possible and practical, to ensure those from culturally
> and linguistically diverse backgrounds have the same opportunities to
> use the Internet as people whose first language is English.

1.2   PROBLEM STATEMENT

Although the Auckland region of New Zealand has the highest concentration of new immigrants public libraries there have done little in the way of responding to the information needs of multicultural communities using freely available internet technologies to develop and maintain multicultural library websites such as those used in Australia and Canada. These websites are used to meet the information needs of culturally and linguistically diversified communities by providing access to a range of sources specifically selected to meet the needs of the multicultural communities in their own languages.

The population demographics of the region and studies undertaken by Manukau City Council (2001) and Manukau City Council (2006) clearly indicate that the population is far more multicultural than the rest of New Zealand. The public library website in this region is bicultural and very little attempt has been made to incorporate a multicultural perspective. A cursory glance at other library websites in the Auckland region of New Zealand provide some indication that they are meeting the information needs of culturally diverse communities, albeit not to the same extent as Australia and Canada with their multicultural websites.

Library applications such as integrated library systems and online bibliographic databases in the last two decades have significantly contributed to the global resource sharing and enhanced library services to multicultural and multilingual

populations. Today the internet and the World Wide Web applications have revolutionized the world of information exchange. Web client software and Web search engines that handle multilingual data have pushed the demands for operating system support and international standards to a new high. This development is a milestone in international computing because it supports the creation of global software that can be easily adapted to local needs. Rapidly developing information technology is becoming the *modus operandi* in libraries by, for example, providing information and brochures in other languages on the library website through the use of PDF files with embedded fonts or using multilingual keyboard support for common word processing systems.

Therefore, the problem being investigated in this study is the feasibility of setting up a multicultural public library portal to address the information needs of new immigrants in the Auckland region of New Zealand.

1.3   BACKGROUND TO THE PROBLEM

Visas are predominantly granted to New Zealand immigrants on the following basis: skilled workers, sponsored family members, business class immigrants, refugees, foreign students, or temporary workers (New Zealand Department of Immigrations and Customs, 2010.) Consequently immigrants to New Zealand will have diverse backgrounds, and educational levels. They will also have varying

information needs. Skilled workers or business class immigrants may have information needs and practices that differ from those of sponsored family members or refugees for instance.

Another important problem is the dynamic nature of the immigration process. Adapting to a new country may be best understood as a process with stages associated with the specific needs and attitudes towards resources, institutions or technologies. According to Papillon (2002:4-5), a newcomer in the first stage will be likely to have pressing needs for information that will contribute to his/her survival. As the immigrant becomes accustomed to the adopted country, finds his/her place in society and contributes economically and socially to its welfare, different needs may arise in the intermediary stage such as the need for belonging more fully and becoming an active citizen, for example, political participation, civic duties and cultural celebrations. The implications are that immigrant information needs tend to become more diverse and individual in the last stage that is, as established migrants. Learning to overcome many systematic barriers to equal participation can be viewed as a common process for all immigrants at this stage. New immigrants also have particular social, cultural and work environments.

Understanding the stages of immigrants' adaptation to the host country, their differing environments and the situations they face can elicit findings about how

and whom they approach in order to find information to solve their everyday problems.

There may also be barriers to the use of public libraries and services. These may include: i) institutional barriers, for example, opening hours, availability of library services, staff attitudes, rules and regulations; ii) personal and social barriers, for example, basic literacy skills, low income and low self esteem; iii) environmental barriers, for example, physical access, remote areas, and isolation and iv) perception barriers, for example, sense of isolation, educational disadvantage, relevance of libraries to one's need, and lack of knowledge about existing facilities and services (Hare, 2009:5). It is important to determine whether the above barriers impact on migrants and their willingness and ability to source information from the public library to meet their information needs.

Caidi (2008) reported new migrants needed the following information on arrival: language (information about training, translation, and interpretation services), employment information (including job-searching skills and special services to foreign-trained professional), housing information, information about making connections in the community (including connections to professional associations, volunteer opportunities, mentoring and community organisations), information about the new country culture and orientation to life in the new country. Later in the settlement process Caidi (2008) reports that migrants will need: health, employment and educational information as well as political

information and current events (news about country of origin), language-learning

information (including information about ESL programmes and materials,

information about transportation, information about identity construction

(becoming a New Zealander for example) and information about cultural or

religious events.

1.4   RELATED RESEARCH

There has been limited research on the information needs of immigrants. Fisher,

Durrance and Hinton (2004) reported that immigrants have substantial

information and practical needs for help with adjusting to life in a new country.

They state that due to differences in language, culture and other factors such as

access, new immigrants are a difficult population to study and therefore little

research has been done to examine their predilections from an information

behaviour perspective. Research conducted by information scientists include

Metoyer-Duran (1991), who studied the roles and types of ethno-linguistic

information gatekeepers in Native American, Asian and Latino populations in

California; Chu (1999) who investigated the role of immigrant child mediators in

California; and Flythe (2001) who studied Latino immigrants in California. In New

Zealand, Sligo and Janeson (2000) focused on Pacific immigrants. Dervin (1999)

places emphasis on the examination of culture within the context of information

seeking and use but mentions that this needs to be examined together with other

variables such as income, education and geographical locale (Dervin, 2005b:78).

Hargittai (2003); Hargittai and Hinnant (2006) discuss how people's social

attributes and socio-economic status may influence information behaviour (IB).

These studies suggest that immigrant communities display differing information

behaviour patterns which are determined by their demographic characteristics.

Fisher, Durrance and Hinton (2004) on the other hand state that immigrants,

particularly new ones and those without widespread kith and kin already

established in the host country, are considered as having substantial needs for

information and practical help with adjusting and thriving in a new country. The

figure below represents the major information needs of new migrants as

identified by Shoham and Strauss (2008:9).

Figure 1.1: Primary information needs of immigrants (Shoham & Strauss, 2008:9)
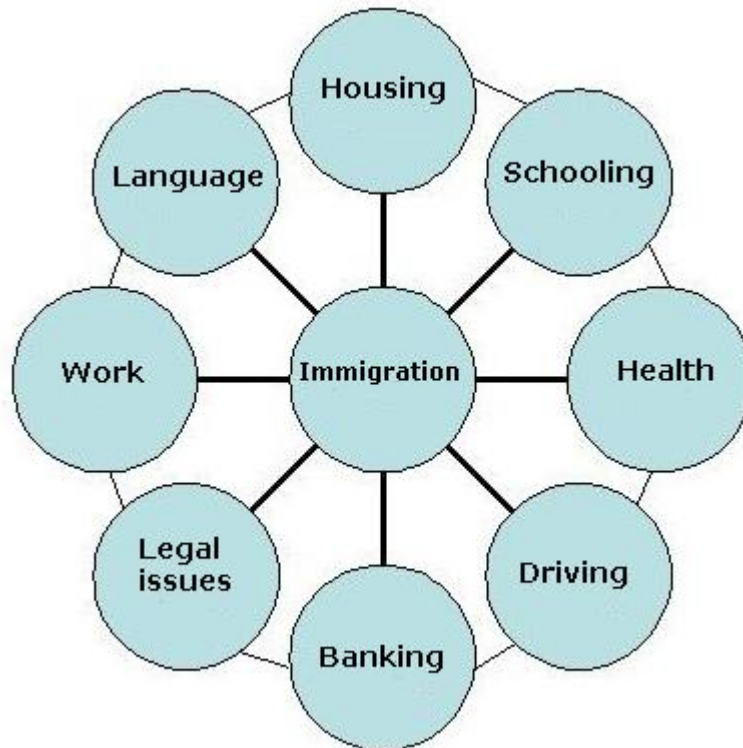
Although as indicated above there have been studies on the needs of new immigrants, little research exists on the library services that need to be provided to such populations and whether immigrants use such services to meet their information needs. In particular, little research has been conducted on whether a library web portal can be used to meet these needs.

The study will focus on a combination of factors influencing IB (Information Behaviour) of new Chinese migrants to Auckland.

1.4.1   Definition of concepts

In the following section important concepts are defined and contextualised as they are used in this dissertation.

1.4.1.1   Cloud computing technology

Cloud computing technology refers to applications and services offered over the internet for a fee (Allsopp, 2010:93-4). The metaphor *cloud* represents the intangible and universal nature of the internet. Any user with an internet connection can access cloud technology and the services it provides for a fee. Social networking services such as Bebo, Facebook, MySpace and Twitter are examples of such a service (Tech terms.com, 2011). Cloud computing permits the renting of services, software, storage and network capacity on an hourly basis from a company that already has these resources and can make these available via the internet. Smith (2009:67) asserts that cloud computing services are perceived by some as inexpensive and IT departments can benefit from the functionality of clouds. Breeding (2009:25) asserts that it is important for libraries to think beyond the locally operated and outdated computer infrastructure. The author maintains that co-location, remote hosting, virtualisation and cloud computing offer opportunities for libraries to expend fewer resources on

maintaining infrastructure and to focus more on activities with direct benefit on

library services. However, the disadvantages are that there may be security

issues, back-up, disaster recovery, the physical location of the data, bugs in the

system and unique vendor offerings (Allsopp, 2010:95).

Cloud computing enables on demand network access to a shared pool of

configurable computing resources, for example the sharing of networks, servers,

storage, applications and services. These services can be rapidly provided and

released with minimal management effort and service provider interaction. Mell

and Grance (2010:50) note five important characteristics of cloud computing: 1)

on demand self service 2) broad network access 3) resource pooling 4) rapid

elasticity and 5) measured service.

1.4.1.2   Culture

Tyler (1920:1) is the first anthropologist to define *culture* in its anthropological

sense as:

> that complex whole which includes knowledge, belief, art,
> morals, law, customs and any other capabilities and habits
> acquired by man as a member of society.

Culture is a distinctly human capacity for adapting to circumstances

and transmitting these coping skills and knowledge to subsequent

generations. Culture gives people a sense of who they are, of

belonging, of how they should behave and of what they should be

doing. Broadly speaking culture reflects a person's way of life, which

may include music, literature, dance, sport, cuisine, style of clothing,

values and beliefs, patterns of work, marriage customs, family life,

religious ceremonies, celebrations days/events which have particular

cultural significance, for example Chinese New Year. In the age of

multi-culture the term *culture* itself is an ambiguous concept. Cultural

segments are vague and multiple cultural practices, attitudes and

institutions are often present in individual people's lives. In a way, we

are all becoming cultural hybrids.

White (2002) states that human communities have a variety of practices, beliefs,

social roles, norms, expressions, forms of organization and conflicts (economic,

political, legal, religious, expressive and artistic) that exhibit various sorts of

internal coherence as well as cleavages within communities. He further

elaborates that these coherences and cleavages bear many close connections to

the different historical experiences, physical and social environments in which

people live. These include common origin and common membership in historical

civilizations. White (2002) maintains that lines of cleavage, conflict and

marginality are part of the cultural phenomena. Hence cultures consist of shared

constructions that emerge out of social interactions of a group of individuals who inhabit overlapping social and physical spaces. Intensive patterns of interactions derive from common residence, joint experience and discourse in a common language or system of signs. Others derive from a process of dispersal such as migration, diasporas, the trajectory of lives through spatial movements, social mobility, careers and distinctive histories.

1.4.1.3   Internet

The internet may be defined as a high speed fiber-optic network of networks that uses TCP/IP protocols to interconnect computer networks around the world. This enables users to communicate via e-mail, transfer data and program files, find information and access remote computer systems such as online catalogs and electronic databases (Reitz, 2004:371).

1.4.1.4   Internet portals

Smith (2004:94) defines portals as an "infrastructure providing secure, customizable, personalizable, integrated access to dynamic content from a variety of sources in a variety of formats wherever it is needed". A portal provides

at least four essential services: 1) search engines 2) email 3) links to other related sites and 4) personalized content (BusinessDictionary.com, 2011).

A portal offers a structured approach to navigating information on the internet. This approach uses categories and sub categories to achieve this. As the information hierarchy is created, the information structure may improve a user's contextual understanding of the subject area (Motive glossary, 2010). A user is more likely to achieve results using a portal than a search engine or key word search. Users are able to more easily locate information and services using a portal, for example, the creation of government portals such as govt.nz (New Zealand government) enables users to access information on education and training, employment and jobs, history and heritage, housing and property, immigration, social welfare and support, transport and roads and so on. Characteristics and features of portals may include: 1) user authentication (log in and password) 2) personalized content views where the user can modify the content on a portal homepage to suit specific interests (portlets) 3) personalized navigations to quick links and 4) community building tools such as chatrooms, bulletin boards, emailing lists and so on.

1.4.1.5   Internet portlets

An internet portlet may be defined as a specialized content area within a web page that occupies a small window in the portal page. It may provide information such as travel information, business news, or local weather. Users may customize the content, appearance and position of the portlet (Webopedia.com, 2011).

Librarians can use internet portals or portlets to reduce information overload by selecting resources to meet specific information needs of particular communities. The implications of cloud technology for information professional will be discussed in section 2.9.1 and 3.9.

1.5   RESEARCH QUESTION

The main research question in the study is the following:

- Can an internet portal on a public library web site be used to meet the information needs of new Chinese Mandarin immigrants to the Auckland region of New Zealand?

1.5.1 Sub-questions

The sub-questions that can be derived from the research question are as follows:

1. What are the main information needs of new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand?

2. What are the information grounds of such immigrants?

3. Do new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand make use of the internet in their information seeking?

4. Will access through a public library internet portal to Mandarin language sources assist information seeking and use amongst new immigrant Chinese communities?

5. What is the possible role of internet portals in assisting new migrants in their settlement process?

1.6 RESEARCH METHODOLOGY

The researcher will use both non-empirical (for example, review of existing literature) and empirical (for example, in-depth interviews with a semi-structured questionnaire) methods to establish the information needs and information behaviour of new immigrant Chinese communities in the Auckland region of New Zealand and how these needs are being met.

1.6.1   Research design

The study will be cross sectional, that is, take place at a particular point in time and a qualitative research approach will be used. A qualitative research approach was chosen rather than the quantitative approach because this method was more suited to understanding the complex IB of new migrants. The respondents will be drawn from the target population namely New Chinese migrants that speak Mandarin and have migrated to New Zealand in the last twelve months. A stratified sample will be used to obtain a more homogenous sample from a heterogeneous immigrant population.

A semi-structured questionnaire will be compiled to determine the information needs and behavior of new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand. The questionnaire will be based on issues highlighted by the literature survey. This questionnaire will be available to respondents in English and Mandarin for those who are not fluent in English.

Initially it was planned that the sample population would be drawn from the databases of the Auckland Region Migrant Services (ARMS) and the Refugee Services New Zealand which are both migrant service providers. Although not all new migrants into the Auckland region visit these services for information it is assumed that the majority will, since this service is recommended by the

Department of Immigration to new migrants on their arrival into New Zealand. The ARMS and Refugee Services New Zealand databases would be used as the sampling frame. The two organizations were contacted in advance and were happy to be involved in assisting the researcher draw a sample of new Chinese migrants from their user database. However it was decided to use ARMS only as the researcher planned to draw her sample from those new migrants that have arrived in New Zealand via the general skills or business investor category only. It was planned that ARMS would send a note to prospective respondents meeting the selection criteria and invite them to participate in the survey. However there were unforeseen problems with drawing the survey population from ARMS. (This will be discussed in Chapter Four.) As a result the snowball method was used to identify suitable respondents. This technique relies on referrals from initial subjects to generate further respondents. This process is discussed in detail in Chapter Four.

Open questions are used in the interviews to probe respondents to determine how they meet their everyday information needs in their new country. An interpreter will be used to interview respondents who are not fluent in English. The data gathered from the qualitative study will be analysed using content analysis in order to answer the research questions. Respondents will be assured of their anonymity and a cover sheet will explain the purpose of the study.

1.6.2 Qualitative research

The qualitative research approach was chosen because it was a more suitable approach than the quantitative method for interviewing respondents in-depth Hoepfl (1997:49). This method will involve the use of open questions to interview respondents thus allowing respondents to elaborate in detail on their information seeking habits and the resources used to meet their information needs. The literature review (see Chapter Three) indicates that IB is a complex phenomenon that requires a multidimensional perspective to understand the user in his/her search for information.

1.6.2.1   Questionnaires

The questionnaire will be divided into two main sections: 1) questions relating to socio-demographic information such as age, gender, the user's nationality, home language, education, employment and so on, and 2) questions on IB; use of the internet; and attitude to the public library. Parts of the questionnaire will be structured to collect data through discrete qualitative categories, for example: 'I understand English': very well, well, average, not well, not at all. Use will be made of open-ended questions to gather in-depth information. Respondents will be invited to answer questions in their own words and the researcher will attempt to interview respondents in- depth by probing.

The survey will be carried out until the researcher is unable to find more respondents or begins to find that she is no longer obtaining new and relevant information.

1.6.2.2   Interviews

Interviews are used because there may be the need to explain the questions more fully to the respondent or to explain questions if they are not understood by the respondent. This also gives respondents more time to state their opinion and the researcher is able to discuss issues that are interesting with respondents. The interpreter will be used for this purpose when needed. The researcher will use semi-structured questionnaires as an interview guide to conduct the in-depth interviews because she has limited Mandarin language skills and will need to rely on the translated questionnaire and the translator for assistance. The semi-structured questionnaire will also make it easier to compare categories of data.

1.6.3 Sample population

Respondents who identify themselves as Chinese Mandarin speakers who have migrated to New Zealand within the last twelve months and who reside in the Auckland region will be approached to be interviewed. There are four cities, namely Auckland, Waitakere, Manukau and North Shore that make up the Auckland region of New Zealand with a population of approximately 1.2 million

people. The total population of New Zealand is approximately 4 million.

Respondents will be selected from the general skills and business category.

Only respondents 18 years and older will be selected for the study.

1.6.4 Data analysis

Open questions will be analysed using detailed content analysis. Each open

ended question will be written on a separate sheet of paper and the responses to

these will accompany each question. Responses will be analysed for similarities

and differences. Similar responses will be combined into one category and

described. The categories will be mutually exclusive and exhaustive. The

responses will therefore be organised under certain themes.

1.6.5 Justification, timeliness and relevance of the study

New Zealand's changing demography and the impact of information and

communication technology (ICT) has created the need for this study.

New Zealand has never formally adopted multiculturalism as official policy.

However, recent official statements on the objectives of immigration have tended

to move towards the concept of multiculturalism. This study on the information

needs of immigrant multicultural communities is thus timely and relevant to what is happening in New Zealand at present.

IFLA (2009) states that public libraries should adopt an integrated approach to multicultural services and that these services should be designed to meet local or specific needs. IFLA (2009) further elaborates that libraries should have a policy and a strategic plan, defining its mission, objectives, priorities and services related to cultural diversity and this should be based on a comprehensive user analysis and adequate resources. It further recommends (IFLA, 2009:31) that public libraries should:

- Develop culturally diverse and multilingual collections and services, including digital and multimedia resources.
- Allocate resources for the preservation of cultural expression and heritage, paying particular attention to oral, indigenous and intangible cultural heritage.
- Include programmes supporting user education, information literacy skills, newcomer resources, cultural heritage and cross-cultural dialogue as integral parts of the services.
- Provide access to library resources in appropriate languages through organisation and access systems.
- Develop marketing and outreach materials in appropriate media and languages to attract different groups to the library.

New Zealand, State Services Commission (2008) released a document about

creating a digital future for all New Zealanders using the power of information

and communications technology (ICT) to enhance all aspects of citizens' lives.

The library sectors' input into the digital strategy had a Maori focus rather than a

multicultural one.

Public Libraries of New Zealand: a strategic framework: 2005 to 2015: a

consultation document (LIANZA, 2006) provides a strategic framework for local

government and other stakeholder groups that are working together to guide the

public library sector over the next decade. A paragraph from the document that is

highly relevant to this study states that:

> With the strong resurgence of Maori culture in recent decades and the
> growing significance of other ethnic groups in New Zealand, an important
> challenge has been laid down to ensure that services provided by local
> and central government are sensitive to the needs of the individual groups
> in New Zealand society. Many public libraries already provide access to
> information that is accurate, relevant, beneficial to and supportive of the
> people seeking this information, but many do not or are unable to do more
> than scratch the surface. It is important for the social cohesion and cultural
> identity of all New Zealand citizens (LIANZA, 2006:9).

This document further reinforces the notion of the traditional role of library

services, that is, storing, securing, organising and making information available.

However, what will change is the technology used to fulfil these basic functions

and the information users' expectations regarding this.

The timeliness and relevance for the study lies with New Zealand's rapidly

changing demography and the release of the above documents addressing New

Zealand's digital future and the future role of the public library. The results of such a study may benefit other multicultural regions in New Zealand, for example Christchurch and Wellington. This study may also benefit other countries with high levels of immigration.

1.6.6 Ethical issues

Since the study is based on researching human subjects it was important for the researcher to ensure ethical issues would be adhered to. Participants will be assured of confidentiality throughout the research process and the reporting of the results. Care will also be taken not to become too involved in the problem and to remain as impartial as possible. Scientific methods of data collection, analysis and reporting will be adhered to. The respondents will also be assured of anonymity and all respondents will be told that they can withdraw at any time. The purpose of the research will also be explained to all prospective respondents (Kumar, 1996:190).

1.7 OUTLINE OF THE DISSERTATION

The last decade has seen a major shift in the dynamics of New Zealand society. Immigrants, especially new immigrants, have pressing and varying needs for information and may seek to use a diverse range of resources to meet this need.

Chapter One introduced the need for the study, gave the background to the problem, and briefly outlined the research question and sub-questions, research methodology and ethical issues.

Chapter Two will focus on theories of immigration and the relation of these theories to developing a multicultural library service. Various concepts relating to immigration such as trans-national communities, adaptation and identity change will be discussed in this chapter. The IFLA guidelines to multicultural library service provision will be covered and the tools for developing a multicultural library collection will be elaborated on.

Chapter Three will cover information behaviour theory and research since this is an important aspect of the study. This chapter will trace the developments in information behaviour theory including the cognitive, social, social-cognitive, organisational and multifaceted approaches.

Chapter Four will discuss the research methodology used in the study.

Chapter Five will present the survey findings. The survey findings are discussed in detail.

Chapter Six will present the conclusions and recommendations of the study.

CHAPTER 2

MIGRATION AND PUBLIC LIBRARIES

2.1 INTRODUCTION

Chapter One outlined the background to the problem, the research question and the research methodology. In this chapter the researcher will discuss globalization and the impact of increased migration on public library services. Contemporary multiculturalism is a product of globalization, increased migration, economic prosperity in developing countries and rapid advancements in ICT. This is impacting on the public library which needs to accommodate the changes brought about by multiculturalism resulting from increased migration and globalization. Some countries have policies, guidelines and standards to facilitate the process and these will be briefly discussed.

In order to inform the discussion on new immigrants and their information needs it is necessary to first elaborate on recent research and theories on immigration. The subject of immigration is treated theoretically by many authors such as Basch, Glick-Schiller and Szanton-Blanc (1994); Berry (1990); Bourdieu (1984); Braziel and Mannur (2003); Featherstone (1995); Gillham (2006); Glick-Schiller

(1999); Gordon (1978); Hall (1990); Hanold (2005); Munck (2005 & 2008); Parek (2000); Skrzeszewski (2001); Ward, Bochner and Furnham (2001). The research on immigration in this study was informed by Social Science theories. Important concepts such as *transnational communities, immigration* and *adaptation, identity change* and *multiculturalism* are defined and discussed in this chapter.

There are many challenges facing public libraries in the digital information environment. As the focus of this study is on the information needs of new migrants and the way these can be met through a public library website it is important to examine the methods used by public libraries to meet the information needs of immigrant multicultural communities. The IFLA recommendations on public libraries and multiculturalism will be outlined. The researcher will also briefly discuss digital methods used by public libraries in Australia and Canada to meet the needs of multicultural communities.

2.2   CONCEPTUALIZING IMMIGRATION IN THE 21ST CENTURY

The forces of globalization and rapid migration in the last century has given rise to concepts such as *trans-nationals*, *immigration* and *adaptation*, *identity change* and *multiculturalism*. The formation and meaning of such concepts will be elaborated on in the section following.

2.2.1 Migration and trans-nationalism

During the last decade, transnational flows that do not conform to the classic pattern of international migration have been re-examined (Adam & Skop, 2008:119). Rejecting the prevailing view of immigrants who have uprooted themselves from their old society to settle in a new land, Adam and Skop (2008:119) argue that a significant number of migrants who settle in a new destination maintain strong ties with their place of origin. According to this theory, even though migrants invest "socially, economically and politically in their new society, they continue to participate in the daily life of the society from which they emigrated but did not abandon" (Glick-Schiller, 1999:94). Adam and Skop (2008:120) further elaborate that such a transnational process requires many human and non-human components to be in place, for example, not only airlines, pilots, passengers, mechanics, bank and money transfer businesses and immigration lawyers have to be in place but also programmers, websites, webmasters and web browsers. The world is a much smaller place and information transfer and use is faster and more efficient. However the process requires the assembly of the above professionals and technology to make this possible in the digital era that we live in.

Featherstone (1995:87) suggests "the flows of information, knowledge, money, commodities, people and images" erode the spatial distances that formerly separated and insulated immigrants from one another. Rouse (1991:8) states

that "we have all moved irrevocably into a new kind of social space". This process challenges the classic definition of immigration as a single and permanent change of residence, occurring only once (Basch, Glick-Schiller & Szanton-Blanc, 1994:7). Cruz (2008:362) refers to migrants as transnational homeless subjects who create a worldwide migration chain on the basis of family, clan, language, region, religion and country. He further elaborates that such communities utilize a wide array of global communication and technology tools to maintain familial and other social relations and develop or engage in social, political and religious networks within the migrant community and abroad.

Whilst migration can be voluntary or involuntary Fischer, Reiner and Thomas (1997: 50) state that there are complex determiners and motives. Some people feel they have no choice but to leave. This may not be the case for others in the same situation. In addition to external forces, the influence of cultural background, co-ethnic group and individual choices also account for numerous migration motives. Ward, Bochner and Furnham (2001:193) note that whatever constraints and opportunities are imposed and offered to potential immigrants, it is ultimately their decision to immigrate.

2.2.2 Immigration and adaptation

Socio-economic status, age, gender and education all affect how immigrants adapt (Ward, Bochner & Furnham, 2001:235-237). Ward, Bochner and Furnham

(2001:195) suggest that cultural adaptation is also contingent on immigrants interacting with members of the receiving culture. Young adults and children have been shown to adapt rapidly, while older adults adapt poorly in comparison to their younger counterparts (Ward, Bochner & Furnham, 2001:107).

An important element of immigration and settlement is the process of reconstructing community in one's new geographical location. The way people move across borders and enter, exit and reconstitute co-ethnic communities, is an important issue in immigration research (Braziel & Mannur, 2003:1-18; Papastergiadis, 2000:113-115). During the settlement process, immigrants begin to seek out social connections and will probably interact with fellow expatriates as well as non-ethnics. They will not seek to totally isolate themselves in their ethnic enclaves, nor entirely adopt a host country's ways of living (Portes, 1997:812-813). According to Shurupova (2007:90) changing one's place of residence inevitably necessitates adapting to new economic, social, natural and sometimes even ethno-cultural conditions.

2.2.3 Migration, identity and personal change

In the context of immigration and settlement, an important element of the dialogue between imported cultural attitudes and practices and the receiving socio-cultural environment is the resulting effects on personal and cultural identity. The experience of adaptation to a new country has been described as a

process that can often include identity change, which continues throughout life but is most overt during the first few years of settlement. Identity is constantly changing. It has been suggested by Hall (1990:222) that:

> Identity is not transparent or unproblematic as we think. Perhaps instead of thinking of identity as an already accomplished fact… we should instead think of identity as a 'production', which is never complete, always in process and always constituted within, not outside representation.

Hall, (1990:235) further states that diaspora identities are those which are constantly producing and reproducing themselves anew, through transformation and difference. Media consumption and digital technologies have played an important role in the formation and transformation of identities of diaspora populations dispersed across the globe. Identities are less likely to be fixed, authentic and simple. Instead identities are fluid and fragmented.

2.2.4 Multiculturalism

Marga (2010:106) distinguishes between three forms of multiculturalism in the context of globalization. The first form of multiculturalism identified by the author is "historical multiculturalism" that is the situation of multiculturalism in a country that exists as a consequence of various historical events. The second is "multiculturalism of migration" in which, as a consequence of immigration, different cultures and different origins meet. The third is "multiculturalism of restructuring" where there is the situation in which a company or institution has different cultures, relative to different professions, generations and genders.

Manga maintains that this results in a range of possibilities from culture shock to cultural integration through to cultural conformity. Lastly he proposes "cultural understanding" implying a process of being multicultural (Marga 2010:107).

Multiculturalism is the acceptance or promotion of multiple ethnic cultures, applied to the demographic make-up of a specific place, usually at the organizational level for example, schools, businesses, neighbourhoods, cities or nations (Parek, 2000). In this context, multiculturalists advocate extending equitable status to distinct ethnic and religious groups without promoting any specific ethnic, religious, and/or cultural community's values as central.

Multiculturalism or *cultural pluralism* is a policy, ideal or reality that emphasizes the unique characteristics of different cultures, especially as they relate to one another in immigrant receiving nations. The term was coined in Canada in the 1960s and has since spread around the world (Barkan, 2003). The Federal Government of Canada adopted multiculturalism as its official policy in 1971. Arbuckle (2004:221) cites Parek (2000) definition of multiculturalism as:

> Multiculturalism doesn't simply mean numerically plurality of different cultures, but rather a community which is creating, guaranteeing, encouraging spaces within which different communities are able to grow at their own pace. At the same time it means creating a public space in which these communities are able to interact, enrich the existing culture and create a new consensual culture in which they recognize reflections of their own identity.

With globalisation, multiculturalism has become a social and economic asset that should be nurtured as a part of every community's social capital. New

technologies give many people access to a variety of cultural traditions and values. These technologies are helping to produce a borderless world in which an individual has choice and can select from different values, cultures and languages. Skrzeszewski (2001:14) predicts that this will change the nature of multiculturalism from a specific ethnocentric focus to one that is pluralist and cosmopolitan.

The adoption of new technologies has facilitated the rapid diffusion of new ideas and innovations world wide. Poorer countries are now in a position to benefit from this knowledge transfer and it is hoped that this will lead to economic growth and improved standards of living globally.

2.3   MIGRATION, GLOBALISATION AND MULTICULTURALISM

Migration is not a new phenomenon and is deeply woven into the story of humanity. Cruz (2008:357) maintains that globalization is the movement of goods, services and capital and like migration it dates back in history.

Today migration continues to define humankind's story and remains embedded in global patterns of integration. However migration's current speed and multi-directionality are partially driven by ICT. The International Migration Report (United Nations:2010) states that the number of people living outside their

country of origin increased from 120 million in 1990 to more than 191 million in

2005. Migration flows tend to be from less developed to more developed regions

(Li, 2008:1) and more than 60 percent of migrants are in developed countries.

Immigrants today are attracted to the highly developed regions of the world

because of the material affluence and economic prosperity of these regions

resulting in occupational opportunities and financial rewards. Globalization has

increased the interconnectedness of nation states, speeding up the flow of

goods, services, ideas, and people across national boundaries and digital

technology has hastened this speed. Li (2008:3) states that capitalist expansion

and economic globalization has encouraged the freedom of movement of people.

Contemporary global integration has created a different breed of migrants. These

include "skilled transients" such as corporate managers, consultants and

technicians who are able to transfer from one international company to another. It

has also created "transnational migrants", the elite group of rich entrepreneurs

who are able to buy citizenship and shuttle or split their time among two or more

countries. (See discussion on the concept trans-nationalism in 2.2.1.) Cruz

(2008:362) contends that economic integration brought on by globalization is a

positive development but there is a negative side and new forms of oppression

are surfacing. He states that global economic integration has increased problems

such as the economic divide between rich and poor countries, loss of

professional and skilled workers, social and psychological effects of fatherless

and motherless families, people smugglers and traffickers, and financial institutions and recruiters that viciously prey on migrants.

International migration is seen to be part of a revolutionary globalization process which is reshaping economics, political systems and our whole cultural parameters today. World migration has added racial and cultural diversity to historically homogeneous populations and the concept multiculturalism poses challenges to policy and decision makers. Canada and Australia have adopted a policy of multiculturalism in response to the increasing racial and cultural diversities brought about by new waves of immigration. Such policies assist in protecting ethnic and national minorities within a demographically diversified population due to migration. Multiculturalism teaches citizens of democratic societies to value diversity and differences. These policies further assist in integrating diverse cultures into larger society without cutting them off from their past. Li (2008:16) states further that increased migration from less to more developed regions of the world has exacerbated the need for receiving countries to address issues of cultural pluralism, social integration and racial discrimination. The rise in immigrant populations from different cultural, religious and racial backgrounds also creates a new constituency that can exert political demands on the host society to accommodate diverse cultural practices, religious worship and educational aspirations in terms of languages of instruction and school curriculum. Thus the challenge of immigration goes beyond the framing of a policy of admitting newcomers to include policies of integration and social

inclusion. Such is the complexity of current population movements that existing explanatory frameworks are seen as inadequate (Munck, 2008:1229).

2.4   CONTEMPORARY MIGRATION

Munck (2008:1244) states that "immigration can be used as a sharply focused lens to understand the contradictions of contemporary nation-states in the era of globalization". The literature review suggests that the topic of migration or the process cannot be studied in isolation. Munck (2008:1228) contends that international migration is a complex, chaotic, socioeconomic and intercultural process. For example, the transnational flows of business class travelers cannot be equated with the situation of those trafficked across national borders for the purpose of sexual or labour exploitation. He (2008:1231) maintains that the old debate on migration and development interaction now takes on a new shape in the era of globalization. Globalization, digital technologies and contemporary migration has created opportunities, challenges and positive developments in many regions of the world. This technological revolution has created the rapid movement of goods, services, people and capital creating a global economic market. Knowledge transfer and financial markets are a result of increased internationalization (Munck, 2010:229).

Migrants may also be viewed as a threat to cultural identity. Where a nation is defined by ethnicity, minority ethnic groups must supposedly assimilate into dominant group or run the risk of being marginalized (Padilla & Parez, 2003:43).

There is increasing attention being paid by policy makers to understanding the relationship between migration and development. Questions include the ways in which aid might be targeted to reduce the number of asylum seekers, whether aid can reduce migration by promoting development and assist conflict resolution. If migration is a complex and multidimensional process in the present era of globalization then remittance, that is the money sent home by migrants to their home country, cannot be reduced to an economic dimension (Munck, 2008:1236-1237). The lines between the citizen and foreigner, local and global, national and transnational are rapidly blurring. Srinivasen and Pyati (2007:1736) elaborate that technologically mediated diasporas are not entities in cyberspace disconnected from economic, social and political realities of lived experience. The authors contend that these diasporas are connected to real social contexts and the new immigrant identity is hybridized interweaving elements of the homeland and the new land.

2.5   THEORETICAL MODELS OF IMMIGRATION

The two most widely accepted theoretical approaches to immigration are Berry's (1990) model of acculturation tendencies referred to as BAM (Berry's Acculturation Model), which focuses on the cultural exchange of two group and Social Identity Theory (SIT), which underscores the asymmetry of migrant's social status. This approach is used where the immigrants are a minority group that is usually worse off socio-economically than the host majority (Mana & Orr, 2009:452).

BAM focuses on acculturation, which Berry (1990:235) defined as: "the process by which individuals change both by being influenced by contact with another's culture and by being participants in the general acculturative changes underway in their own culture". This approach asks whether it is important to maintain one's cultural identity and characteristics or is it important to maintain relationships with other groups. BAM postulates a social space defined by four possible types of acculturation tendencies: integration, separation, assimilation and marginalization (Mana & Orr, 2009:452). For example, in integration minority members attribute importance to the majority group and wish to become a part of it, but also wish to maintain elements from the culture of their original identity. Research on immigrants suggests that integration which is related to psychological adaptation and low levels of stress is often the preferred mode. See Figure 2.1 for further elaboration of the BAM model.

Figure 2.1: BAM (Berry's Acculturation Model) (Berry, 1997:296)

BAM is based on the principles of cultural maintenance and contact-participation	
Cultural Maintenance • the extent individuals value and wish to maintain their cultural identity	Contact-Participation • the extent individuals value and seek out contact with those outside their own group, and wish to participate in the daily life of the larger society
Characteristics of Acculturation	
• Integrated individuals	• Individuals want to maintain their identity with home culture, but also want to take on some characteristics of the new culture
• Assimilated individuals	• These people do not want to keep their identity from their home culture, but would rather take on all of the characteristics of the new culture
• Separated individuals	• They want to separate themselves from the dominant culture • Can be called segregation if it is forced separation
• Marginalized individuals	• These individuals don't want anything to do with either the new culture or the old culture

An alternative theoretical approach to BAM is Tajfel's (1981) version of Social Identity Theory (SIT) which focuses on the aspect of social power as reflected by majority/minority relations and the different strategies that individuals or groups can use to attain upward mobility. This tendency proposes that immigrants as a

minority group are usually worse off socio- economically than the host majority

(Mana & Orr, 2009:453).

Figure 2.2: Social Identity Theory (SIT)

Social	Social	Social
Categorisation ➡	Identification ➡	Comparison
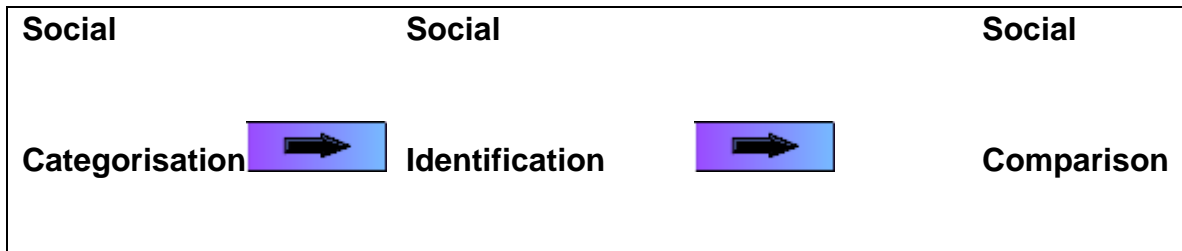
Social Identity Theory (SIT) posits that overarching societal structures such as groups, organizations, cultures and most important, the individuals' identification with these collective units guides internal structures and processes. Social categorization is based on the ingroup and outgroups' current social context. For example it may be more advantageous for someone to group according to race whereas in another setting categorization according to educational experience may be beneficial. The social identity approach reinforces the idea that individuals' social cognitions are socially construed depending on their group or collective frames of reference. For example, immigrants who see themselves as negatively stigmatised because of their darker skin colour or accented English speech may be less willing to acculturate, believing that such negative views will persist regardless of whether they are culturally competent in the dominant culture (Padilla & Parez, 2003:43). According to these models acculturation outcomes are best predicted by the relative fit between hosts' and immigrants' acculturation preferences.

2.6   INTEGRATION AND ADAPTATION

Park and Burgess (1921:735) suggest that the cycle of racial relations or interethnic relations consists of four stages: contacts, competition, accommodation and assimilation. Industrialization forced migrants to compete or co-operate for work and so began the process of assimilation. Marginality temporarily forced some migrants between the old and new cultural systems. The passage of time caused ethnic differences and rivalries to disappear allowing for assimilation. Park and Burgess (1921:735) understood this as "an interpenetration process and fusion" in which individuals and groups acquire memories, feelings and attitudes of other individuals and groups and with sharing their experiences and history they incorporate a common "cultural life". The result was the "melting pot" which showed forms of interpersonal association between different ethnic groups as more powerful and lasting than interpersonal competition (Park & Burgess, 1921:893).

Parek (2000:13) maintains that multiculturalism is about the proper terms of relationship between communities with different cultures. The author elaborates that a multicultural society consists of several cultures or cultural communities with their own distinct systems of meaning and significance and views on society and the world.

There is no doubt that as a result of globalization, regions and nations have become more interdependent and integrated. Migrants can be seen as the product of globalization. They tend to treat the globe as a common space. The demand for labour has created new opportunities for social mobility especially for those that have scientific expertise and technical knowledge. Capitalist expansion and economic globalization has encouraged this freedom of movement of people. Related to this is the growth of digital technology and communication which has assisted and revolutionized this process contributing towards the processes of multiculturalism.

2.7   CHALLENGES FACING IMMIGRANT POPULATIONS

Changing one's place of residence inevitably necessitates adapting to new economic, social, natural and sometimes even ethno-cultural conditions. The most urgent problem of population shifts is the acclimation of newcomers. When people migrate voluntarily it is for the purpose of improving the conditions of their lives, finding work, earning more money, or acquiring better housing. In order to achieve this, a person is willing to tolerate certain temporary inconveniences.

New immigrants may not have a fully developed social network upon their arrival into their host or adopted country, or may have one that is not adequate in size, density and strength to help facilitate their transition. As immigrants become

established over a period of time, their social networks' characteristics may evolve and change, reflecting their interactions with the environment. Moreover, differences between the first, second and third generations of immigrants may widen as the first generation may be at increased risk of lower occupational status, higher underemployment, higher poverty and so on. According to Papillon (2002:3-4) first generation immigrants may also be more inclined to maintain transnational relationships in the form of friendships and kin networks with people from their country of origin.

A newcomer in the first stage will be likely to have pressing needs for information that will contribute to his/her survival (Papillon, 2002:4). In the intermediary stage as the immigrant becomes accustomed to the adopted country, different needs may arise. These may include the need for belonging more fully and becoming an active citizen for example participating in political and community groups, civic duties and cultural celebrations. The implications are that immigrants' information needs tend to become more diverse as they become more established in their new country. Learning to overcome many systematic barriers to equal participation can be viewed as a common process for all immigrants at this stage.

2.8   CHALLENGES FACING PUBLIC LIBRARIES TODAY

The traditional function of the public library system is to provide resources and

services in a variety of media to serve the educational, informational, recreational

and cultural needs of its community irrespective of age. The public library serves

its community through the provision of access to a range of information sources.

It also plays an essential role in informal education by not only providing access

to information sources but also through programmes such as literacy and

information literacy classes. In the digital age public libraries are democratizing

institutions that allow free access to information that may otherwise be available

only to the privileged.

The UNESCO Public Library Manifesto (1994) states:

> The public library, the local gateway to knowledge, provides a basic
> condition for life- long learning, independent decision-making and cultural
> development of the individual and social groups. The public library is the
> local centre of information, making all kinds of knowledge and information
> readily available to its users… All age groups must find materials relevant
> to their needs. Collections and services have to include all types of
> appropriate media and modern technologies as well as traditional
> materials. High quality and relevance to local needs and conditions are
> fundamental.

The above quotation emphasises that the aim of the public library is to meet the

needs of all its constituents including immigrants.

In regards to immigrants IFLA (2004-2005:4) asserts that immigrant minorities,

persons seeking asylum, migrant workers and national minorities are traditionally

underserved in a multicultural society. It further states that libraries irrespective of

type are centres for culture, information, learning and meeting and thus libraries

should offer services that include everyone regardless of social status, skin

colour or religious belief.

IFLA Multicultural Library Manifesto (2008:1) further reinforces the importance of

public libraries and their role in promoting cultural diversity.

> All people live in an increasingly heterogeneous society. There are
> more than 6 000 different languages in the world. The international
> migration rate is growing every year resulting in an increasing number
> of people from complex identities. Globalisation, increased migration,
> faster communication, ease of transportation and other 21st century
> forces have increased cultural diversity in many nations where it might
> not have previously existed or has augmented the existing
> multicultural makeup.

Keeping the above quote in mind, Chu (2004:4) mentions reasons why it is

important for a public library to offer multicultural library services. He asserts that

it is the mission of public libraries to serve their community. Such communities in

recent times are becoming more multicultural due to the forces of globalization.

Providing a multicultural library service will not only ensure equity of service and

access to information but also lead to the democratic participation of

communities in civil society and the acknowledgement of other cultures and their

practices.

2.8.1 Challenges facing New Zealand public libraries

In 2006 a report was published setting out the future role and development of the public library in New Zealand. In this report LIANZA (2006:22) states that:

> New Zealand public libraries need to evolve and change in response to the changing environment. Flexibility, nimbleness of response, accountability and delivering value, sit alongside the traditional values of freedom of information, equity of access and empowerment through knowledge. Public libraries play a vital role in achieving community outcomes and investment in public libraries is a key service of local government in ensuring they contribute to the economic, social and cultural wellbeing of an increasing diverse population both locally and nationally.

Challenges with regard to digital content and access and the implications of changing communities were highlighted in the report. The report further details that fifty percent of the population is disadvantaged by having poor or non-existent access to computers and internet. There is therefore a need for public libraries to provide access to ICT facilities in conjunction with the development of training in necessary skills and content evaluation (LIANZA, 2006:26).

The report (LIANZA, 2006:14-15) mentions not only the strong resurgence of Maori culture but the growing significance of other ethnic groups. The need for local authorities to contribute towards assisting public libraries towards achieving social cohesion and promoting cultural identity amongst its local people were identified. In addition the report states that "demographic changes will continue to impact on public libraries and test the planning capacity and the flexibility of the sector". The report highlights social changes such as migration and the changing

ethnic mix and internal population flows leading to growing and declining communities.

Other areas of concern for public libraries mentioned in the report (LIANZA, 2006:14-15) include the following which are relevant to new migrant communities and their ability to access settlement information.

Social inclusion – The encouragement of social inclusion is part of what a modern public library does. Initiatives happening in the public library which need to continue well into the future include programmes for new migrants including books and resources in languages other than English tailored to the needs of a culturally diverse population, provision of job search and career advice, provision of word processing, email and internet access to widen horizons and support personal growth .

LIANZA 2006:37 notes that:

> Libraries are often one of the first public places to have contact with immigrants, many of whom have not had access to good public libraries as part of their previous background. Libraries need to evaluate their services against the ethnic mix of their communities and work with community representatives to ensure that there are services and information available for new residents, and that they are encouraged to make use of the facilities. Libraries can play a dual role both in helping new migrants become part of the local community and at the same time ensuring that they still have access to materials in their first language. Ultimately as these New Zealanders become part of the multi-racial society, libraries can ensure that their stories and experiences form part of the social and cultural history.

2.8.2 New Zealand public library service guidelines

The New Zealand public library services guidelines are linked to those of the

Australian Library and Information Association (ALIA, 2010) public library

services guidelines. This link has been created to acknowledge each others

professional contribution to the field of LIS. The attendance at each others

conferences, the publication of professional literature thereafter and the

acknowledgement of standards and guidelines on each others web pages is a

reflection of this alliance (ALIA, 2010). The public library services guidelines

states that "public libraries should promote the free flow of information and ideas

in the interests of its citizens and a thriving culture and democracy" (ALIA, 2010).

Freedom of access to public library and information services is essential to

enable its citizens, including new residents and emerging communities, to

participate in all aspects of life including democratic processes. In so doing public

libraries actively contribute to the social inclusion of all and contribute to the

economic wellbeing of their families and the nation. ALIA (2010) further states

that:

> Public library services have particular responsibilities to monitor and
> proactively respond to the changing demographic characteristics and
> trends of their communities, to consult with their communities and to meet
> information, learning and recreational needs of an increasingly diverse
> society.

The New Zealand public library service guidelines are an important attempt at

creating standards that will ensure that public libraries throughout New Zealand

will have a shared frame of reference or guideline to promote the delivery of

services to all. It will also assist those that are new to the profession in recognising the need for the delivery of services to all communities. Future planning can be initiated through the consultation of such standards and guidelines.

2.8.3 Multiculturalism and digital libraries

Two of the main challenges faced by public libraries are multiculturalism as a result of increased immigration and ICT developments. As discussed in 2.2.1 global migration trends have produced transnational groups related by culture, ethnicity, language and religion. Digitisation and ICT are prerequisites for globalization increasing the exchange of goods and ideas between countries in all parts of the world. Globalisation is probably the strongest, international force of change in our society today. Srinivasen and Pyati (2007:1737) note that online environments provide a space for immigrant communities to articulate diverse and hybridized imaginations of home. The authors state further that this helps transcend the concept of globalisation and the apparent local/global contradiction in immigrant online behaviour. While local environments remain important immigrant information behaviour is not merely confined to local contexts. Global information environments are more and more ubiquitous.

Digital libraries are institutions that have grown due to the rapid advancements in ICT. Thorhauge (2010:3) maintains that the need for strategies and development

of different models for the exploitation of knowledge resources vary from country to country and no one model can be termed the right one. The traditional public library is developing into a learning and inclusive community centre with digital service as part of the programme. He (2010:4) asserts further that the organization of digital libraries will depend on how the traditional library structure is, how the country's educational system is organized, how the information infrastructure is organized as well as technological and socio-cultural aspects. For example, in some countries free and equal access to information as a public service is a longstanding tradition, whereas in other countries this is not the case.

The immense growth in information increases the professional need for structured access. In the knowledge society the libraries' challenge is to create structured access to the mass of information which increases exponentially and is much bigger than the library's own collection.

In addressing its challenges New Zealand public libraries need to look at new options offered by ICT such as multicultural websites. Globalisation has impacted in making society more multicultural and less homogenous especially in countries such as Australia, Canada, USA and New Zealand. ICT has provided challenges as well as opportunities for public libraries. Australia and Canada are using freely available internet technologies to create and maintain multicultural library websites. Nantel's (2008) research shows that perceived usability increases when the website was originally conceived in the native language of the user.

The researcher will examine the possibilities offered by such websites in the following sections.

2.9   MULTICULTURAL LIBRARY WEB PORTALS

Many public libraries provide materials in other languages besides the official language of the country. However budget limitations and difficulties involved in acquiring materials in other languages prevent most libraries from developing significant collections. Since most libraries in developed countries now have internet access and provide web-based resources for their patrons, they are able to provide access to significant online collections that are of interest to people who speak other languages. Furthermore the current level of multicultural e-content on the web has exponentially increased the potential for libraries to provide multicultural library services and access to information and e-content in other languages. One of the main roles for libraries in providing this type of service is to evaluate and provide links to an appropriate selection of e-content. Australia and Canada are already providing such services to multicultural communities. Lo Bianco, Cunningham and McCombe (2010:6) suggest that through the internet multicultural websites and web portals for culturally and linguistically diverse migrant communities can be created. This can empower immigrant communities to: 1) take control of their own language needs for learning, information, cultural maintenance and communication 2) create

language and tools not previously available through traditional print channels due to high cost and limited distribution 3) support languages in both oral and written forms through the use of multimedia and Web 2.0 to communicate across diasporas to share information and heritage in ways not previously possible.

2.9.1 Open source technologies and libraries

The ever changing landscape of the information environment presents a diverse range of new digital technologies and information challenges. A recent addition is the introduction of Open Source Software (OSS) via the internet. It is important for information professionals to be informed of new and free software opportunities in order to leverage the relevant contextual benefit for the library communities served. Web based solutions in OSS include integrated library management systems (ILMS), library portals and portlets, digital libraries, institutional repositories, open archives harvesting, e-learning, content management, knowledge management, open URLs, social software for blogs, wikis, RSS, federated searching and so on.

Some freely available basic (OSS) software that libraries may use include: 1) Ubuntu, a solution for libraries who need to upgrade from outdated windows 2) Firefox, an alternative for Internet Explorer that offers safer browsing and many plug-ins are available 3) Open Office which is similar to windows office but allows

for editing capabilities 4) Thunderbird or Gmail for emails with free add-ons and

4) Songbird which is used to play audio and video files (Breeding, 2009:22-25).

The benefit of OSS for libraries is that they can be adapted to meet the specific

requirements of small language communities in a cost effective way using freely

available internet software and cloud technology.

2.9.2 The Australian and Canadian approach

Cunningham (2008) states that multicultural library services are often considered

a special or discrete service and bound by demographic, logistical and financial

limitations. However he maintains that the internet today provides libraries with

the opportunity to develop services responsive to their culturally and linguistically

diverse communities and extend these services to multicultural communities.

Cunningham (2008) notes that the internet creates the possibility of developing

services that are responsive to the changing demographics of communities or

communities isolated by distance. However future directions for electronic

multicultural services need to be based on community engagement.

The Australian Capital Territory (ACT) public libraries in Australia have

implemented the following services to address the information needs of new and

emerging communities and most of the services use electronic resources. These

include: electronic library information, electronic access to information and

people from the country of origin, English learning software, refugee dictionary project, multicultural family storytime project and electronic publishing (Lo Bianco, 2004:29-30).

The State Library of Queensland's "Queensland memory: today for tomorrow" project in Australia (Cooper, 2007:29) mentions the following strategic priorities with regard to sustaining language diversity through public libraries: 1) leading the capture and preservation of Queensland's cultural and documentary heritage 2) leading the development of services and programs to improve access to Queensland memory 3) partnering with Queensland's Aboriginal and Torres Strait Island communities to record indigenous knowledge, culture and histories 4) leading the development of a Queensland Digital Content Strategy.

2.9.3 The Toolkit of Library and Archives Canada

The National Library of Canada (2003) toolkit provides links to an appropriate selection of e-content. It contains a significant number of annotated links to: 1) guidelines for developing multicultural library services and collections 2) manuals on the use of the technology required to develop multicultural library services and collections 3) a selection of multicultural e-content on the web 4) description and links to a selection of libraries that have developed multicultural web content and 5) lists of jobbers and vendors of other language materials.

The toolkit of Library and Archives Canada (National Library of Canada, 2003)

mentions several approaches to developing multicultural websites and includes

the following:

- Providing a series of links on the library websites to external sites in
  other languages. Instructions and directories on the library website
  are usually provided in either English or the bilingual language of
  the country. Using this approach, a library does not have to develop
  any specific, additional language or technical expertise. The
  difficulty of handling other languages and scripts is essentially
  downloaded to the external website.

- Providing information and brochures in other languages on the
  library website through the use of PDF files with embedded fonts or
  using multilingual keyboard support for common word processing
  systems. Again the actual content remains with the information
  providers on remote websites.

- Providing library websites that use Unicode web pages designed to
  meet the needs of the multicultural communities in their own
  languages. These enhanced multicultural websites have to be able
  to handle different character sets and to provide quick translation
  systems. These sites provide multicultural information that is
  located on the library server.

The Library and Archives Toolkit (Library and Archives Canada, 2003), mentions that that one of the basic requirements for any multicultural library service is to ensure that all multicultural materials are catalogued and are accessible through the online catalogue

2.9.4 The Australian guidelines to multicultural library services

ALIA (2010) guidelines to multicultural library services presents a summary of the current state of multicultural library services and a framework within which multicultural library services can be developed. They emphasize the basic but important concept that "having a multicultural collection does not in itself constitute a multicultural service". There needs to be collaboration, consultation and input from the diverse community groups that make up the community at large.

The most important new development in guidelines is the matrix or structured checklist that has been developed as an aid for libraries in planning and delivering on-line multicultural library services.

Cunningham and Stillman (2002) provide a more detailed taxonomy of multicultural websites, which is based on access mechanisms and degree of multilingualism. They point out that there are three types of access mechanism for websites that provide multilingual resources.

- **Resource level access.** The website is organised according to the resources available. Most of the navigation is in a monolingual environment, usually English. All translations into different community languages for that resource would be accessible from the same web page. Resource level access facilitates website administration. All language versions of a document are located in the same directory. It also assists in updating and editing translations. This model is good for mediated access to information, that is, when the information is being accessed on behalf of someone else.

- **Language level access.** The website is organised by language. This structure looks logical to the person browsing the site, but increases the amount of administration required. In a poorly designed site, it may lead to duplication of files and images throughout the site. It would be difficult to manage as a large site. Language level access is a preferable access mechanism for people with low English literacy skills.

- **Hybrid access model.** The site structure is based on the resource level access model, allowing for streamlined site management coupled with language site indexes or search mechanism so that the person using the site can search in their own language for resources in their language.

Lo Bianco, Cunningham and McCombe (2010:9) stress that basic computer skills

and the internet will not sufficiently meet new migrants' information needs.

Mother tongue keyboards and fonts are also essential to enable such

communities to use and develop resources. The authors further assert that

training in multimedia including the use of techniques such as digital storytelling

could be helpful to relay important information to those with literacy problems in

their own language and English as well as a means to support cultural

maintenance. The orthography of a language specifies a standardised way of

using a specific writing system or script to write a language. Decisions may also

need to be made about how or whether to support dialectical variations.

2.10   REFRAMING THE MIGRANT INFORMATION ENVIRONMENT

Issues of digital access go deeper than physical requirements. The notion of

digital inclusion recognises that migrant communities need to be empowered to

create their own content in a structure that suits their own information needs.

Srinivasan and Pyati (2007) have conducted a number of projects in which

immigrant communities have been empowered to create their community

information sites, for example, ICT community information programs with the

Walpiri in Australia, the Somali community in Boston and the South Asian

diaspora in Los Angeles. In each case the communities have come together and

workshopped the range of information required. The projects have incorporated

documenting and using the community's own methods of organising their knowledge to construct an information architecture and user interface.

2.11 CONCLUSION

The forces of globalization, capitalism and increased mobility have led to increased migration and minority communities in many regions of the world. This poses a challenge to public libraries which now increasingly need to cater for a range of languages and cultures. Libraries need to implement multicultural strategies to address this need. There are many international standards and guidelines to address this such as those developed by UNESCO and IFLA. However more still needs to be done to cater for the needs of multicultural communities. This chapter focused on concepts and theories relating to immigration and the challenges facing new multicultural communities in terms of their adaptation, identity and personal change. The role and challenges facing New Zealand public libraries were discussed in relation to the digital environment and the need to meet the information needs of diverse community groups. The example of the Australian and Canadian approach to meeting the information needs of multicultural population using internet technologies was examined. The development of toolkits for multicultural internet sites that can be accessed via the library's website is one possible way that public libraries can address the issue of service provision to multicultural communities.

The following Chapter discusses theories relating to IB and the different approaches to understanding human information behaviour.

CHAPTER 3

INFORMATION BEHAVIOUR

3.1   INTRODUCTION

In order to understand and identify the factors that influence the information

practices and needs of immigrants and the best way to meet these needs via the

internet there is a need to look at general theories of Information Behaviour

(IB).The research indicates that there are different approaches to understanding

human information behaviour, for example, the cognitive, social, social-cognitive

and organizational approach. The cognitive models are important in the design of

information systems whereas social models are useful in understanding the user

in his/her search for information using information systems.

Wilson's (1999) general model on IB for example, views IB as an individualistic

and problem solving process. The model incorporates features of other IB

models such as elements of Belkin (1980); Dervin (1999); Kuhlthau (2005);

(cognitive approaches) Chatman (1985, 1996 & 1999); Pettigrew (1998 & 1999);

Tuominen and Savolainen (1997) (social approaches) but places emphasis on

the contextual and situational aspects of the user. This approach allows for

flexibility in examining IB effectively. From a library perspective it is imperative to examine IB from a multidimensional perspective in order to design systems that will meet the information needs of users effectively and efficiently.

3.2   DEFINITION OF RELEVANT CONCEPTS AND TERMINOLOGY

Definitions of relevant concepts are given to better explain and contextualize them within the scope of the study. It is necessary to differentiate for example between *information, information behaviour (IB)*, *information seeking behaviour* and *information need*. Definitions are also provided for *context, situation* and *model* which are integral to understanding IB*.*

3.2.1 Information

The word *information* has been given different meanings by various writers in the general field of information theory. Reitz (2004:355) defines *information* as "data presented in readily comprehensible form to which meaning has been attributed within the context for its use". Krikelas (1983 as cited in Henefer & Fulton, 2005:225 – 226) dismisses this tendency to equate *information* with use of records or literature as too narrow and conceptualises *information* as any stimulus that affects one's certainty. He further associates the concept with

sources such as personal memory, interpersonal communication, individual impressions and observations. Case (2002: 5) noted that *information* could be any aspect that you notice in reality. It can be any difference you perceive in your environment or within yourself.

The importance of understanding the concept *information* in the study lies in its ability to affect a behaviour, decision or outcome.

3.2.2 Information behaviour (IB)

IB is an area or field of study in library and information science. It describes "how people need, seek, manage, give and use information in different contexts" (Savolainen, 2007:112). It may also be described as information-seeking behaviour or human information behaviour (Savolainen, 2007:112). The concept *IB* encompasses the exploration of all the human behaviours in relation to sources and channels of information (Wilson, 2000:53). It includes active information-seeking behaviour as well as other unintentional behaviours including passive or purposive avoiding of information seeking (Case, 2002:5).

It can be inferred that *IB*, is the inner emotions, feelings, actions, and reactions displayed when a person is exposed to information. Individual responses will differ based on cognitive state of the mind, experience and levels of knowledge

and skills at the time of the encounter. An individual's *IB* is therefore dependent

upon the type of person, the problem being resolved, the situation and context.

3.2.3 Information seeking behaviour

Information needs arise in a person when there is a recognition that a person's

knowledge is inadequate to satisfy the goal that s/he has. In this context,

information seeking occurs as the conscious effort to acquire information in

response to a need or gap in knowledge (Case, 2002:5). Information seeking is

the purposeful seeking for information as a consequence of a need to satisfy

some goal (Wilson, 2000:49). It is a process in which humans purposefully

engage in order to change their state of knowledge and is closely related to

learning and problem solving (Marchionini, 1995:17). Hence, *information-seeking*

is defined "as any activity of an individual that is undertaken to identify a

message that satisfies a perceived need" (Krikelas, 1983:8).

Factors that affect or influence information seeking behaviour will be dependent

for example on the cognitive or affective state of the person engaged in the

information seeking episode.

3.2.4 Information need

An *information need* is "recognition that one's knowledge is inadequate to satisfy a goal" (Case, 2007:5). This gap in a person's knowledge is experienced at the conscious level as a question which in turn gives rise to a search for an answer.

3.2.5 Information grounds

An *information ground* can be described as an "environment temporarily created when people come together for a singular purpose but from whose behaviour emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information" (Pettigrew, 1999:811). *Information grounds* are temporal and can occur anywhere and at anytime and often unexpected places. *Information grounds* occur in various settings, for example, hair salons, barber shops, quilting bees, playgrounds, tattoo parlours, metro buses, restaurants and coffee shops, midwifery scenes, food banks, bike shops, medical offices, grocery store lineups, communal laundry rooms, sports fields, and literacy classes for immigrants, story time hours at public libraries and so on. As members of the group disperse, so do the *information grounds*. Information needs are not presented in ways documented in formal settings such as community information centers and public libraries.

Proxy information seeking, that is, when someone seeks information on behalf of someone else also known as the imposed query also occurs at *information grounds.* There is little research from an IB perspective on the nature of *information grounds. Information grounds* have local and global impact because they occur across all levels of society (Fisher, 2005:185-9).

3.2.6 Context

Reitz (2004:174) defines *context* as the "entire *situation*, background or environment relevant to an event, action, statement, work etc".

Dervin (1997:14) note that *contexts* are multidimensional in that they can be described by a variety of attributes. The identification of these attributes and their importance to IB is an area of research in information science. Examples of attributes that have been used to describe *contexts* include place, time, goals, tasks, systems, situations, processes, organisations and types of participants

Conceptualizing *context* is a challenge because identifying what constitutes *context* is difficult. Dervin (1997:14) note that "*context* has the potential of being virtually anything that is not defined as the phenomenon of interest and *context* is conceptualized as a kind of container in which a phenomenon resides". The *context* within which a person seeks information, for example, consists of

cognitive, social and other factors related to a person's task, goal and intentions which precipitate the information seeking need or needs.

Courtright (2007:290) mentions that *context* is a dynamic construct and that information users are not only shaped by *context* but also shape it in turn.

3.2.7 Situation

Within each context, a flow of *situations* arise. *A* context is somehow larger than a *situation* and may consist of a variety of *situations*. Different contexts may have different possible types of *situations*. A *situation* may be characterized as a set of related activities, or a set of related stories, that occur over time. Individuals might describe the same *situation* somewhat differently. That is, individuals might see different connections among actions based on their previous experiences and knowledge of similar *situations* or because they have privileged access to information about actions (Sonnenwald, 1999:3-4).

For example, the need for information occurs in *situations* when a person does not have sufficient prior knowledge to accomplish a purposeful action. This *situation* is conceptualized as an anomalous state of knowledge (ASK) (Belkin, 2005:44-47); problematic *situation* (Belkin, 2005:44-47); sense making (Dervin 2005a:25-29) or uncertainty reduction (Kuhlthau, 2005:230-234).

3.2.8 Model

According to Wilson (1999) a *model* may be described as a "framework for thinking about a problem and may evolve into a statement of the relationships among theoretical propositions". Most models in IB are in the form of diagrams that attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour*.

Bates (2005:3) defines *models* as follows:

> Models are a great value in the development of theory. They are a tentative proposed set of relationships which can be tested for validity. Developing a model can often help in working through one's thinking about a subject of interest. There is not a sharp dividing line between a model and a theory about the same phenomenon. Models sometimes stand as theoretical beacons for years guiding and directing research in a field before producing something closer to a true theory. Models are most useful at the description and prediction stages of understanding a phenomenon. Consequently, most of "theory" in LIS is really still at the modelling stage.

Models are therefore used to explain, describe, predict or test a phenomenon.

3.3 HISTORICAL OVERVIEW OF THE THEORY OF INFORMATION BEHAVIOUR (IB)

By the late 1940s, the East/West technology race and the large amounts of newly declassified scientific information promoted a great deal of interest in how scientists could take advantage of available information resources and systems and conferences were called to address these issues. One of these, the 1948 Royal Society Scientific Information Conference in London, has been identified by Wilson (1999: 50) as the beginning of the modern study of IB.

Ten years later papers presented at the 1958 International Conference on Scientific Information in Washington, DC indicated that researchers in IB continued to be primarily concerned with the information needs of scientists. The goal of early IB researchers was the creation of project-specific (atomic energy, space exploration and so on) and discipline-specific (engineering, chemistry, physics and so on) scientific information systems (Herner, 1958).

By the1960s the Information Science community supported a number of key conferences and publications in the field of IB.

Research on information needs, seeking and use has been recognised within the field of Information Science since the 1960s and there have been many changes in this field which have paralleled the developments in information technology.

Presently there is a tendency to regard information seeking as a form of human interaction with information or information systems in a particular contextual situation (Wilson, 2000:1).

The concept *information behaviour* was coined in the late 1990s, but it traces its roots to the concept of *information needs and uses* that arose in the 1960s (Case, 2006:294). There has been a gradual shift in the focus of IB research from a system orientation to a user orientation (Case, 2007:6). Systems oriented studies focused on formal information systems, their artefacts (for example books, articles) and venues (for example, libraries, schools, radio, and television) (Case, 2007:6). In the 1970s, studies began to shift toward an emphasis on the individual as information seeker and user. The following section will discuss the cognitive approaches to IB. There is a shift away from attempting to explain cognition as a process located solely within the individual towards an understanding of the interpersonal context of cognitive growth. The contemporary view tends to be that cognition is typically situated in a social and physical context and is rarely decontextualised (Butterworth, 1992:1).

3.4 COGNITIVE APPROACHES TO IB

The cognitive approach deals with mental processes like memory and problem solving. It emphasizes the role of learning in behaviour. Cognitive style is the way

a person habitually organises a problem-solving or learning experience or consistently receives and responds to information, especially whether the individual prefers the content to be already structured (lecture-style) or is more likely to impose his/her own structure on the material (hands-on approach).

The cognitive viewpoint is user-centred and acknowledges the user's personal perception of the information need, the consequently subjective relevance assessments of information in response to that need and the context that surrounds the user. This creates a given situation and shapes the information need. This viewpoint is about the user's desire for information and is therefore a platform for authentic information studies of users' retrieval, search and seeking interaction in the process of achieving this goal of desired information (Borlund, 2010:23).

Bates (1979); Belkin (1990); Belkin, Oddy and Brooks (1982); Dervin (1983); Dervin and Foreman-Wernet (2003); Ellis (1989); Ingwersen (1992 & 1996); Kuhlthau (1993) assert that information seeking forms an important and integrated part of problem solving in cognitive approaches to IB. It affects the quality of a given task and its solution. Implicit in most of the studies is the assumption that the information seeker is an individual. The cognitive approach therefore seeks to illuminate the mental activity entailed as people seek and use information to resolve a particular problem. The following models discuss the cognitive approach to IB.

3.4.1   Dervin's Sense-Making Model

Dervin's Sense-Making Model was developed over a number of years. She first introduced the framework for this model in 1972 and it remains relevant today (Dervin, 2005a:26). Dervin (1983 & 1999) hypothesizes that people make sense of their situation based on what they know and can learn easily. This model is integral to understanding how human beings derive meaning from information and has been used to study information seeking in various disciplines and settings such as communication, LIS, information systems, media systems, web sites, classrooms and counseling services.

The four constituents that represent Sense-Making are: situation; gap; outcome and bridge. The model pays attention to a problematic situation and the extent to which information serves to bridge the gap of uncertainty. Understanding these elements and their impact on IB are important in designing effective information systems.

Dervin's Sense-Making Model proposes that the IB associated with sense making seldom follows the ideal order of selecting sources, gathering information, assimilating or rejecting gathered information, processing gathered information and fitting information into some task or decision situation. IB may be further characterised by nonlinear cycling, recycling, false starts, anxiety,

assessment, reassessment, and sometimes failure or stoppage, for example, situational, physical or cognitive constraint.

The Sense-Making Model below posits that theory-making is important to the human condition (Dervin, 1999:733), and because information users live in a world of continuous discontinuity they must continuously make new theories. The three elements in the process are the situation, the gap and the users' outcome. Information needs can be understood as "gaps" arising from situations that present the user with barriers, preventing him or her from moving toward the desired goal. Therefore, according to the Sense-Making approach, if we wish to study IB we must understand what the information-seeker calls information, that is what makes sense to that person at a particular point in time and space.

Figure 3.1: *Sense-Making metaphor (Dervin, 1999)*
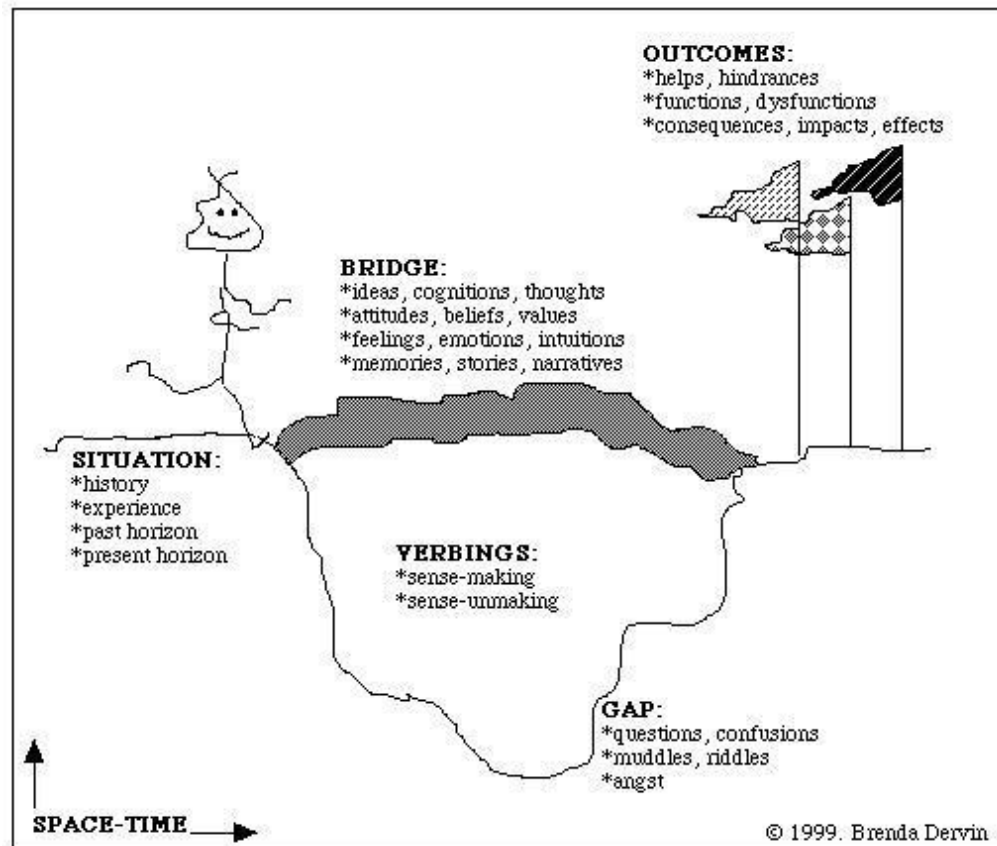
Dervin is prominent among proponents of models that focus on the cognitive dimensions of IB (Dervin, 1992:68-70). Her Sense-Making metaphor in Figure 3.1 describes humans as moving along through time and space until they reach a cognitive gap, where an information need is perceived. Such gaps must be bridged through the acquisition of new information before they can move forward again. The goal of a person's information seeking endeavours is to make sense of a current situation (Dervin, 1992:68-70).

Dervin and Nilan (1986:15) noted a "call for focusing on cognitive behaviour and developing cognitive approaches" in assessing information needs and uses. There is a growing need in LIS research to understand the contexts and processes of information needs, seeking and use and a move towards a more holistic understanding of IB.

3.4.2   Belkin's Anomalous States of Knowledge (ASK) concept

Belkin (1980), like Dervin (1992), were concerned with understanding the information seeking behaviour of the user and the user's cognitive interaction with an Information Retrieval (IR) system. In so doing the goal is to design an effective IR system to support the user in his/her entire range of information seeking behaviours.

Belkin (1980) contends that an information need arises when a human individual encounters an Anomalous State of Knowledge (ASK), that is where "the user realizes that there is an anomaly in their state of knowledge with respect to the problem faced" (Belkin, 1980:135). The person may address the anomaly by seeking information. After obtaining information, the person will evaluate again whether the anomaly still exists. If it does and the person still wishes to resolve it, more information may be sought (Belkin, 1980:140).

Based on the cognitive viewpoint Belkin, Oddy and Brooks (1982) conducted empirical investigations in a university library setting with access to the local

online information service. Their focus was on the pre-information searching

behaviour. The searchers problem statements (their ASKs) were analysed for

two basic types of ASKs: a well defined one and a more or less ill-defined one.

This has led to the focus on the intermediary in systems design which can

facilitate successful IR (Ingwersen & Jaevelin, 2005:205).

Belkin (1980) proposed an IR theory based on the problem of non-specifiability of

information needs. Traditional IR systems typically assumed that the users

always know exactly what they want. The systems are designed on the basis that

users will be able to specify their needs and obtain the results that precisely

match their requests from the systems. However Belkin (1980) concluded that

people sometimes have a need for information that cannot be explicitly specified.

Belkin's ASK (1980) and Dervin's Sense-Making theory are used to describe the

origins of queries developed by the user in an attempt to develop effective IR

systems.

Figure 3.2: Anomalous States of Knowledge (ASK) (Belkin, 1980)

GENERATOR'S IMAGE OF THE WORLD

USER'S IMAGE OF THE WORLD

TEXT

REQUEST

linguistic, pragmatic transformations

CONCEPTUAL STATE OF KNOWLEDGE → INFORMATION ⟷ ANOMALOUS STATE OF KNOWLEDGE — — → CONCEPTUAL STATE OF KNOWLEDGE

belief, intent, knowledge of user transformations

realization of need
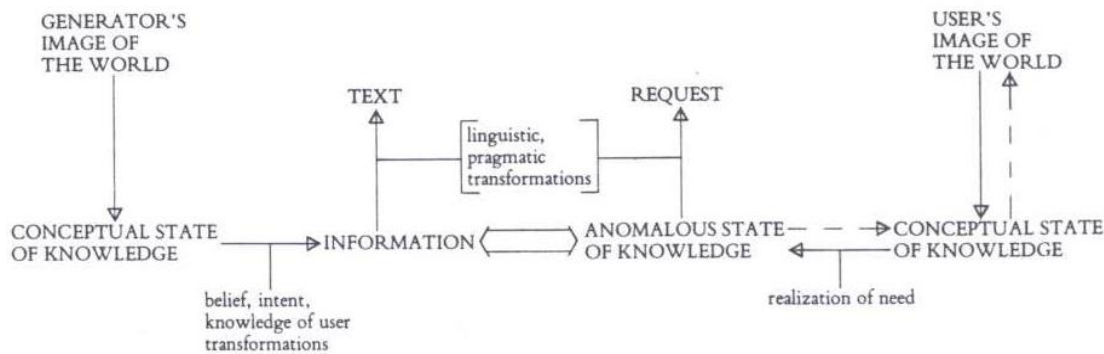
In the model in Figure 3.2 Belkin (1980) points out that users realize that they have certain information needs which cannot be resolved by their current state of knowledge. In other words the users have an "anomaly" with respect to the problem. So the users have to seek help by specifying their request to an IR system. The users' anomaly and their perception of the problem will dramatically change with each instance of communication between the users and IR mechanism. The important factor that determines the effectiveness of the information retrieval task is how well they specify their request. Since they do not always have a solid knowledge of the problem domains, they might have some difficulties in explicitly specifying their need or may specify it using different terminology to the one used by the system.

Thus in his ASK model, Belkin (1980) explains the problem of non-specifiability of information needs by pointing out three separate factors which cause the mismatch between request and need. First, the texts in the systems may not be

appropriately represented. Second, the need cannot be properly expressed in system terms. And lastly, the need itself is unspecifiable at a cognitive level.

3.4.3   Kuhlthau's Information Search Process (ISP) Model

Kuhlthau (1991 & 1993) developed a model of the information seeking process that takes into account the information seeker's emotional, cognitive and physical experiences at different stages of the process. Kuhlthau (1991) wanted to address a recognized gap between information systems and the user's natural process of information seeking to improve information systems design and guide the encountering process made by intermediaries. The Model depicted in Figure 3.3 has been tested in two longitudinal studies and has further been verified in two-large scale studies (Kuhlthau, 1991 & 1993). According to these studies, the ISP can be divided into six stages, (illustrated in Figure 3.3) which differentiate information searched for, ways of searching and relevance assessments, while moving the seeker from the initial state of a recognized information need to the goal state of resolution. This movement is caused by a series of choices made through a complex interplay between three realms of activity: physical (the actions taken), cognitive (thoughts about the process and content) and affective (feelings experienced).

Figure 3.3:   Information Search Process (ISP) (Kuhlthau, 2004:82)

Stage 1 -- Task Initiation

Task	Thoughts	Feelings	Actions	Strategies
To prepare for the decision of selecting a topic	**C**ontemplating assignment **C**omprehending Task **R**elating prior experience and learning **C**onsidering possible topics	**A**pprehension at work ahead **U**ncertainty	**T**alking with others **B**rowsing the Library	**B**rainstorming **D**iscussing **C**ontemplating possible topics **T**olerating uncertainty

Stage 2 -- Topic Selection

Task	Thoughts	Feelings	Actions	Strategies
To decide on topic for research	**W**eighing topics against criteria of personal interest, project requirements, information available, and time allotted **P**redicting outcome of possible choices **C**hoosing topic with potential for success	**C**onfusion **S**ometimes Anxiety **B**rief elation after selection **A**nticipation of prospective task	**C**onsulting with informal mediators **M**aking preliminary search of library **U**sing reference collection	**D**iscussing possible topics **P**redicting outcome of choices **U**sing general sources for overview of possible topics

Stage 3 -- Prefocus Exploration

Task	Thoughts	Feelings	Actions	Strategies
To investigate information with the intent of finding a focus	**B**ecoming informed about general topic **S**eeking focus in information on general topic **I**dentifying several possible focuses **I**nability to express precise information needed	**C**onfusion **D**oubt **S**ometimes threat **U**ncertainty	**L**ocating relevant information **R**eading to become informed **T**aking notes on facts and ideas **M**aking bibliographic citations	**R**eading to learn about topic **T**olerating inconsistency and incompatibility of information encountered **I**ntentionally seeking possible focuses **L**isting descriptors

Stage 4 -- Focus Formulation

Task	Thoughts	Feelings	Actions	Strategies
To formulate a focus from the information encountered	**P**redicting outcome of possible foci **U**sing criteria of personal interest, requirements of assignment, availability of materials, and time allotted **I**dentifying ideas in information from which to formulate focus **S**ometimes characterized by a sudden moment of insight	**O**ptimism **C**onfidence in ability to complete task	**R**eading notes for themes	**M**aking a survey of notes **L**isting possible foci **C**hoosing a particular focus while discarding others, or **C**ombining several themes to form one focus

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Stage 5 -- Information Collection

Task	Thoughts	Feelings	Actions	Strategies
To gather information that defines, extends and supports the focus	**S**eeking information to support focus **D**efining and extending focus through information **G**athering pertinent information **O**rganizing information in notes	**R**ealization of extensive work to be done **C**onfidence in ability to complete task **I**ncreased interest	**U**sing library collect pertinent information **R**equesting specific sources from librarian **T**aking detailed notes with bibliographic citations	**U**sing descriptors to search out pertinent information **M**aking comprehensive search of various types of materials, i.e., reference, periodicals, nonfiction, and biography **U**sing indexes **R**equesting assistance of librarian

Stage 6 -- Search Closure

Task	Thoughts	Feelings	Actions	Strategies
To conclude search for information	**I**dentifying need for any additional information **C**onsidering time limit **D**iminishing relevance **I**ncreasing redundancy **E**xhausting resources	**S**ense of relief **S**ometimes satisfaction **S**ometimes disappointment	**R**echecking sources for information initially overlooked **C**onfirming information and bibliographic citations	**R**eturning to library to make summary search **K**eeping books until completion of writing to recheck information

According to Kuhlthau's model in Figure 3.3 the six stages and the accompanying tasks are:

1. Initiation – recognized information need

2. Selection – identify the general topic

3. Exploration – investigate information in general

4. Formulation – formulate focus

5. Collection – gather information pertaining to focus

6. Presentation – complete.

The ISP model shows the information seeker's constructive (learning) tasks and

activities of finding meaning from information to extend his/her state of

knowledge on a particular problem or topic. According to Kuhlthau (1991), the information seeking process is initiated by uncertainty resulting from a lack of understanding, a gap in meaning or a limited construction to solve a certain problem. This will change over time with the seeker getting information and constructing meaning to solve the problem. She proposed the "uncertainty" principle in IB, that is, "uncertainty due to lack of understanding, a gap in meaning, a limited construct initiates the process of information seeking" (Kuhlthau, 2005:232).The principle further asserts that uncertainty is a cognitive state which causes anxiety and stress and can be expected in the early stages of the information search process. Kuhlthau's (1991) ISP model and uncertainty principle highlight the importance of viewing human information behaviour as a process as well as understanding that cognitive and affective components influence human IB and the need for information.

During the initial stages of the information seeking process the information seeker commonly feels confused, frustrated and in doubt. In the final stages the user is commonly satisfied, confident and relieved (Kuhlthau, 1991:366). 'Formulation' represents the turning point of the ISP where feelings of uncertainty diminish and confidence increases. At this point and throughout the rest of the process, information seeking typically starts to decrease whereas writing starts to increase, signifying that the information seeker has started entering the 'presentation' stage (Kuhlthau, 1991:368). At the presentation stage the task is to complete the search and prepare to present or otherwise use the information

from the 'collection stage'. Feelings of relief are common with a sense of satisfaction if the search has gone well or disappointment if it has not.

The importance of Kuhlthau's (1991) model to the cognitive approach to IB is the various attributes of the individual that correspond to each stage of the search process but are independent of context. Feelings of uncertainty, confusion, optimism, frustration, relief and satisfaction cut across searching context which can be identified as the sixth stage.

The work of IB researchers who identify with the cognitive approach has focused on explaining variations in IB according to characteristics or attributes of the individual and of the cognitive processes in which the individual is involved. Similarly to Belkin (1980) and Dervin (1992), Kuhlthau's (1991) ISP model posits uncertainty reduction as the prime motivator for research in students. Kuhlthau (1991) breaks the information seeking process into stages. However Kuhlthau's (1991) focal point is the emotional states that accompany the stages.

3.5   SOCIAL APPROACH TO INFORMATION BEHAVIOUR

In LIS social approaches were developed to address the IB phenomena that lie outside the realm of cognitive frameworks that were discussed earlier. Traditional research in Information Science was concerned with users actively seeking information, for example, people coming to the library to seek information. Line's

(1971) studies have shown that non-library methods of information seeking, such as, a person seeking information through so-called informal channels like talking to relatives or work colleagues, were preferred to accessing information systematically through formal channels made available in the library.

The social approach focuses primarily on the study of social, organizational and political states and processes as impetus for IB, for example: Chatman (1985); Pettigrew (1999; 2000); Tuominen and Savolainen (1997) examine the effect social factors have on IB. This approach assumes that the study of IB cannot be considered in terms of isolated individuals or outside a specific context, but should focus on the social contexts and conditions, interactions and discourse through which human-information interaction occurs. This approach views the human as a person who lives and acts in a certain context, rather than as a user of information systems and services.

Investigation into the social aspect of IB allows researchers to understand the impact of interpersonal relationships and dynamics on information flow and on how information sharing is a part of human communication.

3.5.1 Chatman's Life In The Round Theory

Chatman (1985) used ethnographic approaches in researching information seeking behaviours among understudied or minority groups such as poor people, the elderly, retired women, female inmates and janitors. She has taken a sociological perspective on this issue.

Her research resulted in several theories such as *Information Poverty*, *Life in Round* and *Normative Behaviour*. Based on her background in sociology, she introduced her S*mall World* theory as a method of studying IB.

The S*mall World* is a social group in which "mutual opinions and concerns are reflected by its members" and in which the interests and activities of individual members are largely determined by the normative influences of the S*mall World* as a whole (Chatman, 1999:213). Chatman (1985) originally articulated her idea of S*mall Worlds* as a means of exploring how people deal with information in the context of their social groups. Her early work examined *Small Worlds* particularly in contexts defined by extreme information poverty. She attempted to provide a theoretical framework to account for the ways in which people used and in many cases did not use information within specified social contexts. She developed a number of theoretical frames, each of which examined the constraints of IB in small-scale social environments. Within each environment, everyday activities including the processes of information access and exchange are thus considered

to be the way things are and are frequently taken for granted as being standard across all *Small Worlds* even when they are unique to a specific group. Chatman (1985) first considered them within the context of economically and socially impoverished communities, but it is accepted today that these *Small Worlds* exist at all levels of society and can be applied to university janitors on the one hand and university professors on the other (Chatman, 1996; 2000).

In her study of the small worldness of the prison she found that prison provides a certain degree of security and protection to the inmates who seem "to reshape their own private views in order to embody the norms of prison. It is a lifestyle with an enormous degree of imprecision, yet it is this inexactitude that provides an acceptable level of certainty" (Chatman, 1999:207). Information sharing in this environment is controlled by the "insiders" who have the knowledge and sense of self to enhance their social type or role in this "community of others" and "who are most concerned with keeping this world in all its roundness" (Chatman, 1999:212).

Chatmans' (1999) Life in the round theory is built on four concepts: *Small World,* social norms, worldview and social types. The usefulness of the notion of the *Small World* is that it explicitly accounts for the different ways people engage with information in the context of their social interaction. Social norms refer to a sense of rightness and wrongness in social appearances within a *Small World*. Social norms provide a shared understanding of propriety and correctness of visible aspects of social activities within the world such as style of dress and acceptable

behaviour. The concept of social types refers to the ways in which individuals are perceived and defined within the context of their *Small World* and are typed by other members of that world. Lastly the concept *worldview* refers to the belief structures of a world, and in particular to the way *Small World* participants share a normative understanding, of what is more important and deserves attention. For example attending church for some is more important on a Sunday morning than playing sport (Chatman, 1999:213).

A *Small World* is a society in which mutual opinions and concerns are reflected by its members. Language and customs bind its participants to a world view, and "resources are known and easily accessible" (Chatman, 1999:213).

3.5.2 Social constructionist approach

Instead of viewing information as an entity with fixed boundaries or as a commodity that is transferred through communication, social sciences researchers define *information* as "a communicative construct which is produced in a social context" (Tuominen & Savolainen, 1997:89). In Tuominen's and Savolainen's (1997) framework, IB must focus on the social context. Another tenet of social constructionism implicit in Tuominen's and Savolainen's (1997:83) definition of *information* is that people "construct versions of reality between themselves and that knowledge is something people do together rather than as an individual possession".

3.5.2.1 Social-cognitive approach

Cognitive psychologist Vygotsky (1979 &1989) shared many of Piaget's (1977) assumptions about how children learn. However he placed emphasis on the social context of learning. Hence there is a great deal of overlap between cognitive contructivism and Vygotsky's (1979) social constructivist theory. For Vygotsky culture gives the child the cognitive tools for development. Such tools include cultural history, social context and language. Today this also includes electronic forms of information provision and access. Vygotsky (1979) emphasized the critical importance of culture and the importance of the social context for cognitive development. The figure below is an example of the social-cognitive approach proposed by Savolainen (1995): the Everyday Life Information Seeking (ELIS) model.

Figure 3.4: The Everyday Life Information Seeking (ELIS) model

(Savolainen, 2005:145)
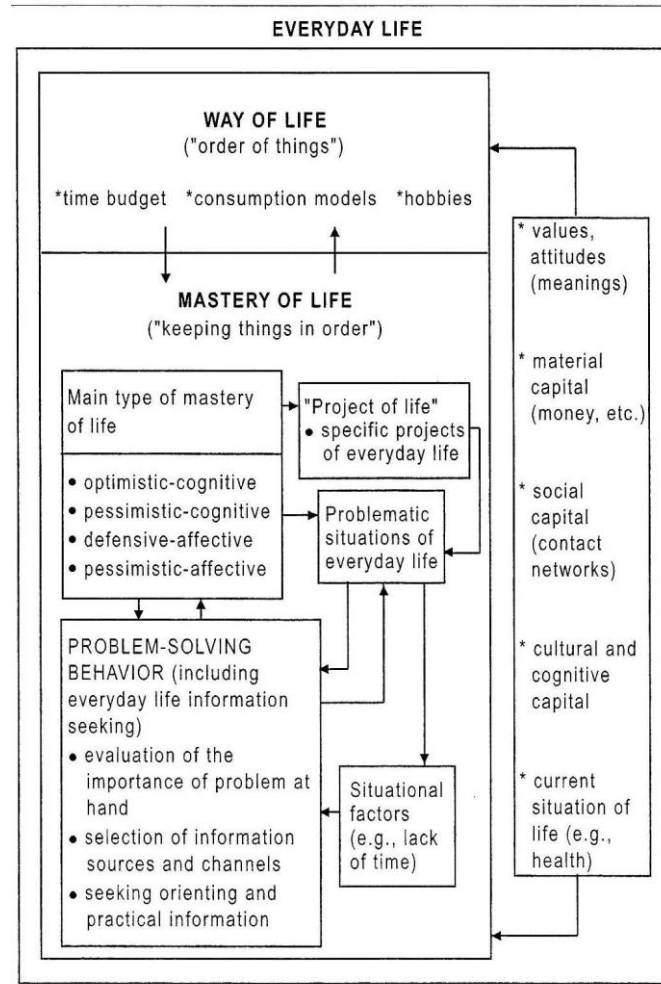
In Savolainen's ELIS Model (Figure 3.4) and Dervin's Sense-Making Metaphor (Figure 3.1) the information user is conceptualized as constructing information based on the values and specific environment in which the user exists. Humans are conceived as hard-wired theorizers about their world. People are constrained by their senses, their experiences and their current situations. Savolainen (1995) defined the concept of way of life as "order of things" which is based on the

choices that individuals make and is influenced by habitus. "Things" stand for
various activities taking place in the daily life world, including not only job but
reproductive tasks such as household care and voluntary activities such as
hobbies. "Order" refers to the preference given to these activities". People have a
"cognitive order" indicating their perception of how things are when they are
"normal". Hence, individuals have engaged practically in a certain order of things,
and it is in their interest to keep that order as long as they find it meaningful. Bias
is therefore built into information seeking behaviour and no one person can see
things completely from another person's viewpoint. Each person makes his or
her own sense of events and needs.

In order to gain an in-depth understanding of a person's IB it is imperative to
understand this process within, for example, the social, physical and cognitive
background of the information user and the situational and contextual factors that
influence or constrains the user.

3.5.2.2   Comparison between Chatman's theory of Life in the Round and Savolainen's ELIS

A comparison between Chatman's theory of Life in the Round and Savolainen's,
ELIS emphasizes the importance of context and situation in understanding IB.
This comparison further highlights the relevance of the socio-cognitive and
cultural approach in understanding IB and the constraints that this might impose
or affect the information user.

Chatman's (1992, 1996 &1999) and Savolainen's (1995) research findings concerning the IB of ordinary people and marginalized populations were published in the 1990s. This period is important because studies began to focus less on job related information seeking and more on "non-work information need, seeking and use" (Savolainen, 1995:259). While Chatman's studies focused on marginalized populations, Savolainen's research included middle-class professionals and industrial workers. Chatman and Savolainen approached their research using different meta-theories but their fieldwork utilizes similar methodologies, that is, extensive interviews with small populations of interviewees.

Chatman's theory of life in the round represents a culmination of research conducted in the 1980s and 1990s focusing on "understanding IB through the social factors influencing that behaviour" (Chatman, 2000:3). For example, Chatman's purpose in her ethnographic study of 80 female inmates in a maximum-security prison in Neuse City, NC, was to gain insight into understanding information poverty (Chatman, 1999:207).

The concepts of *small world, social norms, social types* and *worldview* originate from other sociological theories but form the basis of Chatman's theory of *life in the round* (Chatman, 2005:80). According to Chatman "life in the round is a public form of life in which things are implicitly understood" (Chatman, 1999:212).

As this relates to a prison, Chatman found a functioning information world because of a shared reality.

Savolainen studies a different kind of world to that of the small world presented in Chatman's research. His world is viewed through the lens of habitus, 'a determined social and cultural system of thinking" (Savolainen, 1995:262). "Habitus forms the base on which one's way of life is organized. Habitus renders a general direction to choices made in everyday life by indicating which choices are natural or desirable in relation to one's social class or cultural group" (Savolainen, 1995:262).

The terms "way of life" or the order of things and "mastery of life", or keeping things in order, provide the framework of his research investigating non-work information seeking in the "way of life" of 22 Finnish middle-class teachers and working class industrial laborers.

This uncertainty or gap in meaning initiates the information seeking process and helps define Savolainen's ELIS Model of four types of mastery of life behaviours as they relate to media use: optimistic-cognitive, pessimistic-cognitive, defensive-affective and pessimistic-affective. He discovered relatively few class differences in most aspects of life-style and found that social class did not necessarily determine the type of media orientation of his informants (Savolainen, 1995:279). His model suggests that "way of life" (order of things) and "mastery of life"

(keeping things in order) determine each other (Savolainen, 2005:143-146). "Ways of life" include how people use their leisure time versus work time, how money is spent on goods and services and what people find pleasant or fun.

Both Chatman and Savolainen's combined research have provided solid frameworks for future studies of *life in the round* and the ELIS Model with various other groups besides marginalized populations. Their work has highlighted that the study of IB cannot be considered in terms of isolated individuals but should focus on the social contexts and conditions, interactions and discourse through which human information interaction occurs.

3.5.3 Pettigrew's Information Grounds Theory

Since the 1990s context has been a foundational concept in IB research. However, little attention had been paid to understanding the specific effects of social settings on information flow. Notwithstanding the work of Chatman (1992 & 1996) whose ethnographic approach subsumed the effects of setting, researchers approach setting as an ambient factor in the study of overall context (Leckie & Hopkins, 2002). Within LIS, Fisher and her colleagues developed a research programme on the role of social settings in everyday IB, known as *information grounds* which grew from Pettigrew's (1998, 1999, 2000) studies of everyday information sharing among nurses and the elderly at community foot clinics in Canada. By applying Tuominen and Savolainen's (1997) social

constructionist approach, she defined *information grounds* as synergistic "environment(s) temporarily created when people come together for a singular purpose but from whose behaviour emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information" (Pettigrew, 1999:811). To this were added the following propositions:

1. People gather at information grounds for a primary instrumental purpose other than information sharing.

2. Information grounds are attended by different social types, most if not all of whom play expected and important, albeit different roles in information flow.

3. Social interaction is a primary activity at information grounds such that information flow is a by-product.

4. People engage in formal and informal information sharing and information flow occurs in many directions.

5. Information grounds can occur anywhere, in any type of temporal setting and are predicted on the presence of individuals.

6. People use information obtained at information grounds in alternative ways and the benefits are along physical, social, affective and cognitive dimensions.

7. Many sub-contexts exist within an information ground and are based on people's perspective and physical factors and together these sub-contexts form a grand context (Fisher, Durrance & Hinton, 2004).

As part of the information ground theory building process, these propositions were tested in different field studies using qualitative and/or quantitative approaches across varied populations including new immigrants in Queens, New York (Fisher, 2005:185 - 190); the general public in King County, Washington (Fisher, 2005:185 - 190); migrant Hispanic farm workers (Fisher *et al*, 2004) and baby story times in Canadian public libraries (Fisher & Naumer, 2006). Broad findings indicated that almost everyone has at least one information ground. People's top information grounds are places of worship, the work place and activity groups, for example, fitness clubs and playgrounds. According to Fisher, Landry and Naumer (2006:2) some information grounds qualify as hostage phenomena, that is, settings in which one has little choice but to be present, for example, medical offices, self service laundries, bus stops and store queues. While the studies theoretically supported information grounds, Fisher (2005:188-189) express concern that substantial work is still required to understand the in-depth nature of information grounds, as well as how they may be engineered to facilitate everyday information flow.

The social aspect of IB allows researchers to understand the impact of interpersonal relationships and dynamics on information flow and on how information sharing is a part of human communication. Pettigrew, Fidel and Bruce (2001) state that researchers are increasingly interested in the social and affective aspects of IB and this is incorporated into the multifaceted models of IB which are discussed in section 3.6.

Figure 3.5: Information grounds and information behaviour (Fisher,

2005:187)

The figure above explains that: 1) information grounds can occur anywhere, in

any type of temporal setting and are predicated on the presence of individuals 2)

people gather at information grounds for a primary instrumental purpose other

than information sharing 3) information grounds are attended by different social

types, most if not all play expected and important, albeit different roles in

information flow 4) social interaction is a primary activity at information grounds

such that information flow is a by-product 5) people engage in formal and

informal information sharing and information flow occurs in many directions 6)

people use information obtained at information grounds in alternative ways and benefit along physical, social, affective and cognitive dimensions 7) many sub-contexts exist within an information ground and are based on people's perspectives and physical factors. Together these sub-contexts form a grand context (Fisher, 2005:187).

Pettigrew, Fidel and Bruce (2001:66) state that:

1) sense-making requires that the concept of information will not be considered a static absolute ontological category but as a structural term instead;

2) information creating, seeking and use will not be limited to the cognitive realm because they might involve a variety of experiences such as emotions, feelings wishes and dreams;

3) finding information does not always result in a positive outcome and in some cases it might be better to miss information;

4) sense-making is looking at differences rather than commonalities, at the situational and specific rather than the prototypical;

 5) information seeking and use do not always take place in an ordered world and they may require the creation of new orders;

6) studies of information seeking and use should not look at these activities as habitual patterns but also as innovations;

7) studies of information seeking and use should not be limited to the present but should include the past and the future;

8) studies should not attempt to be limited to finding one central pattern or group

of patterns but should find all useful patterns and should explicitly look for

exceptions and disruptions; and

9) the researcher should recognize that s/he, himself/herself is an information

seeker.

In the field of IB, Pettigrew, Fidel and Bruce (2001) further elaborate that the

challenge remains to provide concrete guidance for system design. Information

systems need to complement the users' natural inclinations when communicating

information needs. There is the need to create working systems that are user

centered and that reflect information behavior theory. Hence, greater dialogue

and collaboration is needed between theorists of IB and designers of information

systems. However, more research is required on how this may be achieved.

Pettigrew (1999 & 2000) used Tuominen and Savolainen's (1997) information

use as a social-discursive action framework to derive her notion of an information

ground. Chatman (1985, 1992, 1996 & 1999) on the other hand was a proponent

of setting and place and its value to context. Chatman (1985, 1992, 1996 &

1999), Tuominen and Savolainen (1997) and Fisher, Erdelez and McKechnie

(2005) provided important theoretical explanations on everyday life information

seeking.

3.6   WILSON'S MULTIFACETED APPROACH TO IB

Wilson (2005:32-33) reflects on the importance of developing a general model that can be used to understand the complexities of IB. Wilson's general model proposes a problem-solving multidimensional approach. His general model of IB has evolved over time and this general model is less of a theory than a theoretical framework, that is, the model is aimed at linking theories to action and is likely to continue to evolve as researchers use it in IB research.

In his analysis of IB he draws on research from various fields such as psychology, sociology and decision-making and points out the numerous significant determinants of IB. He states that among the psychological variables that need to be taken into account are: outlook on life and system values; political orientation; knowledge; style of learning; emotional variables; attitude towards innovation; stereotypes; preferences; prejudices; self-perception; interests; knowledge of the subject and so on. Demographic variables include sex, age, social and economic status, education and job experiences amongst others. Wilson (2000) indicates that the goals and purposes of people influence their IB and the need for resources.

3.6.1 Wilson's problem-solving IB model

Most of the earlier models of IB discussed in this Chapter represent IB as a

sequential progression entailing the following sequence: the individual

experiences an information need; goes out to seek information; finds it and

solves the need for information. However, Wilson (1999:267) remarks that

"feedback loops must exist within all models, since progression towards a goal is

hardly ever unproblematic". This is similar to what Dervin (1992:70) and

Pettigrew (1999) have observed namely, that information seekers do not follow a

linear path nor is it always the optimal route. The implication is that the order of

information seeking tasks may be reversed or convoluted and includes dead-

ends, changes of directions, iterations, abandonment and beginning again.

Figure 3.6 depicts Wilson's general model of IB which includes the multi-

dimensional progression of the individual through the model instead of restricting

them to a linear progression.

Figure: 3.6: General Model of Information Behaviour (Wilson, 1995)
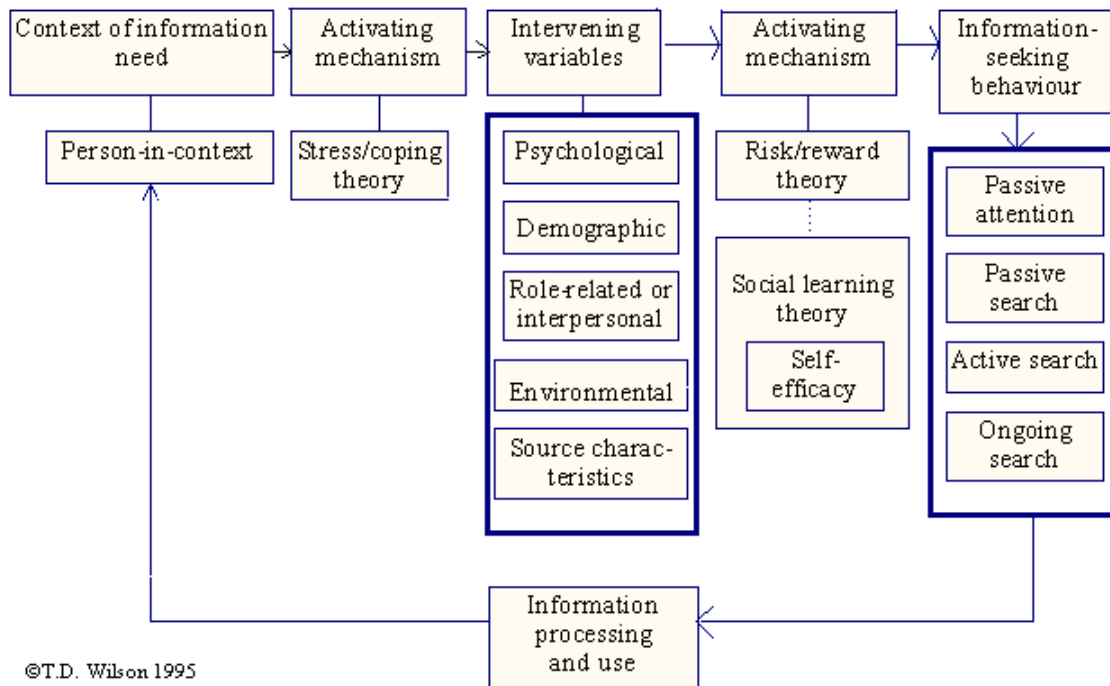
The importance of Wilson's (1995) General Model of IB is that elements of

Dervin, Ellis, Erdelez, Kuhlthau and Tuominen & Savolainen are embedded in

Wilson's general model (Wilson, 1999). For example, i) Ellis's "behavioural

characteristic" (Ellis, 2005:138-140) of information seeking describes the

activities of the information seeker engaged in Wilson's "active search" mode of

"information seeking" (Wilson, 2005:34) ii) Erdelez's "information encountering"

(Erdelez, 2005:179-183) may be seen as the elaboration of the "passive

attention" mode iii) Kuhlthau's "information search" process is a detailed analysis

of the stages in the "active search" for information which complements the ELIS

model and iv) Dervin's sense-making theory, although not a model with a set of

activities or situations, is associated with the perception of a need for information, that is the "gap" in one's knowledge and the steps taken to bridge the gap. Also, it is possible to relate various theories of learning to the "information processing and use" and "self-efficacy" stage of Wilson's model, to the social constructionism that informs the "information practices" of Tuominen, Talja and Savolainen's (2005:328-331) theory. Here, the constructionist learning theory proposes that learners construct knowledge for themselves, individually and socially as s/he learns. This learning theory is a movement away from organizing knowledge of the world in a rational way independent of the learner and determined by some structure of the subject. It reflects the way learners interact with sensory data and construct their own world. The social constructionist perspective in Wilson's model reflects a socially constructed reality which is an ongoing, dynamic process.

Virtual information communities discussed in section 3.8 are examples of socially constructed realities. Users of the system are able to experience learning in an environment that is flexible and adaptable to their learning style taking into account the affective and cognitive constraints and abilities of the information user.

3.7 ROLE OF ICT IN CONTEMPORARY SOCIETY

The convergence of information and communication technologies is the major impetus driving the development of the information society. The most important feature of this is the large amount of information accessible instantly anywhere. According to Lievrouw (2001) cited in Meyer (2009:6) information technology not only forms an integral part of information contexts but also makes them more complex. The argument that information and communication technologies can become either bridges or barriers seems to be highly relevant today.

Hepworth (2007) cited in Meyer (2009:7) notes that, little has been done to accommodate cultural differences when designing information products and services. Meyer (2009:7) argues that cultural contexts as well as information products and services play significant roles in people's IB and that IB becomes a factor to be reckoned with when information sharing is planned across cultural boundaries.

A global view of ICT is that it connects one with one's own culture and with other cultures. It empowers one through access to information and education. ICT is an important means of providing access to information and communication and in doing so creates borderless societies. The discussion following is an example of how ICT can be incorporated into the cultural understanding of IB.

3.8 ROLE OF VIRTUAL INFORMATION COMMUNITIES IN MEETING THE CONTEXT AND SITUATION OF THE USER

A virtual information community is a community of people sharing common interests, ideas and feelings over the internet or other collaborative networks. Virtual information communities are formed around interests ranging from hobbies to self-help issues, to scholarly and professional discourse or social networking.

Fisher; Durrrance and Unruh (2003:304) defined information communities as a:

> Partnership of institutions and individuals forming and cultivating a community of interest around the provision and exchange of information, aimed at increasing access to that information or increasing communication, and thereby increasing the knowledge base.

Information communities develop resources and access approaches with an eye to meeting the specific needs of their members through digital network infrastructures such as community networks and have heralded powerful new ways of enhancing people's quality of life. Using data from a two-year study of three community networks, Fisher, Durrance and Unruh (2003) state that the internet has further facilitated the creation of effective information communities.

Fisher, Durrance and Unruh (2003:300-304) detailed five characteristics that apply to situations which can bring people together to form information communities using information technologies:

1. *Information communities emphasize collaboration among diverse information providers* – Both information users and information providers emphasized the importance of collaborating, especially around information technology. Studies in IB have shown that i) people use different information for different contexts and ii) potential users of information are often unaware of the sources of information available (Harris & Dewdney, 1994 as cited in Fisher, Durrance & Unruh, 2003). Information seeking is a complex process and diverse information resources that are linked together in a coherent structure are essential to user searching efficacy.

2. *Information communities anticipate and often form around people's needs to get and use information* – users seek online information for a range of issues such as business, computer and technical issues/problems and education.

3. *Information communities effectively exploit information sharing qualities of available technology and yield multiplier effects for stakeholders* – The internet provides an important place to "post" information that is accessible for public access and facilitates the sharing of information by providing i) a "place" where information resources can be posted and frequently updated for the public, ii) in-depth, detailed, and comprehensive information that may be difficult or impossible to achieve via other communication media

or dissemination formats, and iii) built-in links to other relevant information content. The internet therefore provides the opportunity to engage with information in such a way that i) is anonymous for users, if they choose, ii) is conducive to their available time schedules, and iii) may expand their knowledge of the subject via direct links to other external information resources. An important information sharing quality of the internet is that information providers can be directly responsible for the information they make available and that it can be used with other forms of communication to enhance information exchange.

4. *Information communities transcend barriers to information-sharing* – In the literature review a number of barriers such as financial, geographic and physical were discussed. Whilst technology holds significant promise for linking individuals with information and one another, it is accompanied by the potential for a deeper divide between the information rich and the information poor. However community networks using the internet have the power to bring together previously unconnected individuals and groups by diminishing the barriers faced by information users.

5. *Information communities connect people and foster social connectedness* –community networks play a pivotal role in emphasizing and facilitating the connection among diverse

information providers.   Hence community networks help non-profit and government agencies become information providers (Fisher, Durrance & Unruh, 2003:301-4).

These five characteristics discussed above apply to situations which can bring people together to form information communities using information technologies. Fisher, Durrance and Unruh (2003:304) state that information communities can help transform the way that information providers such as libraries think about information delivery and this can change the way people gain access to and use information. They explain that information communities form primarily around people's needs to get and use information. Information communities can be defined as "constituencies united by a common interest in building and increasing access to a set of dynamic, linked and varying information resources." (Fisher, Durrance & Unruh, 2003:299). Information communities are groups of institutions and individuals that share a common interest. Their aim is to increase the provision and exchange of information and knowledge or increasing communication and in so doing increasing knowledge (Fisher, Durrance & Unruh, 2003:299). This is more especially the case due to advances in digital technology and globalization. There is a need to take cognizance of the cognitive, social, social-cognitive and organization dimensions in designing effective information systems to meet the users need for information without neglecting the context and situation that abound the information user.

Li (2004:2710) defines virtual information communities as mediated social spaces in the digital environment that allow groups to form and be sustained through ongoing communication processes. It can be assumed that these virtual information communities help construct situations and contexts and are in turn constructed by situations and contexts. It can also be assumed that virtual information communities play an important role in defining IB in contemporary information society. Future research is needed to elucidate a framework to explore how this may guide the design of systems to support IB in the digital era we live in. The discussion below focuses on the implications of newer technologies and our abilities to embrace further technological challenges in the rapidly evolving information environment.

3.9 NEW TECHNOLOGIES AND THEIR IMPLICATION FOR VIRTUAL INFORMATION COMMUNITIES

Newer communication channels such as cloud technology discussed in section 1.4.1 have added impetus and challenges to the formation of virtual information communities. The implications of virtual information communities discussed in section 3.8 are seen in the rapid advancement of cloud computing technologies (See Figure 3.7.) This creates challenges and opportunities for the information professional. The need to package relevant digital information in an accessible format using a variety of channels such as websites, portals, portlets and cloud

technology for example is prevalent today. Cloud technology is no longer reliant

on outdated windows based applications and expensive software. Instead the

internet can be used as a platform to transmit information, data and messages

using cloud computing technology. The cost to access may be passed on to

users.

Figure: 3.7: Cloud computing technology illustrated (Allsopp, 2010:94)
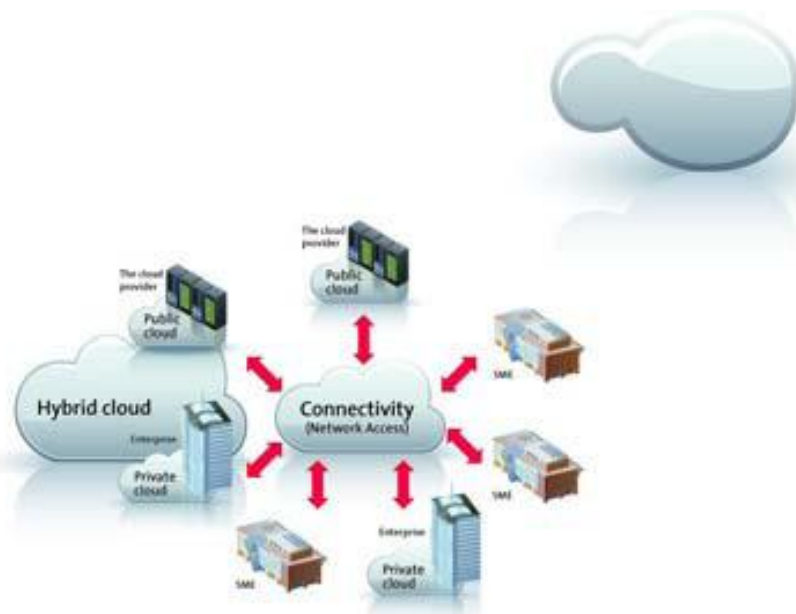
There are advantages and disadvantages associated with cloud computing

technology. For example, cloud technology is useful for those wishing to create

long term relationships such as book discussion blogs, wiki for collaborative

research or a Google doc. for collaborative writing. The disadvantage of using

such technology will be commitment, accounts and fees, permission rights,

peripheral technical set-up and so on (Kirkland, 2010: 33-34). Web 2.0

technology has its advantages in the creation of community-created knowledge

and its use for activities such as storytelling and sharing experiences. Kirkland (2010: 35) states that there is a need for collaboration and relationship building in the use of newer technologies.

3.10   CONCLUSION

The study of IB is important to understanding the information user and factors that impact on the effective and efficient retrieval of information. IB is influenced by the cognitive, social, social-cognitive and affective backgrounds, constraints and abilities of the information user and the need for information. Context and situation are also important considerations in determining the type and design of information systems that are most suited to meeting the users need for information. IB models that focused on the cognitive, social, social-cognitive and multi-dimensional perspective were presented to highlight their relevance and place in contemporary IB studies. It was necessary to survey the literature on IB theory and understand the issues that users face in their search for information in order to determine the type of questions to include in the questionnaire.

To ensure equal access and that people find the information they need, LIS researchers must strive for a better understanding of how people are accessing information and how this may differ across populations. IB research broadens our understanding of how people find and use information by focussing on specific

groups and the cognitive, social, socio-cognitive, affective, cultural and

multidimensional framework of their information problem.

The role of virtual information communities in meeting the diverse information

needs of the user in a contemporary information society was discussed. The

information environment has presented information professionals with many

channels to create virtual information communities using websites, portals,

portlets and cloud computing technology. The application and implication of cloud

technology in the contemporary information environment was elaborated on. The

advantages and disadvantages of using such technology were briefly outlined.

CHAPTER 4

RESEARCH METHODOLOGY

4.1   INTRODUCTION

As was discussed in Chapter One of this dissertation globalisation and increasing

emigration are among the key characteristics of the last decade. This has led to

more contact and interaction between people of different cultures and languages.

The internet is a major agent and factor in globalization. It enables a large

number of people with different socio-economic, educational, linguistic and

cultural backgrounds to participate in the worldwide exchange of information and

services. Public libraries have a significant role to play in making information

services available to those that need it most. They support the social, economic

and cultural development of communities and have a vital role to play in

providing equitable access to internet and digital technologies. Chapter Two

discussed contemporary immigration theories and the issue of serving a

multicultural clientele in public libraries.

Chapter Three focused on IB and various models of IB in order to ensure that the questionnaire in the empirical study takes cognisance of issues established in the literature review.

In this chapter the research methodology used in this study to answer the research question is discussed. The research question is: Can an internet portal on a public library website be used to meet the information needs of new Chinese migrants to the Auckland region of New Zealand.

4.2   SURVEY POPULATION

This study will be limited to Chinese migrants who speak Mandarin and who have arrived into New Zealand within the last year (Dec. 2009 – Dec 2010). The reason for this is that new migrants have a specific need for settlement information that is different to those migrants who have been living in New Zealand for more than a year. Creating a new identity, assimilating a new culture while preserving the old, succeeding in a foreign education system, acquiring a new language and developing the skills to function, work and communicate in a new society are all challenges facing new immigrants.

4.2.1   Background to the survey population

Chinese immigrants to New Zealand are generally well-educated professionals or business people with internationally transferable skills. Most recent migrants have come via the business investor category. Many have chosen to come because they want to raise their children in a less competitive educational environment, or because they want a more leisurely lifestyle and new employment opportunities (Ip, 2007).

Ip (2007) states that in contrast to the pioneers of a century ago, new Chinese migrants tend to be well-informed and articulate, and therefore less likely to tolerate discrimination. Their desire for recognition and integration has also made them active in philanthropy and politics.

Until the 1980s there were few Chinese immigrants because of New Zealand's geographical isolation, Eurocentric culture, British connections and unwillingness to see itself as an Asian–Pacific nation. In the 1960s, Chinese festivals were hardly observed. By the 1970s, most Chinese were on the way to assimilation, and there was a possibility that their culture would become totally submerged (Ip, 2007).

However, successive waves of new immigrants from the early 1990s reinvigorated many traditions. Chinese New Year and the mid-autumn festival,

for example, have become popular celebrations drawing huge crowds of Chinese and other New Zealanders. Some events, like the lantern festival and the dragon boat race, are now widely popular among other New Zealanders, especially the young (Ip, 2007).

4.2.2 New Zealand Census figures

According to Ip (2007) the New Zealand census figures listed below show the number of residents born in China or countries whose residents are ethnic Chinese and speak Mandarin.

China

- 1867 census: 1,219
- 1901 census: 2,902
- 1951 census: 3,264
- 1976 census: 4,372 (including Taiwan)
- 2001 census: 38,949
- 2006 census: 78,117

Hong Kong

- 1951 census: 113
- 1976 census: 1,211
- 2001 census: 11,301
- 2006 census: 7,686

Taiwan

- 2001 census: 12,486
- 2006 census: 10,764

Ethnic identity

In the 2006 census, people were asked for the first time to indicate the ethnic group with which they identified. The numbers include those who indicated more than one group.

- Chinese: 139,728
- Taiwanese Chinese: 5,451

The Chinese community has been selected for this study because they constituted approximately 9 percent of the national population in the 2010 census, making them the largest non-European, non-Polynesian minority group. Within this group, 75 percent were immigrants and 25 percent were born in New Zealand. The foreign-born proportion was made up of those from China (39 percent), Taiwan (12 percent), Hong Kong (10 percent) and other countries (14 percent). The remaining 25 percent were born in New Zealand. The Auckland region was chosen because one in five Chinese immigrants into New Zealand is settled in this region (Statistics New Zealand, 2010).

Among the immigrant Chinese, over 69 percent were recent arrivals who had come within 10 years of the 2001 census. The increase in arrivals is a new phenomenon made possible by the introduction of an even-handed immigration policy in 1987.

4.2.3 Mandarin Language

Statistics New Zealand (2006) census figures indicate that more than half a million New Zealanders speak at least one other language. The most common language after English is Maori followed by Samoan. This is followed by Tongan and the Chinese dialects of Cantonese and Mandarin. Nantel's (2008) study indicates that new migrants tend to hold on to their language especially in the first year of settlement. The research was therefore limited to respondents who spoke Mandarin or Cantonese. As this research is limited to new Chinese migrants that arrived in New Zealand in the last twelve months and who spoke either Mandarin or Cantonese, the questionnaire was translated into Mandarin to ensure respondents fully understood the questions. The written language is the same for both Mandarin and Cantonese. The difference is in the spoken language due to regional variations. Mandarin is the official language in Mainland China, Taiwan and Singapore and Cantonese is spoken in Hong Kong, and some parts of Taiwan and China. Mandarin and Cantonese are the two most common languages spoken by Chinese people. The researchers' decision to include these two language groupings in the study was due to Nantel's (2008) study and the fact these two languages are the most commonly spoken by Chinese people. Section 1.6.3 explains that the sample population will be limited to these two languages for the reasons highlighted in the literature study.

4.3 RESEARCH QUESTIONS AND SUB-QUESTIONS

This chapter will describe the methodology used to investigate the research question:

- Can an internet portal on a public library web site be used to meet the information needs of new Chinese Mandarin immigrants to the Auckland region of New Zealand?

Flowing from the research question are the following sub-questions:

1. What are the main information needs of new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand?

2. What are the information grounds of such immigrants?

3. Do new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand make use of the internet in their information seeking?

4. Will access through a public library internet portal to Mandarin language sources assist information seeking and use amongst new immigrant Chinese communities?

5. What role will internet portals play in assisting new migrants in their settlement process?

4.3.1 Exploration of the research question

The variables in the research question and sub-questions in this study are language, culture, familiarity with the internet and willingness to use it. The study will examine the role that these variables may play with regard to the new migrants' use of the internet to meet their everyday need for information.

4.3.1.1   Language

It is assumed that home language will be dominant in new immigrant communities in the first twelve months of their arrival into New Zealand. It is safe to assume that internet users prefer websites in their native languages. Research suggests that information offered in the user's native language leads to higher perceived usefulness and ease of use (Nantel, 2008). The level of language proficiency has an impact on the user's ability to search effectively. This is important when one has to formulate precise queries, for instance when using a search engine or database. Users at lower language proficiency levels are likely to enter generic search terms in situations where a precise query formulation would be more appropriate, leading to unsatisfactory outcomes. Language, especially when considered as an overt characteristic of culture, is also an identity-constitutive factor.

Diaspora groups can often be supporters and promoters of language maintenance to ensure that communication with friends and family across the globe can continue, and to preserve the cultural heritage with which the groups identify. However Liddicoat (2008) has highlighted that for a language to be vibrant it must have prestige and relevance and reflect contemporary life as well as the traditions of the past. This particularly applies to the younger generations of new migrants who are focussed on the life they are leading in their adopted country rather than what their families may have left behind.

4.3.1.2   Culture

Related to the above discussion on language are cultural factors which may affect attitudes to the public library and searching on the internet. (The concept culture was defined in Chapter One section 1.4.1.)

Srinivasan (2006) and Srinivasan and Pyati (2007) note that a western approach to information-seeking and web infrastructure layout may not be most helpful. They elaborate for example on the use of navigation icons and language and the information-seeking behaviours of various cultural groups. They favour a model which allows communities to decide the content, technologies and model of operating that most suit their own information needs and cultural environment.

4.3.1.3 Familiarity with the internet

Hargittai (2003) states that studies indicate that demographic factors, such as age, education, income and marital status are all associated with internet use. Familiarity with the internet is closely related to frequency of internet use. Internet users use the internet because they perceive it to be useful and easy to use.

Hargittai's (2003:832) findings suggest users differ significantly in their on-line skills. A user who understands how search queries can be refined through the use of quotation marks, the use of Boolean operators and the use of multiple terms in a query is more likely to turn up helpful results regardless of the search engine used. Demographic factors and other factors such as technical means, autonomy of use, social support networks experience and skills must also be considered in terms of digital expertise (Hargittai 2003:832).

4.4 RESEARCH METHODOLOGY

The researcher used both non-empirical (for example, reviews of existing literature) and empirical (for example, data derived from questionnaires) methods to establish the information needs of new immigrant Chinese communities in the Auckland region of New Zealand. The methods used were: a literature study and a survey and the use of semi-structured interviews. In the survey qualitative data

were collected by means of the one-on-one interviews. The researcher probed and interviewed respondents in-depth in order to gain an understanding of their individual information behavior.

4.4.1 Qualitative versus quantitative research paradigms

Historically there has been heavy emphasis on quantification in science. Human behaviour however, unlike physical objects cannot be understood without reference to the meanings and purposes attached by human actors to their activities. Researchers have long debated the value of qualitative and quantitative inquiry (Patton, 1990). Phenomenological inquiry or qualitative research uses a naturalistic approach that seeks to understand phenomena in context-specific settings. Quantitative research reflects a logical positivist philosophy and uses experimental methods and quantitative measures to test hypothetical generalizations. Qualitative research on the other hand is defined as "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss & Corbin, 1998:17). Where quantitative researchers seek causal determination, prediction and generalization of findings, qualitative researchers seek illumination, understanding and extrapolation to similar situations.

The qualitative research approach was used in this study to gain an in-depth understanding of how new migrants meet their need for everyday survival

information. In order to gain this understanding the researcher used open

questions and the interview technique to probe respondents.

4.4.1.1 Qualitative research

Strauss and Corbin (1998) as cited in Hoepfl (1997:48-49) claim that qualitative

methods can be used to better understand any phenomenon about which little is

known. These methods can also be used to gain new perspective on things

about which much is already known or to gain more in-depth information that

may be difficult to convey quantitatively. Research problems tend to be framed

as open-ended questions. Hoepfl (1997:49) mentions the following features of

qualitative research: 1) qualitative research uses the natural setting as the source

of data and the researcher attempts to observe, describe and interpret settings

as they are; 2) the researcher acts as the "human instrument" of data collection;

3) qualitative researchers predominantly use inductive data analysis; 4)

Qualitative research reports are descriptive, incorporating expressive language;

5) qualitative research has an interpretive character aimed at discovering the

meaning events have for the individuals who experience them and the

interpretations of those meanings by the researcher; 6) qualitative researchers

pay attention to the idiosyncratic as well as the pervasive, seeking the

uniqueness of each case; 7) Qualitative research has an emergent as opposed

to predetermined design and researchers focus on this as well as the outcomes

or product of the research and 8) qualitative research is judged using special criteria of trustworthiness.

Qualitative data can provide rich insights into IB. This type of research involves detailed, verbal descriptions of characteristics, cases, settings, people or systems obtained by interacting with, interviewing and observing the subjects. It typically starts with use of a literature review to collect data.

The research methods are typically more flexible, that is, it allows for greater spontaneity and adaptation of the interaction between the researcher and the study participant. For example, qualitative methods ask mostly "open-ended" questions and are not necessarily worded in exactly the same way with each participant. With open-ended questions, respondents are free to respond in their own words, and these responses tend to be more complex than simply 'yes" or "no". In addition with qualitative methods, the relationship between the researcher and the participant is often less formal than in quantitative research (Mack, Woodsong, MacQueen, Guest & Namey, 2005:4). Respondents have the opportunity to respond more elaborately and in greater detail than is typically the case with quantitative methods. Qualitative research is challenging to the researcher because of the necessity to incorporate rigor and subjectivity as well as creativity into the scientific research process. In this study the researcher needed the freedom to become thoughtfully and creatively immersed in the research process.

In today's world people's interaction with information and their behaviour are complex phenomena not only because of the variability inherent in individual human cognitive processes but also because of the highly complex technological environment in which people operate. Information system development and use is a social as well as technical process that includes problems related to social, organization and conceptual aspects of the system. (See Wilson's general model of IB in Figure 3.6.) There is therefore the need to understand IB from a holistic perspective that takes into account the context, setting and situation that influence IB. Qualitative research is used in this study to gain an understanding in migrants' IB specifically in relation to use of the internet.

The data gathering instrument in the study is the semi-structured survey questionnaire which comprises the following:

- Profile of the new migrant including demographic information;
- Establishing the new migrant's information seeking habits and behaviour with regard to everyday life information seeking and;
- Establishing the new migrant's use of the internet;
- Establishing the new migrant's information seeking habits with regard to the internet and Mandarin language websites. (See Appendices A and B for a copy of the questionnaire in each of the languages respectively.)

4.4.1.2   Reasons for using the qualitative research approach in this study

Palys (1997:22) states that qualitative methods focus attention on the importance of people within organizational and community settings. In this study, one-on-one in-depth interviews and the semi-structured interviews will allow for individual responses that are unaffected by group or peer pressure. This method will yield more complete and detailed information.

The strength of this approach is its ability to provide complex textual descriptions of how people experience a given information problem. It also provides information about the 'human' side of an issue and the contradictory behaviour, belief, opinions, emotions and relationship of individuals in a specific ethnic and language community. This approach is also effective in identifying intangible factors such as social norms, socioeconomic status, gender roles, ethnicity, religion and language and the impact that this may have on information seeking and behaviour (Mack *et al*, 2005:1-2). Such roles in the research process are not readily apparent in the study population and may be identifiable through the use of open questions and probing.

Qualitative research is used in this study because the researcher will be investigating IB of new Chinese migrants and studies of cultural aspects of issues are often conducted employing qualitative approaches such as ethnographic research (Hanold, 2005) or in-depth interviews (Gillham, 2006).

The reason for this is that culture is a particularly complex and context-dependent construct. Qualitative methods have also been used in a variety of ways in information systems research such as in the study of IB. Since the 1980s there has been a shift towards a "person-centered" approach rather than a "system-centered-approach".

It is assumed that information systems such as library portals will be most effective if their design is informed by an understanding of IB and interaction. For this reason it was decided that the best methodology to use for this research was qualitative rather than quantitative. The survey population was interviewed in-depth to determine their information needs and how these needs are being met using the internet. Conducting an in-depth study of the research subjects on their information needs will assist in identifying the IB of new Chinese immigrants. There are various challenges facing designers in their quest to design systems to adequately meet the needs of information users, the most important being that the phenomenon under study, human information interaction, which is highly complex, requires an ability to predict behaviour under various and changing circumstances. This study will not only investigate what the IB is of new Chinese migrants are but also whether a library portal would be helpful in meeting these needs.

The use of the qualitative approach will assist in better understanding the complex reality of the given situation under investigation, that is, IB.

4.4.2 Sample design

A stratified sample was necessary so that the sample population was as homogenous as possible. The heterogeneous emigrant population in New Zealand was stratified according to ethnicity, language and period of time in New Zealand. The sample was also restricted to those who had migrated under the general skills and business investor category, who live in the Auckland region of New Zealand and who had emigrated within the last year.

The criteria that were used to ensure a relatively homogeneous population from which the sample could be drawn were ethnic Chinese migrants who spoke Mandarin or Cantonese and who have migrated to New Zealand within the last 12 months (See section 4.2.3).

It was assumed earlier in the study that this homogenous population would be selected from services that provided initial settlement assistance and information to new migrants. Two such Government organizations were identified in this instance that is, the Auckland Regional Migrant Services (ARMS) and the Refugee Services New Zealand. Both these organizations, are based in Auckland and suited the needs and objective of the study ideally. It was however, decided that ARMS was more suitable than Refugee Services New Zealand to assist in identifying suitable respondents as refugees were not included as part of

the stratified sample. Refugees would have different information needs to general immigrants. This study focuses only on migrants who were admitted to New Zealand via the general skills and business investor category. The other reason for this choice was that staff at ARMS was co-operative and enthusiastic about the study because they believed that they would be able to use the results to determine how best to meet the information needs of new migrants in general and were thus willing to assist wherever possible. The most important assistance would be providing access to their database of new Chinese migrants which could be used as a sampling frame. ARMS sent out a note to all those in their database who met the research criteria inviting them to participate in the study. It was envisaged that depending on the number of responses every tenth respondent would be selected to participate in the study. However, only 11 people responded and another means of finding suitable respondents had to be found. This will be discussed further in section 4.4.4.

4.4.3 Background to ARMS

ARMS is a non-profit organisation which supports migrants, refugees and returning New Zealanders settle successfully in the Auckland Region. Their motto is "leading the way in facilitating successful settlement for migrants and refugees across the Auckland region". ARMS offers free workshops on a range of topics, including: buying your first home in New Zealand, women's health, Inland Revenue Department and the taxation system. Other services offered by

ARMS include: employment workshops (job search seminars), specialized

workshops, individualized support for permanent residents and people on work

visas and where necessary ARMS organizes appointments with other agencies

on-site.

4.4.4 Problems encountered in finding respondents for the study

Most of the arrangements were made with ARMS through email correspondence

whilst the researcher was still in Australia. (See Appendix C for email

correspondence.) The researcher assumed that it would be possible to draw her

entire study population from ARMS. However, there were problems encountered

on the researchers' arrival to New Zealand that were difficult to predict earlier on.

It was the holiday season and possible respondents identified by ARMS were not

willing to make themselves available during this time. An alternative method to

obtain suitable respondents needed to be found within a very tight time-frame.

The snowball method was chosen due to a combination of factors, the most

important being that research indicates that Chinese migrants are distrustful of

strangers (Schouten, 1996:4; Xinhua 2011) and thus may be reluctant to

participate in the study. Chinese found it difficult to integrate into mainstream

New Zealand society and New Zealander's perceived them as taking over their

jobs (Schouten 1996:4; Xinhua 2011). It was difficult to anticipate the extent of

this at the start of the survey. Other factors that contributed to choosing the

snowball method were limited funds and time constraints and the need for the

researcher to travel back to her job in Australia. This method will be discussed in section 4.4.5.

The 11 people who had responded to the note from ARMS were all contacted to arrange an interview. All 11 respondents were interviewed because they met the selection criteria of the study. ARMS had advised the researcher earlier to contact the Citizen's Advise Bureau (CAB) for assistance with an interpreter. Although they were not able to provide one themselves they were able to refer the researcher to the local public library. The researcher was able with the assistance of previous work contacts in the public library to secure Ms Wang as an interpreter. Ms Wang is an Information and Communications graduate from the University of Wellington and has lived in New Zealand for five years. She is thoroughly conversant with both Mandarin and English and offered to assist the researcher for a fee. She was not only able to provide assistance in interpreting but also translated the questionnaire.

Ms Wang was able to help the researcher make contact with young tertiary students. However the researcher did not want the study population to reflect only young people so she asked the students to in turn refer family members or friends that they knew of in the Chinese community that would be willing to participate in the study. Thus older respondents were either parents or family members of the students or friends of the students' parents or family.

The snowball sampling method was selected as an alternative method once it became evident that it was not feasible to draw any more respondents from the ARMS database.

4.4.5 Snowball sampling technique

Snowball sampling is a technique for finding research subjects. One subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on (Vogt, 1999). Ms Wang, a young student with many contacts with the Chinese community through her work at the public library and her studies at university, provided further assistance by referring the researcher to young tertiary students who were suitable respondents.

Snowball sampling is arguably the most widely employed method of sampling in qualitative research in various disciplines across the social sciences. It is sometimes used as the main vehicle through which informants are accessed, or as an auxiliary means to assist researchers in enriching sampling clusters and accessing new participants and social groups when other contact avenues have dried up. However the disadvantages associated with this method is its weak integration into mainstream qualitative work. It seems to be an auxiliary and 'informal' procedure (Noy, 2008:330).

In various studies snowball sampling is often employed as a particularly effective tool when trying to obtain information on and access to 'hidden populations' such as non-institutionalized drug-users and AIDS carriers (Noy, 2008:330). Occasionally this method is also used to access groups that enjoy the status of social elites (Hoffmann-Lange, 1987:28) and are hidden by choice. New Chinese migrants tend to stick to their cultural and linguistic communities. Without the help of the translator and referrals to contacts in the Chinese community this group would be difficult to study. Another reason for choosing this method was the distrust that Chinese people had of strangers. As the researcher was referred to each subject by someone the person knew from the community, the subjects were more prepared to open up to the researcher.

Most studies indicate that snowball sampling is employed instrumentally as a safety net or fall-back alternative, when other means of obtaining information are not feasible. Yet studies have also shown that snowball sampling is a particularly informative procedure, which deserves to be employed on its own right and merit and not as a default option (Noy, 2008: 331).

Noy (2008: 332) maintains the following:

- Sampling knowledge: knowledge does not exist solely in an objective form inside a container. Snowball sampling is essentially social because it uses and activates existing social networks. Viewed holistically the research

design can potentially generate an organic and 'thick' type knowledge that is valued in the qualitative social sciences.

- Interaction traces or snowball stemmata: In snowball sampling the researcher relinquishes a considerable amount of control over the sampling phase to the informants. It is the respondents who drive the sampling phase onward. Snowball sampling is commonly referred through 'sampling trees' or stemmata, which indicate the course of the sampling process. Besides the basic information conveyed by the stemma, which should include the number of referrals contacted and their basic socio-demographic attributes, it should convey the following types of network information as well: 1) 'generational' position within the stemma; 2) number of referrals supplied by every informant; 3) number of informants who referred to a particular informant; and 4) dates of interviews. The combination of 'hard' ('independent') socio-demographic information on the one hand and the positional information ('dependent') on the other hand, produces a wealth of contextualized social information.

Methodological discussions have commonly addressed a variety of methods for collecting and analyzing empirical material, yet the critical grounds upon which these were reformulated have rarely been extended to embrace sampling concepts and procedures. The latter have been overlooked, qualifying only as a 'technical' research stage. Noy (2008:327) notes that snowball sampling can generate unique types of social knowledge which is emergent, political and

interactional. Qualitative research using snowball sampling together with in-depth interviews can provide a rich textual description of a research phenomenon. For these reasons it was an appropriate combination in this study.

4.4.5.1 Advantages of using the snowball sampling technique

The Chinese community are generally very guarded with strangers other than their own circle of friends or community members (Schouten, 1996:4; Xinhua, 2011). Some respondents initially believed that the researcher was employed by a government organization and were wary of participating in the research. The snowball sampling technique was thus a good method for drawing a sample from the group being studied for this reason. The generation of referrals using initial contacts such as the translator and students assisted in creating trust between the researcher and research subject.

Researchers must recognize differences in perceptions when working with respondents from diverse cultural backgrounds. Marshall and Batten (2003:147) state that respect and acknowledgement of community values, differing worldviews and ethical practice are salient issues for cross-cultural researchers. They further elaborate that researchers should recognize that almost all marginalized and minority groups have shared certain undesirable experiences in common such as prejudice and stereotyping, socioeconomic and career disadvantages and struggling to maintain their own ethnic identity while adapting

to life in the dominant culture. They further maintain that collaboration and consensus, communication and negotiating partnerships are necessary considerations for researchers entering cross-cultural situations. These points make the snowball sampling method a particularly appropriate method for this research.

The snowball sampling technique relies on referrals from initial subjects to generate additional subjects. This means that because the researcher is introduced by a trusted contact, prospective respondents were more trusting of the researcher. The researcher was able to keep costs down and save on time by using this method. This purposive non-probability sampling design relied heavily on referrals and contacts that were known to the researcher and the availability of respondents from the Chinese ethnic and Mandarin language grouping. Snowball sampling allowed the researcher to capture qualitative data using techniques such as in-depth interviewing and open questions.

Respondents whom the researcher met supplied the referrals, for example, the interpreter who provided the link to the students, who in turn provided links to their own contacts such as family members and friends. Hence the quality of the referral process is related in some way to the quality of the interaction. If the informant leaves the interview meeting feeling discontented, or if the researcher did not win the informant's trust and sympathy, the chances the latter will supply referrals decreases and vice versa. The researcher and interpreter had a close

working relationship and understanding with each other and respondents who were referred to the researcher by the interpreter had trust and respect for the interpreter which engendered trust in the researcher.

Snowball sampling necessarily involves social networks as in this case of Chinese Mandarin speaking communities. The concept of social capital developed by Bourdieu (1984) concerns various forms of highly regarded social assets which are based in part on participation in social networks. This was evident with regard to the translator's relationship with Chinese Mandarin speaking tertiary students. Snowball sampling therefore is viewed as a dynamic embodiment of social knowledge not as a static 'vehicle' or 'method' through which it is gained. Participants exert a significant amount of influence on the overall research.

4.4.6 Interviews

The interview encounter is a complex interaction, partly because the researcher/interviewer and the informants hold different perceptions concerning the encounter. The view held by some of the respondents that the researcher worked for a government department had certain implications with regards to their attitude to the researcher. Some were suspicious of her socio-cultural and educational background and employment status and also had the expectation that the researcher would supply actual remedies to bureaucratic and other

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settlement problems they encountered. This complicated the process of interacting with respondents. Any such misunderstandings or expectations were clarified with assistance from the translator who facilitated the interview process.

Six interviews were conducted at the local public library. The researcher made prior arrangements with respondents to conduct the interviews at this venue. The remaining 24 interviews were all conducted at the respondents' homes. Convenience to the respondents in terms of time and travel were taken into account. The researcher did not want to inconvenience respondents. Respondents were also more comfortable with this approach. The interviews took between 30 – 45 minutes to conduct.

4.4.7 Questionnaire

The questionnaire design determined the structure of the interview and the researcher offered respondents the choice of either the English or Mandarin questionnaire. The questionnaire was designed to answer the research sub-questions and ultimately the main research question.

The questions in the survey questionnaire were based on issues raised in the literature review. Caidi (2008); Childers (1975); Fisher *et al* (2005); Shoham and Strauss (2008) indicated that immigrants have a substantial need for information in the following areas: consumer affairs, education and literacy, employment,

health, home and family, housing, the law, political process, recreational, transportation, welfare and social service programs. Open questions relating to these areas of information were included.

Users today have a diverse range of media to choose from to meet their need for information. An attempt was made to ascertain usage of print media compared to electronic media and if there was a relationship between media used and age for example.

The use of the questionnaire to respondents assisted in structuring the interview process. Respondents were aware of what questions the researcher was going to ask and this made the interview process flow smoothly. The researcher filled out answers to the questions as the respondents spoke.

4.4.8 Pilot study

In order to test the validity of the questionnaire to be used in the study, the researcher carried out a pilot study with five respondents who came from a Mandarin speaking background. These respondents did not form part of the actual survey and were only used to test the questionnaire. Test respondents were asked for their feedback on the questionnaire design in order to eliminate ambiguities and to ensure the questions were clear. Both the English and Mandarin questionnaire were tested. The time it took test respondents to

complete the questionnaire varied. The researcher had anticipated that the questionnaire would take between 30 and 45 minutes to complete, however test respondents took slightly longer than this. On the basis of this the researcher allowed for more time in the actual interviews.

The pilot study indicated the need to explore open questions in more detail by probing. For example, not taking for granted that the respondent had finished answering a question after a period of silence. It also allowed the researcher to determine which open questions will require more time to answer. The researcher was also able to question subjects on the appropriateness of the questions asked in terms of cultural sensitivity.

The pilot study indicated the need to present respondents with both the English and Mandarin questionnaire. This was done despite most respondents indicating that they had a fairly good understanding of English.

4.4.9 Limitations of the study

Chinese migrants are guarded as to what they disclose to foreigners. The researcher had to be sure that every opportunity was made to probe respondents to answer questions fully. There may have been instances where this opportunity may have been unintentionally missed. When the research was originally planned it was anticipated that respondents would be easily obtained with the

help of ARMS. As it became obvious that this was not going to work because Chinese respondents were reluctant to participate in the study (see Section 4.4.4) an alternative methodology had to be found at relatively short notice. The snowball technique was used to find suitable respondents. However, this had to be implemented in a very tight time frame. The researcher's time frame was a limitation.

The target population was scattered among a larger and diverse population in Auckland, New Zealand. Attempting to identify and find this population required the investment of time and money. The researcher had to rely on referrals and contacts to generate respondents.

During the data analysis the researcher discovered that some answers could be probed further. Time constraints also limited the researcher's ability to further clarify open questions with respondents in some instances due to time constrains as the researcher had to travel back to Australia to her job.

Qualitative research seeks depth over breath and there were concerted attempts to learn about and to incorporate the subtle nuances of life experiences and the IB of new Chinese Mandarin speaking migrants in the study. Since the researcher does not speak Mandarin fluently she had to rely on the translator to capture this information. The researcher also had to rely on the translator to pick up non-verbal cues and to inform the researcher on cultural issues.

A further constraint is that Chinese people are guarded as to whom they divulge information and what information they divulge (Schouten, 1996; Xinhua, 2011). It was difficult for the researcher to gauge whether respondents were answering the questions as openly and truthfully as possible.

The study was contextual and subjective as opposed to generalizable and objective. Generalizing the findings of the study is therefore not possible.

As mentioned earlier qualitative research has different meanings for the researcher and subjects. Capturing this difference can be difficult especially in cross-cultural studies.

4.4.10   Ethical considerations

As the study required the participation of human respondents, certain ethical issues needed to be addressed, for example the relationship between the researcher and the subjects and privacy issues of subjects. In order to secure the consent of selected participants, the researcher conveyed to respondents all the important details of the study, including its aim and purpose. It was hoped that by explaining these details, respondents would understand the importance of their role in the completion of the research. Respondents were also advised that they

could withdraw from the study at any point. The participants were assured of their anonymity. Only personal details relevant to the study were included.

4.5   CONCLUSION

This chapter discussed the research methodology used in this study. The research methodology chosen for the study is a qualitative one. The reasons for using the qualitative approach were discussed. The problems encountered in finding suitable respondents and the strategy used was outlined. The limitations and ethical issues were also outlined.

This chapter covered the various aspects of the research methodology. The next chapter will discuss the research findings.

CHAPTER 5

SURVEY FINDINGS

5.1   INTRODUCTION

In the previous chapter the research methodology was outlined. This chapter reports on the findings of the empirical research. Respondents were interviewed in-depth about their information needs; information grounds and habits; their use of the internet for information seeking and whether or not they would use a public library Mandarin language web portal for their information needs. The aim of the study was to answer the main research question, that is, can a public library portal be used to meet the information needs of new Chinese Mandarin immigrants to the Auckland region of New Zealand?

This chapter presents findings organized around the areas of enquiry detailed in the semi-structured questionnaire. The findings relating to demographic data are presented in tabular format and qualitative data are presented with explanations and discussions. Attempts are made wherever possible to relate the findings to the research reviewed in Chapters Two and Three.

5.2   RECRUITING RESPONDENTS FOR THE STUDY

The researcher corresponded via email with Ms Day, the Coordinator of
Community Development at ARMS, prior to the researchers' arrival in New
Zealand (see Appendix C for this correspondence.) On arrival the researcher
was introduced to Ms Chu, the Chinese migrant coordinator. Ms Chu's role was
to send a note to all new Chinese migrants on her database that spoke Mandarin
inviting them to participate in the study. The researcher was also referred to the
Citizen's Advise Bureau (CAB) for translation assistance. CAB was of little
assistance since their Mandarin translator was on leave and was not due back
before the start of the New Year. ARMS referred the researcher to the local
public library and the researcher was fortunate to find Ms Wang who was
prepared to translate the questionnaire and act as a translator when necessary
during the interviews.

As discussed in the previous chapter Ms Chu's and Ms Day's attempt to recruit
respondents for the researcher was proving difficult. There were 11 responses to
the email postings and word of mouth canvassing from Ms Day and Ms Chu at
ARMS and the researcher was able to interview all because they met the criteria
of being new migrants that spoke Mandarin.

Ms Wang's assistance in recruiting respondents was invaluable when the
researcher realized there would be a need to use the snowball technique to find

suitable respondents (See Chapter Four, section 4.4.5.) The translator was able to refer the researcher to contacts she knew or was aware of. Unfortunately, most of the translator's contacts were young tertiary students because the translator was a young university student herself. The students in turn referred the researcher to older family members or other older people in the community. It was important to include respondents that have a diverse range of attributes. Age, gender, education and socio-economic contexts may influence how people seek, search and use information and may influence IB (Dervin, 2005b; Hargittai, 2003; Hargittai & Hinnant 2006; Mack *et al*, 2005).

The key data gathering instrument was the questionnaire. The translated questionnaire and the researchers' ability to hold brief conversations with the respondents in Mandarin helped to engender trust in the respondents. The translator assisted with respondents that did not understand English or had little understanding of English. There were four such respondents. The remaining 26 respondents had a fair understanding of English and spoke and understood Mandarin well. There were however instances of misunderstanding English due to the difference in accents and pronunciation. This problem was overcome by using English, the translated questionnaire and clarification by the translator wherever needed.

The questionnaire added structure to the interview process and ensured that each respondent was asked the same questions. The researcher had undertaken

a Mandarin language course in 2007 not only to gain an understanding of the language but also some insight into the culture. The researcher's contact with Chinese students and adult patrons at the two libraries she worked in at Manukau was also invaluable. However research with new Chinese migrants was challenging due to the difference in language and culture.

5.3   INTERVIEW PROCESS

Appendices A and B contain the questionnaires in English and Mandarin respectively. A semi-structured interview was conducted with each respondent. Every attempt was made to make the interview process as relaxed as possible to encourage respondents to tell their story of how they searched for information in their own words. The researcher also probed to try and get detail by asking questions such as: "What do you mean by…" for more explanations of answers given. The translator assisted the researcher to clarify answers given to questions by respondents that were not clear because of language difficulties wherever needed.

English, Mandarin and Cantonese were used interchangeably in the interview process. The reason for this was that many respondents were still not fluent in English. Four respondents were unable to converse in or understand English and the interpreter conducted the interview in Mandarin to gather the required data.

Respondents who did not have adequate English speaking skills to convey their message tended to use gestures or body language to aid them in communication.

5.4   PROFILE OF STUDY POPULATION

Thirty respondents were selected to participate in the study. Questions relating to the demographic issues of age and income were purposively excluded from the questionnaire as the researcher had been told these questions would be offensive to Chinese people. As demographic issues can play a role in information seeking, (Dervin, 2005b; Hargittai, 2003; Hargittai & Hinnant, 2006; Mack *et al*, 2005) an effort was made to observe and estimate both age and income. The researcher estimated the respondents' ages based on their appearance. In regards to income the researcher made an estimation based on indicators such as the respondents domicile, furnishings and so on. Despite issues with collecting demographic information from respondents in the study a concerted effort was made to take note of the demographic attributes of respondents.

Figure 5.1: Profile of study population

Profile of respondents	Number	Percentage
Male	18	60 %
Female	12	40 %
Married	9	30 %
Unmarried	21	70 %
Ages: 18 – 40	16	53.3%
Over 40 years	14	46.7%

Nine respondents were married and 21 unmarried. Sixteen respondents were between the ages 18 to 40 years and 14 respondents were over the age of 40. Only respondents 18 years and over were interviewed due to issues of informed consent. It was taken for granted that the five young tertiary students were all over the age of 18 and were therefore included in the study.

5.4.1   Length of time respondents have been in New Zealand

Respondents were selected on the basis that they were new migrants that had arrived in New Zealand less than a year ago. Time spent in their new country may influence respondents' awareness of available information resources (Caidi, 2008; Childers, 1975; Fisher, Durance & Hinton 2004; Shoham & Strauss 2008). This may also influence the type of information they need.

English language skills or the lack thereof may also influence their ability to search for relevant settlement information. An understanding of New Zealand terminology and colloquialisms is also likely to be an advantage when searching for information.

Figure 5.2: Time spent in New Zealand

Time spent in New Zealand	Number	Percentage
Less than one month	0	0 %
Between 1-3 months	4	13.3%
Between 3-6 months	9	30 %
Between 6-9 months	5	16.7%
Between 9-12 months	12	40 %
<u>Total</u>	30	100 %

Nearly half of the respondents had spent between nine and 12 months while only four had spent less than three months in New Zealand. The majority of the sample had had some time to adjust to life in New Zealand.

5.4.2 Country of origin

Respondents were asked which country they came from because Mandarin and Cantonese are spoken in a number of countries. The responses indicated that

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nearly two-thirds came from Mainland China whilst the remaining came from

Taiwan, Malaysia and Singapore.

Figure 5.3: New Chinese migrants' country of origin

Country	Number	Percentage
Mainland China	19	63.3%
Taiwan	6	20 %
Malaysia	2	6.7 %
Singapore	3	10 %
<u>Total</u>	30	100 %

Nineteen (63%) of Mandarin speakers came from Mainland China and six (20%)

from Taiwan. Two (6.7%) came from Malaysia and three (10%) from Singapore.

Country of origin will play a role in languages spoken and cultural characteristics.

This may influence information seeking behaviour and habits and resources

required to meet new migrants' information need. See sections 4.3.1.1 and

4.3.1.2 for the discussion around language and culture.

5.4.3 Level of education

A question on the level of education was included because research indicates

that cognitive factors play an important role in IB (Belkin, 1990; Dervin, 1999;

Kuhlthau, 1991).

Figure 5.4: Level of education

Highest level attained	Number	Percentage
Primary School	0	0 %
High School	11	36.7%
Tertiary education or Training	19	63.3%
Total	30	100 %

Nineteen respondents (63.3%) had tertiary education or training, and the

remaining 11 respondents (36.7%) have high school education. The level of

education may influence the information searching behaviour of respondents.

5.4.4 Migrants' occupation prior to immigrating

The list of occupations given below was compiled using the New Zealand

Standard Classification of Occupations (New Zealand Official Year book, 2007.)

The reason for using this source to list occupations was that one of the stratifying

criteria in the study was the selection of respondents from those who had

emigrated under the "general skills and business investor" category. The study

did not include refugees.

It can be assumed that occupation is also related to level of education and may in turn reflect cognitive abilities. This may affect IB.

Figure 5.5: Migrants' occupation prior to immigrating

Occupation	Number	Percentage
Legislator /manager	4	13.3%
Professional	3	10 %
Technical	7	23.3%
Clerk	3	10 %
Service /sales	5	16.7%
Agriculture/ Fishery	0	0 %
Trade worker	2	6.7%
Plant /machine operator	0	0 %
Elementary eg. Fruit picking	0	0 %
Homemaker/unemployed	6	20 %
Not adequately defined	0	0 %
Total	30	100 %

The highest percentage of the respondents that is, 23.3%, (seven respondents) were employed in technical services industry, followed by 20% (six respondents) who were homemakers or unemployed. Homemaker here referred to as housewife or househusband. Five respondents (16.7%) were in sales and services and four respondents (13.3%) were in managerial positions. Three

respondents (10%) were professionals and a further three respondents (10%) were in clerical positions.

Respondents' previous occupations were representative of occupations identified in the general skills category as presented in Figure 5.4.

5.4.5 Present employment

Childers (1975) mentions new migrants have a substantial need for survival information, such as employment information. It is reasonable to assume that new migrants will have pressing needs for employment information. It was therefore important to determine the present employment status of new migrants.

Figure 5.6: Present employment

Present Employment	Number	Percentage
Students	5	16.7%
Unemployed	3	10 %
Retirees	5	16.7%
Self employed	2	6.7%
Homemakers	4	13.3%
Volunteers	2	6.7%
Cab driver	1	3.3%
Fast Food	1	3.3%
Chef	2	6.7%
Shop Assistant	3	10 %
Administration	1	3.3%
Cashier	1	3.3%
Total	30	100 %

Five respondents (16.7%) were students and a similar number were retirees.

Four respondents were homemakers (13.3%)*;* three respondents (10%) were

unemployed and a similar number were shop assistants. Two respondents

(6.7%) were self-employed and two (6.7%) were volunteers. The remaining

respondents were a cab driver, a fast food worker, an administrator and a

cashier. The relatively high number of unemployed (three respondents) and the

six respondents (20%) forced to take lower paying jobs than they were qualified

for may be the result of the current economic recession. Lack of English language skills and /or a lack of understanding of the New Zealand job market contributed to this need or situation. This lack of knowledge and need for information could represent a "gap" as identified by Case (2002) and Dervin (1999). The seven respondents (23.3%) who were looking to better their employment opportunities, had information needs related to improving their skills and undertaking training courses.

5.4.6 Languages spoken

This question was relevant because language is an important part of people's cultural identity (Lo Bianco, 2010:12) and the resources they will use will be affected by their language and culture. The sample population was stratified according to respondents who spoke Mandarin. Language will play an important role in how respondents searched for information on the internet.

Figure 5.7: Languages spoken

Languages spoken	Number	Percentage
Mandarin	22	73.3%
Cantonese	9	30 %
Malay	3	10 %
Tamil	3	10 %
Arabic	3	10 %
English	26	86.7%

Twenty- six respondents (86.7%) had learnt English and used English as a means of communication. Twenty- two respondents (73.3%) spoke Mandarin which was the next most commonly used language followed by Cantonese, nine respondents (30%). Although Mandarin and Cantonese speakers can read the same texts they cannot necessarily understand the other language when it is spoken. So although Mandarin and Cantonese share the same writing system, Cantonese speaking respondents tended to speak Cantonese only and Mandarin speaking respondents tended to speak Mandarin only when communicating with their respective language communities.

English is one of the official languages of New Zealand (the other two being Maori and sign languages.) English is therefore essential for business communication and communicating with other population groups. The respondents indicated that they switch to their home language when

communicating with people from their own language or ethnic group. This finding

is similar to other research which indicates that new migrants tend to hold on to

their home language especially in the first year (Nantel, 2008). Malay, Tamil and

Arabic were spoken at 10% each at a very basic level. This was due to

interaction with such language communities from their country of origin.

5.4.7   Ability to read English

New Zealand is an English speaking country where the majority of resources on

the internet placed there by the New Zealand Government will be in English. This

question was included to gain an understanding of respondents' abilities to read

English language websites. Decoding (the ability to recognize written

representation of words) is related to the next question on the ability to

comprehend written text. Reading ability depends on the ability to decode the

letters that make up the words and to comprehend the meaning. It can be

assumed that the ability to decode written English but not to comprehend it will

have an influence on the abilities of respondents to find suitable settlement

information via the internet. English and Chinese orthographies differ.

Respondents were familiar with the Chinese script prior to emigrating. Some are

now required to learn a new writing system in order to read English. They

commented that they frequently used a print or electronic dictionary.

This question was included to gain insight into the respondents' level of reading English.

Figure 5.8: Ability to read English

Ability to read English	Number	Percentage
Able to read English	26	86.7%
Unable to read English	4	13.3%
Total	30	100%

All but six respondents indicated that they could read English (see Figure 5.8.)

5.4.8 Comprehension of written English

This question was included to gain insight into the respondents' level of ability to understand written English. As stated in the previous section reading requires two interrelated skills: decoding and comprehension. The ability to identify words in their printed form is necessary for reading but is not sufficient. Comprehension is also required. Comprehending what is written is essential if respondents are to find relevant settlement information. All respondents indicated their need to learn English.

Figure 5.9: Comprehension of written English

Level of comprehension	Number	Percentage
Very well	0	0 %
Well	0	0 %
Average	9	30 %
Not well	17	56.7%
Not at all	4	13.3%
<u>Total</u>	30	100 %

The level of English comprehension appeared to be very basic from the responses. This finding was substantiated by the information conveyed by most of the respondents that they are attending English language classes to improve their English. Despite their ability to decode, seventy percent of the respondents indicated that their level of comprehension of written English was not good and that they frequently used a print or electronic dictionary. It was noted that most respondents indicated that it was important to learn English in order to secure better paying employment. Seven (23.3%) of the respondents recruited from ARMS indicated that they were taking English language lessons at ARMS in order to improve their chances of finding better paying employment. The remaining respondents were also involved in learning English at various English language centres.

Emigrants to New Zealand under the general skills category are required to pass an English reading, writing and comprehension test in order to satisfy immigration requirements. Although most have met the testing requirements they still experience difficulties with English. The researcher included English reading and comprehension in the survey questionnaire as the inability to understand English would be a barrier to accessing information via the internet and would indicate a need for information to be available in Mandarin.

The findings for this question are related to those for reading English. Translation from Mandarin into English is not a straight-forward word-for-word translation. One respondent indicated her frustration at not being able to compile her resume and also wanted to know why it was referred to as a CV. It can be assumed that new migrants with little or no understanding of English will encounter difficulties in finding relevant information especially in their first year. This would indicate a possible role for public libraries to meet this need by making important settlement information available in Mandarin.

Research indicates that for effective searching, the language abilities of the user should match that of the information retrieval system. For those with limited English comprehension, searching databases and retrieval systems where the language used is English will be problematic. IR systems are designed on the basis that users will be able to specify their needs and obtain the results that precisely match their requests from the systems. Belkin's (1980) research

indicated that people are sometimes unable to express their need for information explicitly. Respondents in the study were learning a new language and expressing their information needs in English would be an additional burden that would be a barrier to effective searching on the internet where resources are presented in English.

5.4.9 Hobbies and Pastimes

The question on hobbies and pastimes was an open question and all respondents indicated that they have some sort of hobby or pastime from do-it-yourself around the home to playing sport, photography, and listening to music. The sample was divided into two age groups: those over 40 years of age (14 respondents) and those younger than 40 (16 respondents.) The reason for this was that it became apparent when the responses were analysed that pastimes were related directly to the diverse life roles of individuals and these were related to age such as student, daughter, mother, father, and so on. It was discussed earlier in section 5.4 that demographic attributes such as age may have an impact on IB. Respondents ages were grouped into two broad age groupings in an attempt to determine if age did in fact influence IB in terms of hobbies.

Leisure time activities for both groups included a wide range of activities related to non-work tasks, Savolainen (1995) such as reading the newspaper, watching television, gardening, cleaning the house, surfing the internet, taking care of the

family and meeting other like-minded people in their community. There was a need for recreational pursuits amongst respondents that was not work related. A few remarked that they considered learning how to speak English properly a pastime and students remarked that studying towards their qualification was a pastime. There may have been a misunderstanding of what *pastime* actually means. The need to spend as much of their spare time as possible in obtaining a qualification was the reason they viewed this activity as a pastime. The tables below in Figure 5.10 list common responses by respondents 40 years and over.

Figure 5.10: Hobbies and pastimes of respondents 40 years and older

Hobbies and Pastimes	Number of responses	Frequency of use for age group
Golf	5	35.7%
Sewing	3	21.4%
Home decorating	3	21.4%
Cooking	10	71.4%
Reading on self-improvement	2	14.3%
Scrap-booking	5	35.7%
Total = 14		

Seventy-one percent (10 out of the 14 responses) indicated cooking as a pastime. Five responses (35.7%) indicated golf and scrap-booking as hobbies and there were three responses (21.4%) each for sewing and home decorating. The lowest, two responses (14.3%) were for reading on self-improvement.

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Travel and chatting over the internet to family members and friends from their home country were also mentioned by older respondents who used the internet regularly. The answers to the question on pastime by the older respondents (ages 40 years and over) mentioned activities such as golf, sewing, home decorating, cooking, gardening, fishing, collecting, knitting, readings on self-improvement, scrap-booking and so on.

Younger respondents indicated a wider variety of hobbies and pastime related activities. This may be related to younger respondents having more time at their disposal to engage in their pastime activities whereas older respondents were occupied with other tasks such as raising or taking care of family. The table in Figure 5.11 below indicates the hobbies and pastime activities of respondents under 40 years.

Figure 5.11: Hobbies and pastimes of respondents 18 – 40 years

Hobbies and Pastimes	Number of responses	Frequency of use for age group
Fashion	8	50 %
Visiting friends	7	43.8%
Photography	3	18.8%
Facebook/skype	14	87.5%
Computer games	8	50 %
Fitness and beauty	5	31.3%
Internet shopping	6	37.5%
Total = 16		

The 16 younger respondents (between the ages 18 – 40 years) indicated that they enjoyed following fashion, visiting friends, taking photos and posting them on Facebook, computer and video games, shopping, fitness and beauty and shopping on E-bay. Fourteen respondents reported using on-line social networking sites such as Facebook. Younger respondents made the greatest use of social networking through the internet using both Facebook and Skype. Facebook could be an information ground for them. Although the primary purpose is to share information and photos and to keep in touch with family in their home country and to make new friends in New Zealand much information may be shared coincidentally (Pettigrew 1998 & 1999).

5. 5   INFORMATION SEEKING BEHAVIOUR

Questions in this section pertained to understanding respondents' information needs. Respondents were probed for the types of sources or resources they will use to meet their information needs and most importantly if they would use a public library Mandarin language web portal to meet these needs.

5.5.1   Sources consulted for information

Respondents were interviewed in-depth to find out what sources they used to address the following categories of information need: travel, products and services; health; education; recreation; financial; employment; local news; news from their home country; help with learning English; resources in Mandarin language; government departments; housing and driving. These categories were based on research on migrants' major information needs. These questions were included to enable the researcher to answer the research sub-question: What are the main information needs of new Chinese Mandarin speaking immigrants in the Auckland region of New Zealand?

Using open ended questions allowed the researcher to interview respondents in-depth about their information needs and gave the respondents the freedom to express themselves in their own words (Strauss & Corbin, 1998). The translator

assisted with translating responses where necessary. She also assisted with probing respondents to answer questions in more depth.

5.5.1.1 Sources of information on travel

Respondents indicated that they had a need to travel back to their home country to visit family and friends. (See Chapter Two section 2.2.1 on the discussion on transnationals.) Most indicated that they have or will in the future use the internet to book and pay for their airline tickets. The need to travel was equally important to both male and female respondents. Younger respondents with disposable incomes and who lived at home indicated a need to travel. Sources of travel information ranged from watching television, reading travel guides and magazines, visits to the local information centre, internet and recommendations from family or friends. The four respondents (13.3%) who had recently arrived in New Zealand were still too busy settling into their new environment to think about travel just yet but commented that they would like to tour their new country and surroundings as soon as they possibly can.

5.5.1.2 Product and service information

Types of services required by respondents included day care facilities, electricity and telephone providers, general medical practitioners, insurance providers,

accommodation, product brands, gym membership, education and computer

technology. Product information was gained from a range of sources including

reading the local newspaper, internet, talking to customer representatives at

service centres at the computer store for example, looking at junk mail, watching

television and reading magazines. Some respondents relied on the information

passed on from family and friends which fits in with Chatman (1985 & 1999)

small world theory.

Figure 5.12: Type of product and service information needed

Sources used	Number of responses	Frequency of use for each age group
Accommodation	30	100 %
Telephone and electricity	20	66.7%
Daycare	8	26.7%
Doctors	12	40 %
Insurance	6	20 %
Banking	12	40 %
Computer technology	8	26.7%
Education and training	10	33.3%
Gym membership	4	13.3%
Product brands	5	16.7%

All respondents indicated a need for accommodation information. The next most important need was for telephone and electricity with 20 responses (66.7%). Doctors and banking had 12 responses (40%) each. There were ten responses (33.3%) for a need for education and training and 8 (26.7) for daycare resources. There were four responses (13.3%) to gym membership and five (16.7%) for product brands. This finding is similar to that of other researchers such as Caidi (2008); Childers (1975); Fisher, Durance and Hinton (2004); Shoham and Strauss (2008) on the need for basic survival information such as accommodation, health and education by new migrants.

It was assumed that the type of product and service information needed was related to diverse life roles of individuals such as student, parent, elderly, self-employed, retirees and unemployed. Product and service information is of importance to all respondents. The difference is in the type of information needed that was in turn related to the goal and purpose of the respondent as well as context (Wilson, 2000).

5.5.1.3 Health Services

More than 50 percent of respondents (seventeen respondents) said that they would go to a health professional such as the local doctor or hospital to discuss issues relating to their health. Almost 20 percent (six respondents) said they would go to the local pharmacy if they knew it was not a life threatening issue.

Just under seven percent (2 respondents) remarked that they have looked up

information relating to a health query on the internet. One respondent said she

would consult the student nurse on campus. An older gentleman told the

researcher that he relied mostly on herbal Chinese medication to rid him of any

ailments. He mentioned that it was common for Chinese people to consult with

herbalists before going to a medical practitioner. Although the majority of

respondents indicated they used mainstream professionals, there was one

respondent who used alternative sources.

Just under seven percent (2 older male respondents) who were married and had

children told the researcher that they were actively seeking health insurance

cover because they were advised about this in their initial immigration process.

These findings support other research (Caidi, 2008; Childers, 1975; Fisher,

Durance & Hinton, 2005; Shoham & Strauss 2008) on the need for everyday

survival information.

5.5.1.4   Information about education

Respondents indicated that visits to local tertiary campuses, schools and internet

sites, the local and regional newspapers and television advertisements were

sources of information regarding education. Talking to family and friends (which

constitutes the respondents' *small world*) about vocational training and learning

to speak English with other fluent English speakers in the local Chinese

community were also mentioned. The unemployed were looking at ways to retrain or up-skill in order to find employment or improve their employment.

As discussed in section 5.4.3 almost all respondents either had a tertiary or high school education. However the need to retrain and up-skill was great in order to compete in the job market and for those seeking better paying employment. There was also a need to gain a New Zealand qualification to improve their chances of finding suitable employment.

Five respondents (16.7%) who were parents found suitable schooling information for their children by talking to friends and family, reading the profile of the school on the New Zealand Ministry of Education websites and visiting the local schools personally. Caidi (2008); Fisher, Durance and Hinton (2004); Shoham and Strauss (2008) all indicate in their research that information about education is important in the settlement process of new migrants.

5.5.1.5   Recreation

The following were responses to the question on recreational information sources used by respondents. Both formal and informal sources were used to meet the need for recreational information. The respondents were divided into two groups to determine whether information sources for the two groups were different.

Figure 5.13: Sources of recreational information for respondents 40 years and older

Sources used	Number of responses	Frequency of use for each age group
The local newspaper/radio	8	57.1%
The local church	4	28.6%
Library	7	50 %
Family/friends	9	64.3%
Internet	6	42.9%
Total = 14		

The need for recreational information sources also depended very much on individual interests or cognitive attributes such as playing the piano, running, music, sport, cooking and so on. Four (28.6%) older respondents used their social networks at church (this constitutes an information ground as described by Pettigrew, 1998 & 1999), nine respondents (64.3%) used family and friends, local paper was used by eight respondents (57.1%) and the internet by six respondents (42.9%) as information sources. The findings indicate that respondents in the older age category used a diverse range of sources to meet their need for recreational information.

Figure 5.14: Recreational sources of respondents 40 years and younger

Sources used	Number of responses	Frequency of use for each age group
Internet (play games)	12	75 %
Library	6	37.5%
Campus	3	18.8%
Radio/Newspapers	8	50 %
Social Networking (Facebook/Skype)	16	100 %
Total = 16		

The five (31.3%) students answered that they would use the internet to play games. Three (18.8%) other respondents indicated they frequented internet cafes to play games and surf the net. All respondents indicated they used the internet for Facebook and Skype to communicate with family and friends. Other sources used for recreational information included the library (6 respondents, 37.5%), campus (3 respondents, 18.8%), local radio and newspapers (8 respondents, 50%.)

The internet is used by both age groups to meet their recreational needs for information as well as for other purposes. This is clearly exemplified in the use of social networking sites such as Facebook and Skype especially by younger respondents who had a need to keep in touch with friends and family. Older respondents indicated more traditional sources such as family and friends and

the local church, which constitute their *small worlds* as described by Chatman (1996; 1999 & 2005).

5.5.1.6   Financial information

Financial information such as information on budgeting and mortgages was most commonly sought via visits to the local bank or financial institutions. Almost all respondents (97%) indicated they used the internet at some point to look up foreign exchange, interest rates and for share trading. (See Figure 5.10 for percentages relating to personal banking on the internet.) When respondents were prompted as to where they obtained information on budgeting most said that they usually relied more on personal judgment than professional help or help from someone else. Three respondents out of thirty mentioned difficulties accessing online forms and bill payment facilities.

5.5.1.7   Work and employment

The unemployed and those in lower paying jobs were most in need of employment information. Although only three respondents (10%) were unemployed, there were five (16.7%) respondents who volunteered (teacher aid, child care worker, assisted family in business, ARMS volunteer, assisted in table tennis coaching and sporting activities) and these five respondents wished to

learn skills and learn about the New Zealand job market. Five students (16.7%)

were in search of employment. Some respondents had taken jobs that were not

related to their skill level and training, for example the cab driver, fast food

worker, chef, administrator and shop assistant, and had had no option but to

seek lower paying jobs for now. (See Figure 5.5 for the number of respondents

and percentages.) The New Zealand economy is presently in recession and

finding employment is no easy task for new migrants. This reflected respondents'

problematic situation as described by Belkin (2005). New migrants on their arrival

to New Zealand are referred to the government agencies such as ARMS and

Refugee Services New Zealand, and the respondents indicated that they are

following their recommendations to learn English and compile CVs that will be

relevant to the job market.

It was reported in the *New Zealand Herald* newspaper that "migrants are up

against dual work woes in recession" (Tan, 2010). Asian migrants who have

given up their birth citizenship to become New Zealanders are plagued by further

problems in the recession. Currently Asian unemployment at nine percent is well

above the national average of seven percent in New Zealand, so many are

looking for work in their native countries. But despite having job offers, many

struggle to get work visas as they are now considered 'foreign' workers. Many

are from countries such as China, Hong Kong and Taiwan that do not permit dual

citizenship.

The main opposition political party and Labour Party's associate affairs

spokesman, Member of Parliament Raymond Huo, states that, "The level of

Asian unemployment in New Zealand is alarming and unprecedented and about

21 000 Asian people are without jobs and this is hurting many Asian families"

(Tan, 2010). New Chinese migrants face many challenges finding employment in

New Zealand for example, their skill level and training needs to equate with New

Zealand standards and there is the need to retrain. The inability to speak English

at the level of other New Zealanders and the perception by New Zealanders that

Chinese migrants have come to take their jobs are added pressures (Xinhua,

2011).

The point the researcher wishes to raise here with regard to the article in the

New Zealand Herald is that unemployment among migrants, especially new

Chinese migrants, is bound to have major ramifications with regard to all aspects

of new migrant's settlement into New Zealand and this will influence their IB.

5.5.1.8   Local news

Local news provided new migrants with both cultural and social information and

met their needs for socio-cultural information. This source of social interaction

information is gained through local news channels. (Socio-cultural needs and IB

models are discussed in Chapter Three, section 3.5.)

Figure 5.15 Sources of information on local news

Sources	Number of responses	Frequency
Church	4	13.3%
Television	20	66.7%
Chinese radio	30	100 %
Family and friends	10	33.3%
Internet	29	96.7%
Local newspaper	30	100 %
Local Chinese newspaper	30	100 %

Older respondents indicated that the church, Chinese radio station, television, family and friends were a source of information on local news. Both younger and older respondents used the internet at campus at the tertiary institution they attended or at home for information on local news. Local information was important in assisting new migrants settle. All 30 respondents indicated that the local newspaper provided much needed information, on issues such as employment, education, health, government departments and so on. The classified section was gleaned for information on employment, garage sales and Chinese community information. It also provided information on happenings at the local schools and sporting facilities, entertainment centres, churches and so on. Younger respondents and parents, 11 respondents (36.7%) indicated that advertisements in the local newspaper and local radio stations indicated where they could shop for bargains. All respondents indicated that they had access to

the local Chinese newspaper in Mandarin and access to the local Chinese radio station. Twenty-nine respondents (96.7%) used the internet and 20 (66.7%) respondents used television as a source of local news.

5.5.1.9   News from home country

Sixteen (53.3%) of the younger respondents indicated that they used the internet regularly to communicate with family and friends and to catch up with news from their home country. Two (6.7%) older respondents indicated that they have visited the local library to read the Chinese newspapers. Chatting to family and friends over the telephone was also a common activity for the 14 older respondents. E-mailing friends and chatting on Skype and Facebook were used to communicate with those still in their home country especially by younger respondents. Five tertiary students and two unemployed respondents said they regularly used Skype and Facebook as a method of communication.

The findings indicate that respondents have a need to stay in touch with family and friends in their home country. ICT and the use of social networking sites such as Facebook and Skype have made it easier for emigrants to retain their *small world* (Chatman 1985 & 1999) as a source of information.

5.5.1.10   Learning English

All respondents were attempting courses to improve their English language skills. Respondents indicated that they obtained information on courses on learning English from the local polytechnikon, language schools and community education courses offered at schools and other centres. CAB and ARMS were mentioned in addition to the above sources as providing useful information on courses to improve their English. Sources used to improve their English include bilingual English/Mandarin dictionaries, internet, audio visual learning instruction kits, television and so on.

The three (10%) unemployed respondents and those seeking to better their employment prospects such as the fast food worker, cab driver, chef, shop assistant, administrator and cashier indicated that their inability to speak English properly was a huge impediment to finding suitable employment and employers were more likely to employ someone who could speak English well especially during a recession when there is so much competition in the job market. This need to improve English skills can be related to the need for employment. Thus indirectly the need for information in improving English skills was a need for survival information which is one of the major information needs in new emigrants (see Figure 1.1) Chatman's (1985, 1999 & 2000) study of maginalised groups is applicable to respondents not having the required English language skills to take part in the work force.

5.5.1.11 Resources in Mandarin language

In response to a question on Mandarin language resources all but one respondent used the internet for resources in Mandarin at some point. Five (16.7%) tertiary students indicated that there were ample Mandarin language resources via Google on the internet. They frequently read Chinese newspapers, or watched Chinese movies or Chinese television online. The four stay-at-home parents watched Chinese television channels available via cable for a fee. Six (20%) respondents indicated that they preferred using printed resources such as books and magazines borrowed from the local library, family or friends. One respondent was able to source Mandarin resources such as the latest popular printed magazines and novels from friends that have just visited China. The respondents all expressed a need for Mandarin language resources.

5.5.1.12 Government Departments

Although there are a number of information resources available on Government and service provider websites all respondents mentioned that they found this material difficult to access or had been unaware of it during their initial settlement. This indicates a more coordinated and collaborative approach is needed to provide migrants with important information produced by Government departments.

Figure 5.16   Sources of information on Government departments

Sources	Number of responses	Frequency
ARMS	11	36.7%
CAB	11	36.7%
Family and friends	3	10 %
Internet	17	56.7%
Government officers	2	6.7%

The 11 (36.7%) respondents that were recruited from ARMS indicated that they

obtained information about Government Departments from using the internet at

ARMS, from the ARMS Chinese liaison officer and CAB. Seventeen (56.7%)

respondents that had been living in New Zealand for more than six months (See

Figure 5.1) seemed more familiar with the various departments and their

acronyms and indicated that they obtained information from Government

Departments by using the internet, phoning the department or by visiting the

offices personally. Two (6.7%) respondents indicated that they preferred face-to-

face interaction with government officials to ensure they are being understood in

terms of their needs. Speaking to family and friends about the services offered by

these agencies was also mentioned by three (10%) respondents.

The longer the respondents had been in New Zealand, the more able they were

to find relevant information and the more familiar they were with New Zealand

terminology. They were thus able to search for information using this knowledge.

The assumption can be made that the more familiar users are with local

terminology the more efficient, sophisticated and systematic their information

seeking strategies and tactics will be. Dervin (1980) ASK model elaborates on

the non-specificifiability of information needs. See section 3.4.2 and Figure 3.2

for further explanation.

5.5.1.13   Housing

Success with searching for housing information was dependent on community

and Government contacts as well as local knowledge. The discussion preceding

mentioned that respondents who were in New Zealand for longer were more

familiar with resources that may assist them meet this information need.

Figure 5.17 Sources of information on housing

Sources	Number of responses	Frequency
ARMS	10	33.3%
WINZ	3	10 %
Family and friends	7	23.3%
Internet	20	66.7%
Housing NZ	2	6.7%
Local newspaper	4	13.3%
Trade-me	4	13.3%
Parents accommodation	3	10 %
Student hostel	2	6.7%

Personal contacts with the agencies Housing New Zealand, two responses

(6.7%), ARMS, 10 responses (33.3%), Work and Income New Zealand (WINZ)

three responses (10%) and chatting to family and friends, seven responses

(23.3%), were mentioned by respondents as sources of information on

accommodation needs. The local newspaper carried advertisements for housing

rentals and purchases and this was mentioned by the four newer arrivals (13.3%)

as their first source consulted. Three of the five students mentioned that they

stayed at home with their parents and the remaining two respondents were at

student hostels. A very popular auction website in New Zealand

www.trademe.co.nz that publishes housing for sale and rent was also mentioned

in the study by four respondents (13.3%) who were looking to purchase their own

home.

5.5.1.14 Driving

The Automobile Association of New Zealand, library, news agency and internet were common responses to the question on sources of information about obtaining a driving license and other issues related to driving. The need to convert their overseas license to a New Zealand driving license, to learn more about the New Zealand road code and road rules, to find out driver requirements and car licensing were common needs which were met by respondents using these resources. One respondent mentioned that he had AA membership and used this for travel guides, maps and insurance cover.

Published information available from a variety of sources and in various formats satisfied this information need. Putting all this information on a website through a public library web portal may be useful for immigrants.

Although respondents were asked if they had anything to add that was relevant to information needs, there were no other information needs mentioned by the respondents and the list above seemed to have covered the most relevant or pertinent information needs experienced by respondents.

The open questions in this section of the questionnaire attempted as far as possible to capture the major information needs of new migrants as identified in the literature review.

5.6 RESOURCES MOST USED TO FIND INFORMATION

Users today have a diverse range of resources to choose from. The choice of resources will be determined by various factors such as, availability, time, urgency, need, cost, ease of access and so on. Other factors will be the cognitive, social, and cultural aspects of the user in their search for information. There are sometimes barriers that prevent people from accessing important information, for example, lack of language skills, limited access to information, limited technological skills and so on.

Figure 5.18: Resources used to find information

Resources used	Number of responses	Frequency
Internet (www)	15	51.7%
Email	15	51.7%
Talking to people	12	40 %
Library	10	33.3%
Telephone	8	26.7%
Newspaper	4	13.3%
Other	5	16.7%

The table above indicates that the highest number of responses, were for the internet (using the World Wide Webb (WWW)) which is the most frequently used source of information. This was followed by talking to people personally, followed

by using the library and lastly talking over the telephone. Searching newspapers

for information was the resource least frequently used by respondents.

Resources listed in the category other included acquiring information from the

congregation at church, the local Chinese radio station, the local greengrocer

and the shop-keeper. These places, it can be assumed served as information

grounds for the respondents (Pettigrew 1998 & 999). (See Chapter Three section

3.5.3.)

Although most responses indicated the use of the internet, findings indicate that

respondents also use more traditional channels such as local shopkeepers

(Chatman, 1985; 1992; 1996; 1999; 2000). The findings indicate that social

factors play an important role in respondents IB. This is illustrated by their use of

email and Skype, talking to friends, church and so on. These findings are similar

to those of Line's (1971) study that showed that non-library methods of

information seeking, such as, a person seeking information through so-called

informal channels like talking to relatives or work colleagues were preferred to

formal library channels. Ten respondents (33.3%) used the public library and saw

it as a source of information. However, the large scale familiarity of the sample

with the internet is an important factor. It means they would be willing and able to

consult a library web portal even if they don't physically use the library.

5.7 USAGE OF THE INTERNET

Although all but one respondent used the internet, the amount of time spent on using the internet was related to factors such as cost, access and familiarity with the internet.

5.7.1 Internet use

All but one older male respondent used the internet. The age of the respondent may have contributed to his non-use of the internet. The respondent expressed no desire or need to use the internet. The action taken by this respondent may be described as the unintentional behaviours including passive or purposive avoiding of information seeking (Case, 2002).

5.7.2 Reasons for using the internet

If the public library is to set up a dedicated website for migrants, it is important to know what they use the internet for and the frequency with which they use it, so access to suitable resources can be provided. It was therefore necessary to establish respondents' reasons for using the internet and frequency with which they used the internet for these purposes.

Figure 5.19: Reasons for using the internet

Category	Always	Very Often	Sometimes	Rarely	Never
To share knowledge with the world, for example through a blog, email, skype and facebook.	15 (51.7%)	14 (48.3%)	0 (0%)	0 (0%)	0 (0%)
To get employment information	16 (55.2%)	13 (44.8%)	0 (0%)	0 (0%)	0 (0%)
To do your personal banking	18 (62.1%)	9 (31%)	2 (6.9%)	0 (0%)	0 (0%)
To learn about local events	16 (55.2%)	8 (27.6%)	5 (17.2%)	0 (0%)	0 (0%)
To read the news	17 (58.6%)	4 (13.8%)	7 (24.1%)	0 (0%)	1 (3.4%)
To find general information about a subject	17 (58.6%)	3 (10.3%)	8 (27.6%)	1 (3.4%)	0 (0%)
Use chat rooms	16 (55.2%)	4 (13.8%)	7 (24.1%)	2 (6.9%)	0 (0%)
To get travel and accommodation information	11 (37.9%)	8 (27.6%)	5 (17.2%)	1 (3.4%)	4 (13.8%)
To advertise or sell a product	8 (27.6%)	12 (41.3%)	0 (0%)	0 (0%)	9 (31%
To buy things	6	11	3	0	9

	(20.7%)	(37.9%)	(10.3%)	(0%)	(31%)
For hobby information	4 (13.8%)	12 (41.3%)	4 (13.8%)	6 (20.7%)	3 (10.3%)
To get educational material	10 (34.5%)	6 (20.7%)	9 (31%)	2 (6.9%)	2 (6.9%)
To download or listen to music	6 (20.7%)	10 (34.5%)	9 (31%)	0 (0%)	4 (13.8%)
To correspond with friends	11 (37.9%)	4 (13.8%)	5 (17.2%)	6 (20.7%)	3 (10.3%)
To meet people	10 (34.5%)	5 (17.2%)	4 (13.8%)	6 (20.7%)	4 (13.8%)
To study	9 (31%)	5 (17.2%)	10 (34.5%)	3 (10.3%)	2 (6.9%)
To play games	5 (17.2%)	4 (13.8%)	5 (17.2%)	15 (51.7%)	0 (0%)
To get personal help	2 (6.9%)	4 (13.8%)	4 (13.8%)	9 (31%)	10 (34.5%)
To find software	3 (10.3%)	2 (6.9%)	0 (0%)	4 (13.8%)	20 (79%)

The percentages in the table above refer to the 29 respondents that stated that they used the internet (i.e. percentages are worked out where N=29). The most common use of the internet was to "share knowledge with the world", for example through a blog; and "to obtain employment information". All respondents used the

internet for this need *always* or *very often* (the categories *always* and *very often* were combined to get this figure). Twenty-seven respondents (93.1%) used the internet *always* or *very often* "to do personal banking". This was followed by "to learn about local events" (82.8%). Over sixty percent of respondents indicated that they used the internet *always* or *very often* for the following information needs: "To find general information about a subject";" to read the news"; "to use the chat rooms"; "to get travel and accommodation information" and "to advertise or sell a product". This was followed by more than 50 percent respondents indicating that they used the following information resources on the internet *always* or *very often*: "to buy things"; "to get educational material"; "to download or listen to music"; "to meet people" and "for hobby information". The internet was used the least "to find software" and "to get personal help".

The internet was used most for employment related information and to share knowledge. The need for employment related information was due in part to the country being in economic recession and emigrants' need for survival information.

The greatest use of the internet was to: "share knowledge with the world", for example through a blog, email, Skype and Facebook "to obtain employment information" and "to do personal banking". This was followed by: "to learn about local events". To share knowledge with the world could imply reciprocal gains in terms of information encountering as a result of information sharing. These social

forums could serve as "information grounds" as identified by Fisher (2005:185-189). However more research is needed on this. These findings are similar to other research (Chatman, 1985; 1996; 2000; Savolainen, 1995) that shows that much important information sharing and seeking occurs in people's everyday lives. The social aspect of respondents IB was reflected in the high number of responses in terms of using the web especially by younger respondents as a recreational resource.

Hargittai (2003) draws a distinction between "capital enhancing" (job searches, health-information seeking, utilization of government services) and information seeking that has recreational motivations (visiting gaming sites and following sport scores.) Respondents used the internet for both categories of information need and this may have implications for the design of a public library web portal. Public libraries need to take cognizance of these aspects in order to design a system that can meet the holistic needs of the information user.

5.7.3 Internet usage

The research question being investigated is whether a website via the public library portal could be used to meet new migrants' information need. It is therefore important to establish internet usage among new migrants.

The frequency of internet use is related to familiarity with the internet which is in turn related to demographic factors, such as age, education, language, income and employment (see section 4.3.1.3.) Factors that may affect or influence usage are cost of internet service and bandwidth (broadband or dial-up.)

Figure 5.20: Frequency of internet usage

Frequency	Number	Percentage
Every day (Frequently)	18	60 %
4 or 5 times a week (Regularly)	5	16.7%
Once a week (Occasionally)	3	10 %
Only when I need to	3	10 %
Not at all	1	3.3%
<u>Total</u>	30	100 %

Frequent internet users are those who use the internet daily or almost every day. Regular internet users access the internet four or five times a week but not every day and occasional users are those who access the internet once a week or less.

Eighteen (60%) respondents reported using the internet every day. The five (16.7%) tertiary students all used the internet daily and tended to use it more on campus. Some respondents stated that: "having a broadband connection" or "using the internet at home" make it possible to access the internet more

frequently. This factor may be related to income. Four (13.3%) respondents indicated that they had wireless connection to the internet and nine (30%) respondents had broadband connection at home. Respondents who had broadband connection used the internet *daily* or *frequently* compared to those that did not have broadband access and who used the internet at work, campus or internet cafes.

The 11 respondents (36.7%) that were unemployed or those seeking better employment prospects indicated they used the internet frequently to look up job listings. Students are usually high internet users for entertainment and will also be high internet users for study. This was reflected in the findings as the five respondents (16.7%) who used the internet for entertainment purposes also used it to find information relating to their studies. They also probably had easy access to the internet at their campuses. The students in the study were young and unmarried. The younger respondents in the study used the internet more frequently for social networking and to meet recreational needs than older respondents. More use of the internet was made by this group in the study than older respondents. They may also prefer to use other means for their recreational needs such as visiting family or friends (*small world.*) Access to the internet may also be more limited for this group of respondents due to time constrains. Three (10%) of the older respondents indicated that they used the internet less than other family members and relied on younger family members for assistance.

5.7.4 Internet charges

The cost of access to the internet was a factor and was related to amount of usage. This was not an absolute as the students and some employed respondents had free access to the internet either at work or on campus. The usage of those respondents who paid for access to the internet was affected by bandwidth (broadband or dial-up) and amount of data they may transmit or download per month according to their contracts. Time of day that the internet is used may also affect the speed of data transmission (periods of heavy demand may make data transmission slower) and cost (off-peak usage is usually cheaper) which in turn may affect usage. Therefore bandwidth, time of day the internet is used (off-peak rates cheaper) and access to the internet are factors that will influence cost as well as frequency of use.

Figure 5.21: Payment for internet usage

Responses	Number	Percentage
Yes	22	73.3%
No	8	26.7%
Total	30	100 %

Twenty-two respondents (73.3%) said they paid to use the internet and the

remaining 7 respondents (26.7%) did not. The cost depended on bandwidth and

limits on data transmission. Seven respondents (26.7%) did not pay and used the

internet at work or at the campus. One respondent did not use the internet.

Two (6.7%) respondents explained that it cost too much to establish and

maintain internet access at home. These two respondents used the internet at

work. Some of these factors were discussed above. Another respondent

remarked that not having internet access at home also had costs. He felt he is

disadvantaged by not having access to the internet at home, as he was unable to

search the internet for job postings.

The findings indicate that internet charges were less of a factor influencing

frequency of use for students and those who used the internet at work than for

those without broadband connection at home. Income will influence those

respondents who paid for broadband connection. Related to this is the

convenience of using the internet at home which may have increased the

frequency of use for respondents who have this facility.

5.7.5 Internet usage in relation to charges

The findings indicate that frequency of use of the internet was dependent on bandwidth which is related to cost. The findings indicate that those with broadband connection at home used the internet more frequently.

Figure 5.22: Internet usage in relation to charges

Responses	Number	Percentage
Yes	29	96.7%
No	1	3.3%
Total	30	100 %

All the respondents that used the internet indicated that they would use the internet more if they did not pay. The four respondents (13.3%) with a dial up connection indicated that they would prefer a faster broadband connection but were constrained by cost. One (3.3%) older respondent did not use the internet at all. He did however state that he was shown how to use it but found it difficult to use. The cost of using the internet had no influence in this case.

The responses indicated that frequency of internet usage does relate to accessibility and cost. This will influence not only the type of materials or

resources the respondent is able to access but also how efficiently and effectively respondents are able to access these resources.

5.7.6 Familiarity with the internet

Regular internet users are more likely to be familiar with using the internet than the occasional or novice user. It was therefore important to find out whether the respondents were familiar with the internet and were able to use it with confidence.

Figure 5.23: Familiarity with the internet

Responses	Number	Percentage
Yes	27	90%
No	3	10%
Total	30	100%

All but three (10%) respondents indicated that they are confident with using the internet. However some respondents said they did have problems or difficulty in searching the internet using local terminology and searching in English. The advances in ICT discussed in Chapter Two, have meant that there are more opportunities for people to use the internet today so people are more likely to be familiar with using it.

5.7.7 Assistance with using the internet

The researcher wanted to establish if the respondents were able to use the internet without assistance as this would have implications for the ability of users to access information via a portal on the public library webpage.

Figure 5.24: Assistance with using the internet

Responses	Number	Percentage
No	27	90%
Yes	3	10%
Total	30	100%

Twenty-seven (90%) respondents indicated that they were confident with using the internet and will not require help from anyone when using the internet. Assistance with using the internet and familiarity with the internet are related.

Although respondents were familiar with the internet and stated that they did not require assistance with using the internet, factors such as lack of English language skills discussed in section 5.4.6 – 5.4.8 can be a barrier to successful retrieval of information.

5.8   INTERNET AND LOCAL PUBLIC LIBRARIES

Chapter Two, section 2.8 highlighted some of the challenges facing public libraries in the digital age. It was necessary to understand respondent's use of local public libraries in relation to digital access to information. One of the barriers for example, to accessing public libraries will be proximity. The provision of resources through library web portals will eliminate this barrier if proximity to a public library was an issue. Public libraries are also attempting to bridge the digital divide by making resources through the internet freely available to the public. It was important to gauge whether respondents were aware of this.

5.8.1   Proximity of local public library

The question on proximity of the public library was included because research has shown this to be an important factor in usage (Boston Public Library, 2010).

Figure 5.25: Proximity of local public library

Responses	Number	Percentage
Yes	23	76.7%
No	7	23.3%
Total	30	100 %

Twenty-three (76.7%) respondents indicated that the local public library was close to where they lived and seven (23.3%) respondents said that they did not have a public library close to where they lived.

It is possible that the creation of public library web portals to address the information needs of new migrants may alleviate the need to visit the public library in person as these would be available via the internet.

5.8.2 Knowledge of free internet access at local public libraries

Most public libraries in New Zealand do not charge to use the internet except for certain services such as email and the use of social networking sites. Non-members and visitors are also charged. Access to many internet sites are freely available for all, for example government and social services sites. The question relating to whether the respondents knew of the free internet access to these sites at their local public library was asked to gauge respondents' familiarity with what is available at a public library and their willingness to use the public library and public library web pages more frequently if information was tailored to their specific need.

Figure 5.26: Knowledge of free internet access to sites at local public libraries

Responses	Number	Percentage
Yes	20	66.7%
No	10	33.3%
Total	30	100 %

Twenty (66.7%) respondents indicated that they did know that there was no charge for accessing certain internet sites using computers available at the public library whilst the remaining ten (33.3%) said that they were unaware of this. Most respondents had internet connection at home or could use the internet for free at work or on campus. However the fact that two-thirds (66.7%) of the respondents knew that certain sites could be accessed for free at the public library indicates that they used the internet at the library and were aware of these sites irrespective of access elsewhere. This indicates that offering access to a broader range of free websites may be welcomed.

However all respondents indicated that they would make more use of the internet if public libraries collated Mandarin language resources on their websites. All respondents also indicated that information would be useful if it was provided in both English and Mandarin. The same respondents also believed that their integration into New Zealand would have been easier if they had been directed to one web site for on-line resources to assist them in their initial settlement. It can

be assumed from these responses that access to information sources relevant to new migrants in Mandarin via a public library portal would be a welcome and useful source of information. New migrants can use on-line public library resources without limitation during the opening hours of the library.

5.8.3 Use of internet at local public libraries

As mentioned earlier in the discussion (section 5.8.2) New Zealand public libraries provide access to certain internet sites for free, such as government departments. However this information is scattered over a number of sites and not collated. The researcher wanted to establish whether respondents would make use of a public library web portal through which such sites would be collated and evaluated and made accessible.

Figure 5.27: Use of internet at local public libraries

Responses	Number	Percentage
Yes	18	60%
No	12	40%
Total	30	100%

Eighteen (60%) respondents indicated that they had used the internet at the public library at some point and the other 12 (40%) respondents said they had not. Some of the reasons given for not using the free internet at the public library were related to convenience such as opening hours of the library, inability to access all sites and knowledge of suitable sites providing settlement information. One respondent (3.3%) did not use the internet. Nine (30%) respondents indicated that they used the internet at the public library regularly during their first few weeks of their arrival before they were connected to the internet at home. The same group indicated that they still occasionally used the internet at the public library at present.

5.8.4 Internet use for resources in Mandarin

The researcher wanted to established whether respondents were at present using the internet to locate Mandarin language resources. This is relevant in order to establish whether Mandarin language resources on the internet through public library web portal will influence new Chinese migrants to make more use of these sites for their information needs. Hepworth (2007) argues that cultural contexts as well as information products and services play significant roles in people's IB. The researcher wanted to establish this relationship.

Figure 5.28: Internet use for resources in Mandarin

Responses	Number	Percentage
Yes	29	96.7%
No	1	3.3%
Total	30	100 %

All but one respondent indicated that they have used the internet at some point to get information in Mandarin. Information in Mandarin that was accessed on the internet ranged from reading newspapers on-line and downloading music to accessing resources or information related to their studies, teaching or learning.

5.8.5 Frequency of internet use for resources in Mandarin

This question was asked to determine the amount of use respondents made of Mandarin language resources on-line and to determine to what extent respondents were accessing resources in their home language.

Figure 5.29: Frequency of internet use for resources in Mandarin

Frequency	Number	Percentage
Every day (Frequently)	18	60 %
4 or 5 times a week (Regularly)	5	16.7%
Once a week	3	10 %
Only when I need to	3	10 %
Not at all	1	3.3%
Total	30	100 %

Frequency of internet use for Mandarin language resources was related to frequency of internet usage in general (see section 5.7.3.) Respondents tended to use the internet for both English and Mandarin resources. However all 29 respondents who used the internet (96.7%) indicated they would use it more if Mandarin language resources were collated and made available by public libraries via a portal.

5.8.6 Frequency of internet use for accessing Mandarin newspapers

Mandarin language newspapers provided a means of meeting language and information needs of new Chinese migrants. The researcher wanted to find out if the

availability of such resources as Mandarin newspapers online influenced

respondents to use the internet more.

Figure 5.30: Frequency of internet use for newspapers in Mandarin

Frequency	Number	Percentage
Every day (Frequently)	18	60 %
4 or 5 times a week (Regularly)	5	16.7%
Once a week	3	10 %
Only when I need to	3	10 %
Not at all	1	3.3%
<u>Total</u>	30	100 %

Although the response to this question was related to the above discussion, all

30 respondents including the respondent who stated that he did not use the

internet, indicated that they would use the internet more if public libraries

provided access to newspapers in Mandarin on the internet.

5.8.7 Perceived usefulness of a public library webpage for access to resources in Mandarin

This question on the perceived usefulness of a public library web portal for accessing resources in Mandarin is related to the previous three questions. The researcher wanted to probe further with regard to the use of the internet for Mandarin language resources in general and to extend this discussion to include public library web portals more specifically that is, whether respondents will use a public library web portal if it provided access to resources in Mandarin.

Figure 5.31: Perceived usefulness of a public library web portal for resources in Mandarin

Responses	Number	Percentage
Yes	21	70%
No	9	30%
Total	30	100%

Twenty-one (70%) respondents indicated that they would use a public library web portal if it provided access to more resources in Mandarin. The remaining nine (30%) did not care if public libraries provided this information on web portals or not. Savolainen (1995) reference to *habitus* indicates a link with the need for respondents to keep in touch with their culture.

5.8.8 Survey findings related to internet usage in general and Mandarin language in particular

Twenty-seven (90%) respondents were familiar with using the internet. Findings indicate that users with broadband connection, access to internet at home, campus and work will also make more use of the internet. It was assumed that access to a broadband connection at home would lead to increased use of the internet. The unemployed respondents made more use of the internet for job postings. The findings indicate a diverse range of factors such as the need to up-skill, improve their English, look up job postings and apply for jobs online influenced the frequency with which the internet was used.

Research in Chapter Two indicates that ICT is reframing the migrant information environment. More and more people world wide are taking part in the exchange of information, ideas, products and services. This section attempted to find out the level of interaction and access respondents had with the internet and if they would access a public library web portal if important settlement information was presented in Mandarin and was easy to access. Chatman (1996, 1999 & 2000); Hepworth (2007) and Pettigrew (1998 &1999) discussed the importance of understanding cultural context in designing effective information systems.

5.9   OPEN QUESTION ON INTERNET USE, MANDARIN LANGUAGE AND SETTLING IN NEW ZEALAND

This open question was important to give respondents the opportunity to discuss with the researcher anything that had been left out in the questionnaire. Most elaborated on the answers to the questions that had already been asked. Employment related issues were a high priority with respondents. Respondents were concerned with their inability to find suitable employment and expressed the need for retraining and to learn English. Some indicated that they had to take on lower paying jobs in comparison to their qualifications and the job market favoured 'kiwis' (slang term for New Zealanders.) This is further exacerbated by the fact some trade positions such as in the building industry required new migrants to be familiar with the New Zealand building and electrical code. Most migrants come into New Zealand with the misconception that they can easily be placed in positions with the training and qualifications gained in their home country.

Some considered New Zealand to be an expensive country in terms of housing and education. Others mentioned that New Zealand was a good country to bring up children and New Zealanders were generally friendly.

Respondents were stressed further by the fact that social security such as the dole and student allowances is only accorded to migrants after two years of

permanent stay in New Zealand. Another complaint was the difference between the exchange rates between Asian economies and the high New Zealand dollar. The economy is in a downward spiral and finding employment in New Zealand was a challenge to some.

5.10   SUMMARY OF FINDINGS

The information seeking behaviour of respondents and the sources consulted to meet their need for information was discussed under various headings in section 5.5.1. The findings indicate that demographic factors such as age, language, culture, employment and income, played an important role in determining their information needs and the sources of information used to meet these needs. This is similar to findings in other research such as that carried out by Dervin, (2005b); Hargittai (2003); Hargittai and Hinnant (2006); Mack, *et al* (2005).

Age in particular was found to be a factor in the sources consulted to meet the needs of respondents in some instances. For example the life role of mother and daughter differed and this was reflected in their hobby and pastime activities. Categorizing respondents into the two broad age groups when discussing hobbies and pastimes and sources consulted for recreational information assisted in explaining the influence of age on IB in terms of these two aspects.

Younger respondents were more inclined to use the internet for recreational information than older respondents. Younger respondents also made extensive use of the internet social networking sites Facebook and Skype to meet their need for recreational content whereas older respondents used family, friends, church or contacts in the Chinese community for social networking.

The findings indicate that information needs relating to survival in a new country were extremely important and were similar to those identified by Caidi (2008); Childers (1975); Fisher, Durrance and Hinton (2004) and Shoham and Strauss (2008). This can be seen in the need for information on housing, health, learning to speak English, education, employment, and financial issues in most respondents. One of the most important needs of new immigrants is the need for employment and this was reflected in the findings. As can be seen in Figure 5.6 some respondents were forced to take on lower paying jobs in their new country. The economic recession and the difficulty in finding employment added to their need for relevant job related information, the need for information to up-date their CVs, retrain and up skill and improve their English. Their English language abilities or lack thereof may have impacted on their ability to successfully search for information related to employment. These findings indicate that the context and situation of respondents influenced their IB. The important role of context and situation in IB is reflected in Wilson's model (1995).

An important finding was that all but one respondent used the internet and most (29 respondents) were familiar with the internet and felt they were competent to use it without help. Frequency of internet use differed amongst older and younger respondents as well as between students, job seekers and older respondents. The internet was used by respondents for employment information, banking, on-line shopping, social networking, to read the news and to learn about local events.

All respondents indicated a need for recreational information in their home language Mandarin and they used the local Chinese radio and newspaper as a source for such information. Respondents were also able to effectively access information in Mandarin from various sources including the internet. Although this need is met to some extent the response does indicate a need for public libraries to provide such information. However, there was a far greater need to access information relevant to their immediate survival rather than the need to access recreational information.

However the findings indicate that whilst most of the respondents could read English they did not understand it well. The lack of English skills was a barrier or "gap" to finding relevant settlement information easily. It is possible taking this into account that respondents in the study lacked the ability to specify their exact need (Belkin, 1980) when using an information retrieval system to find information in English.

Respondents tended to use a variety of sources to meet the needs for everyday survival information and this included both formal and informal channels for example talking to family and friends, radio, newspapers, television, and the internet. Information resources appeared to be scattered and dispersed as opposed to integrated and collated to meet the specific everyday survival information needs of respondents. This was evident in the provision of information by various departments to new migrants for example, ARMS, IRD, WINZ and so on.

5.11   CONCLUSION

This chapter presented the findings of the empirical studies. Problems encountered in the empirical study were discussed and the selection of respondents for the study outlined. This cross-sectional study surveyed thirty respondents in-depth to determine their information needs and the role public library web portals could play in meeting this need. Data was gathered using a semi-structured questionnaire on the following areas of enquiry: profile of the respondents; information seeking behaviour of respondents; resources used to meet their need; establishing the new migrant's use of the internet and IB with regard to the internet, public libraries and Mandarin language resources.

The findings suggest that a coordinated approach to information provision to new Chinese migrants will be beneficial to their initial settlement. The findings indicate that respondents used the internet to find information important to settlement. More than half the respondents (56%) used the internet to get information from government departments and 66.7% used the internet for information on housing. All respondents used the internet to share knowledge with the world, to get employment information and to do personal banking. Sixty percent used the internet everyday and 73% paid to use the internet. Respondents were familiar with using the internet and required little help with searching the internet. Ninety-seven percent used the internet for Mandarin language resources and 70% perceived the usefulness of a web portal for resources in Mandarin. Most lack effective English language skills. Twenty-six respondents said they spoke English but their level of comprehension differed. The twenty six respondents who did speak English spoke it as a second language. English would be a barrier to searching for settlement information effectively.

Important information, such as employment advertisements, was available through a variety of channels and in different formats. Respondents had to rely on contacts and various sources for this information. It can be inferred that many respondents missed vital employment related information because the different departments had their own way of presenting this to new migrants using various channels such as IRD, WINZ, ARMS, local newspapers and so on. Most

respondents also indicated that they would be more receptive to information provided in Mandarin and would be willing to use public library web portals if this information was provided in Mandarin. Research carried out by Nantel (2008) indicates that new migrants tend to hold on their home language in the first year of settlement. It therefore makes sense to present important settlement information in the migrants' home language.

However the survey findings indicated that public library portals could be used as a channel to present important settlement information to new migrants irrespective of language. Respondents used both English and Mandarin and findings indicate that respondents were more concerned with accessing this information than language. However, because of language difficulties it would be a benefit to have it available in Mandarin since respondents lacked English language skills and especially terminology specific to New Zealand.

The following chapter will present the conclusions, elaborate on limitations and make recommendations as well as identify possible areas of future research.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter provides an overview of the research reported on in this dissertation. Therefore the research problem, methodology and findings are all summarised to provide a basis for reflection on the contribution of the study to knowledge of IB. In an attempt to answer the main research question, sub-questions that were identified are answered. This chapter will further draw conclusions from the study undertaken and also make recommendations. Identification of possible areas for future research as well as some limitations of the study will also be discussed.

6.2   OVERVIEW OF THE STUDY

The researcher investigated the information needs of new Chinese Mandarin speaking communities in the Auckland region of New Zealand as a case study to answer the research question effectively namely: Can an internet portal on a public library web site be used to meet the information needs of new Chinese Mandarin immigrants to the Auckland region of New Zealand?

New Zealand's changing demography and the impact of information communication technology created the need for this study. The information environment is rapidly transforming with the introduction of cloud computing technology. Historically New Zealand has adopted a bicultural approach to service provision in accordance with the Treaty of Waitangi principles and continues to reflect this approach in many areas. However, recent demographic changes have tended to move the country towards the concept of multiculturalism. This is due to increased migration brought on by globalization, ease of travel and advancements in ICT. Immigrants, especially new immigrants, must deal with many factors in their lives: multiple languages, multiple cultural roles and establishing their identities in a new country. The emergence of multicultural populations requires a re-conceptualization of services provided by public libraries in New Zealand.

In order to answer the research question effectively the researcher used both non-empirical (for example, review of existing literature) and empirical (for example, in-depth interviews and a semi-structured questionnaire) methods to establish the information needs and IB of respondents.

Topics investigated in the literature review included immigration theory and concepts, the role of the public library in a multicultural society (Chapter Two) and IB theory and models (Chapter Three.) These were investigated and discussed in order to contextualize the study and highlight any gaps in the literature.

For in the empirical study a qualitative research approach was used. Thirty respondents were interviewed in-depth on their information needs and how they meet these needs for everyday information in order to gain a holistic understanding of the respondents' IB. The stratified sampling method was used to select a homogenous sample from a heterogeneous population of migrants. The stratifying variables used were new Chinese Mandarin speaking migrants that migrated to New Zealand in the past twelve months via the general skills and business investor category and were settled in the Auckland region of New Zealand. The researcher used the snowball technique to recruit respondents. This was detailed in Chapter Four.

The findings from the empirical research are outlined in Chapter Five.

Respondents in the study indicated that their main needs were for settlement

information. Respondents used a diverse range of both formal and informal

resources to meet these needs. An important finding was that the information

resources needed by new migrants were scattered and diverse.

Various sub-questions were derived from the main research question. In the

section below each of these will be discussed and answered.

6.3 CRITICAL FINDINGS OF THE STUDY

In order to successfully answer the research question each of the sub-questions

which flow from it will be discussed. Conclusions that can be drawn from the

findings will be indicated.

6.3.1 What are the information needs of new Chinese migrants in the Auckland Region of New Zealand?

In order to answer this question various questions were asked in the interviews.

Respondents were encouraged to elaborate in their responses and also to

mention any needs not identified through the structured questionnaire. The

responses indicated that respondents had a need for everyday settlement information including housing, finance, English language lessons, employment, education, health, consumer issues, recreation and news from their home country and various issues around driving. The need for employment and relevant job related information was the most important need identified by respondents in terms of settlement information. However, the current economic recession may have exacerbated this need for employment related information.

Although broader than the findings in other research, many of the needs identified were similar to the needs identified by Caidi (2008); Childers (1975); Fisher, Durance and Hinton (2004) and Shoham and Strauss (2008). There were some age-related differences in the information needs experienced by the respondents specifically those relating to hobbies and pastimes.

Respondents indicated a need for recreational information in Mandarin language (see section 5.5.1.11) and used a variety of sources to meet this need. This finding indicates the close relationship between language and culture which has been indicated by other research such as that by Srinivasan (2006) and Srinivasan and Pyati (2007). Research indicates that immigrants also tend to cling to their language and culture in the early stages of immigration (Nantel, 2008). Based on this finding it is recommended that the public libraries provide access to such sources.

IB models discussed in Chapter Three such as Belkin (1980); Dervin (1999); Savolainen (1995) and Wilson (1995) indicate that contexts and situations of the respondents influence information needs of respondents. This is reflected in the research findings both in the high need for employment information and the need for recreational information in Mandarin. Wilson (2000) indicates that the goals and purposes of people influence their IB and the need for resources which is discussed next.

6.3.2 How are information needs amongst new Chinese migrants being met?

Respondents used a variety of sources and channels to meet their need for information. The sources consulted by respondents to meet their need for information were discussed in section 5.5.1. Younger respondents were more inclined to use the internet for recreational pursuits and for information on hobbies and pastimes than older respondents. They used Facebook and Skype to a great extent. This may be related to Pettigrew's (1998 & 1999) *information grounds* theory and Erdelez's (2005) *information encountering.* Older respondents on the other hand made use of the local Chinese radio, newspaper, community and church as a source of information. Chatman's (1985; 1999 & 2000) *small world* theory is applicable here since respondents were more comfortable with people they were familiar with.

Sections 5.4.6 – 5.4.8 discussed the English language skills and abilities of respondents. The findings indicated most of the respondents had problems understanding English which may have been a barrier to successfully searching for information sources in relation to employment, schooling, education and other aspects of everyday survival. This indicates a possible role for public libraries which could collate important settlement information such as employment information for new migrants on a web portal.

Respondents indicated that they needed resources to meet their everyday survival information needs especially in terms of employment, education, health, English, finance and so on. The findings indicate that access to resources to meet survival needs on a public library web portal will assist new migrants in their initial settlement.

6.3.3 Is the internet used to meet the information needs of Chinese immigrant communities?

Nearly all respondents (97%) used the internet and (90%) indicated that they were familiar with using the internet. Ninety-seven percent used the internet for Mandarin language resources and 70% perceived the usefulness of a web portal for resources in Mandarin. Although respondents used the internet for various information needs such as employment, financial, educational, recreational,

online shopping, reading the local news and to meet their need for Mandarin language resources, the lack of fluency in English may have been a barrier to searching effectively for important everyday survival information.

Half the respondents (56%) used the internet to get information from government departments and 66.7% used the internet for information on housing. All respondents used the internet to share knowledge with the world, to get employment information and to do personal banking. These categories of information need represent important settlement information for new migrants. The internet was used by almost all respondents to access recreational material in Mandarin and respondents had no problem with accessing this content. It can be concluded that public libraries could play an important role in collating important everyday survival information and providing access to this via a web portal for new migrants.

6.3.4 Will access through a public library web portal to Mandarin language sources assist information seeking and use amongst new immigrant Chinese communities?

Users prefer to access resources in their own language. Based on Nantel's research (2008) it was assumed that the Mandarin language would be dominant in new Chinese Mandarin speakers in the first twelve months of settlement in New Zealand and this was substantiated by the frequency of internet use for

Mandarin language resources. However, this was related to frequency of internet usage in general. (See section 5.7.3.) Respondents tended to use the internet for both English and Mandarin resources and the language used depended on the type of information needed at the time rather than the language preference. The findings, for example that most of the respondents were taking measures to improve their English, indicate that respondents were not fluent in English. Based on this, one can infer that they were more successful when searching in Mandarin compared to English. It can be concluded that new migrants will use resources relating to their immediate survival irrespective of language but would prefer them to be presented in Mandarin.

6.3.5 Will access to Chinese cultural, educational and recreational sources assist new migrants in their settlement process?

Although all the respondents indicated they would use a library web portal to obtain information resources in Mandarin, the finings indicated that it was the need to find survival and everyday information rather than the need to access Mandarin resources on a public library web portal that was crucial to their settlement. New Chinese migrants had the skills to obtain recreational and hobby information via the internet, but were more concerned with finding employment, financial, educational and training information, which they believed would influence their ability to settle successfully into New Zealand. The study found

that the respondents tended to speak Mandarin at home and were not fluent in English. Hence a parallel library web portal with access to resources in Mandarin and English will benefit new Chinese migrants if this gives access to the type of information needed for their successful settlement.

It can be concluded that based on the findings the primary information needs of respondents were related to their need for survival information and resources. Public libraries can a play an important role by collating such information and making it available via web portals especially if this information could be made available in Mandarin. Secondary information needs related to the need for recreational information in Mandarin. Access to such content via a public library web portal would be helpful but not essential.

6.4 RECOMMENDATIONS

Answers to the main research question and sub-questions resulted in the identification of the following recommendations.

6.4.1 Everyday survival information should be collated and made available on library web portals

Respondents in the study were familiar with the internet and used the internet to access resources in both English and Mandarin. However the study findings indicated that it was not so much the language that prevented respondents from accessing needed survival information but rather the ability to access pertinent survival information relating to their settlement from the information maze on the internet (26 respondents spoke English as a second language). A portal providing access to everyday survival information irrespective of language would greatly assist all new migrants. It can probably be assumed that respondents will make every endeavour to seek assistance in interpreting this information if their English is limited. This will greatly contribute to new migrants' successful settlement and integration into their host country. This recommendation will take precedence to the recommendation following.

6.4.2 The creation of a parallel library web portal in Mandarin and English

It was clear from the findings that English was a barrier preventing respondents from accessing important survival information because this information was presented in English on websites in New Zealand. Twenty-six respondents indicated they spoke English. However their level of comprehension differed from

those who spoke English as their first language. Ninety-seven percent used the internet for Mandarin language resources and 70% perceived the usefulness of a web portal for resources in Mandarin. The findings of this study indicate that access to multilingual web portals that collate and coordinate everyday survival information for new migrants would be extremely useful. Findings also indicate that access to Mandarin language recreational resources via a library web portal although not a critical need would be welcomed. It is therefore recommended that New Zealand public libraries investigate this and consider setting up parallel web portals based on the demographic needs of their communities. New IT developments such as cloud technology and freely available software have made it possible for public libraries to create web portals to meet the diverse needs of their communities. Coordinating and presenting important survival information for migrants via a portal irrespective of language however should take precedence to presenting this information in the language of library users. This will ensure that important survival information is not missed and can be easily located by all.

6.4.3 Collaboration with community groups

Government and non-government organizations, community groups and ethnic organizations are important sources of information for migrants. Organizations such as ARMS, Refugee Services New Zealand, IRD and WINZ are most likely to be used for information on everyday life for questions about where and how to

access further education, training, health care, housing and employment information. New migrant service providers need to investigate the possibility of a coordinated information website incorporating information from community organizations such as ARMS, IRD, WINZ and CAB to address new migrants' information needs. Public libraries could work with such organizations to develop a more coordinated approach to information service delivery to targeted groups for example through public library web portals. This could be accessed either from within the library or via the internet by means of cloud technology. Access via the internet would imply that time and distance would not be a factor in accessing this information. However, other constraints may impact on usage outside the library such as the cost of accessing the internet and cloud technology as well as issues relating to privacy.

6.4.4 The need for public libraries to conduct community analysis and needs assessment

Public libraries in New Zealand need to conduct a study of the demographic makeup of the population to determine the language and other needs of communities it serves.

Caidi (2008) stresses the need to know the community for whom the service is designed and describes in detail the knowledge and understanding needed to develop an effective service. Hargittai and Hinnant (2006:55) argue for a social framework for understanding the IB of well-targeted groups in society. Public libraries are in need more than ever before to conduct regular demographic analyses of the community groups it serves in order to ensure their services remain relevant. Community analysis and needs assessment should reflect the services it provides to both users and non-users. One of the ways to achieve this would be to work with migrant service providers to determine what the crucial survival information needs are of new migrants.

6.4.5 New Zealand public libraries should develop service level guidelines and operational plans to incorporate multicultural library services

It is recommended that New Zealand public libraries include multicultural library service provision to migrant communities as part of their operational plan. UNESCO (1994) stresses that any practice must be adapted to the political, historical, cultural, social and economic context of the society in question. The demographic make-up of New Zealand needs to be reflected in the services offered by public libraries. The principles of a multicultural library service are outlined by IFLA (2009). Other issues will revolve around the implications of

cloud computing technologies and the provision of information using such technologies.

6.5   FUTURE RESEARCH

The study identified several areas that should be investigated further.

- The findings indicated that younger respondents used on-line social networking sites to exchange information, communicate with family and friends in their home country and possibly make new friends and acquaintances in their new country. It would be useful to determine in a future study if social networking sites are used as an information ground.
- Research on the extent that multicultural content on public library web portals in other countries, such as Australia, are used by new migrants would be useful to indicate relevance and need of such a service.
- To investigate whether multicultural library web portals are used by established migrants. This would be helpful in determining the content that should be included on a website.
- To investigate the information needs of other new migrant groups such as refugees.

- To carry out a quantitative study on new migrants information needs so that it could be generalized. Since this study was qualitative and explorative it would be interesting to determine if a quantitative research study would derive the same or similar results.

- To determine the use of OSS and cloud computing technologies in information service provision to new migrants and established migrants.

6.6   LIMITATIONS OF THE STUDY

Some limitations were experienced during the study that could not have been foreseen at the start. These limitations have already been discussed. Refer to section 4.4.9

Other limitations were:

- New Zealand was experiencing economic recession. At the time of the study, the effects of the recession were being felt by all in New Zealand. Reponses such as 'New Zealand does not have much job opportunities for migrants' and 'the decision to migrate now was not the right one' were typical responses from respondents. This may have skewed the research

with the most sought after information needs being that of employment and job training.

- Respondents were reluctant to be taped via a recording device attached to the researcher's mobile phone. It was decided not to pursue this for fear of losing respondents in a very tight time frame. The researcher also did not want to compromise the privacy of respondents by insisting on this. Some respondents were already wary as they believed that the researcher was from a government agency. Respondents had to be reassured that this was not the case and that their anonymity would be preserved and all data will be stored securely and destroyed after the study.

- Time constraints and limited funds meant that the researcher was unable to spend more time than necessary in New Zealand. Data analysis and interpretation had to be done back in Australia. It was therefore impossible to recheck or clarify the meaning of responses to some parts of the qualitative data with respondents.

- Other factors that could give greater insight into new migrants use of the internet for their information need but were too large in scope to be carried out in this research were for example the number of searches generated, number of steps taken to achieve a certain goal, number of resources used to find information, quality of information found, and the ability to evaluate the located information.

- As with most qualitative studies, bias introduced by the investigator in the collection and analysis of data remains a constant threat.

- It is not possible to generalize findings based on qualitative research and the size of the sample in this case was too small to warrant generalization.

- Cloud computing technology and OSS is new to the information industry. It was therefore difficult to access its usefulness to service provision to new migrants.

6.7   CONCLUSIONS

ICT and multicultural populations has meant that a re-conceptualization of public library services in New Zealand is necessary. Public libraries more than ever before are in need of innovative ways to meet the needs of multicultural and hybrid populations. This is further compounded by the introduction of newer technologies such as OSS and cloud computing technologies. New Zealand is not insulated from the global changes that are taking place and New Zealand public libraries are revisiting their multicultural position within the bicultural framework.

The research proposed a cost effective and efficient way of meeting the information needs of migrant multicultural communities in New Zealand. The research question was answered and recommendations made based on the

findings. Topics for future research and limitations that were encountered in the study were also discussed.

It can be concluded from the study that a public library web portal providing access to information for new migrants would be useful especially if it firstly correlated and provided access to sources with important everyday survival information and secondly if it was multilingual. However, it appears from the findings that it is not necessary to provide access to recreational material as the majority of respondents were able to access Mandarin resources independently.

BIBLIOGRAPHY

Adam, Paul C. & Skop, Emily. 2008. The gendering of Asian Indian transnationalism on the internet. J*ournal of cultural geography,* 5(2):115-136.

Allsopp, S. 2010. The data centre model: the perfect fit for cloud computing. *Credit control,* 31(5/6):92-97.

Arbuckle, Gerald A. 2004. *Violence, society and the church: a cultural approach.* Collegeville, Minn.: Liturgical Press.

Auckland Regional Migrants Services Trust (ARMS). Annual report 2008-2009. http://www.arms-mrc.org.nz. Accessed 10 Sep 2010.

Audunson, R., Varheim, A., Aabo, S. & Holm, E. D. 2007. 'Public libraries, social capital and low intensive meeting places'. *Information Research.* 12(4) paper colis20. http://InformationR.net/ir/12-4/colis/colis20.html. Accessed 11 November 2010.

Australian Government. 2010. Broadband for seniors: an initiative funded by the Australian government. http://www.necseniors.net.au/. Accessed 10 Sep 2010.

Australian Library and Information Association (ALIA). 2010. Standards guidelines and benchmarks for public library services in Australia and overseas: a guide to resources. http://www.alia.org.au/governance/committees/public.libraries/standards.html. Accessed 11 November 2010.

Barkan, Elliott R. 2003. Dictionary of American history: multiculturalism. http://www.encyclopedia.com/topic/multiculturalism.aspx. Accessed 10 Oct 2010.

Basch, L., Glick-Schiller, N. & Szanton-Blanc, C. 1994. *Nations unbound: transnational projects, postcolonial predicaments and deterritorialized nation states.* Langhorne, PA: Gordon and Breach.

Bates, Marcia J. 1979. Information search tactics. *Journal of the American society for information science,* 30(4):205-214.

Bates, Marcia J. 2005. An introduction to metatheories, theories and models. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:1 – 24.

Belkin, Nicholas J. 1980. Anomalous states of knowledge as a basis for information retrieval. *The Canadian journal of information science*, 5(May):33-143.

Belkin, Nicholas J. 1990. The cognitive viewpoint in information science. *Journal of information science,* 16 (Feb):1-15.

Belkin, Nicholas J. 2005. Anomalous state of knowledge. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:44-49.

Belkin, Nicholas J., Oddy, R. & Brooks, H. 1982. ASK for information retrieval. *Journal of documentation*, 38:1-71(part 1) & 145-164(part 2).

Berry, J. W. 1990. Psychology of acculturation. In: *Cross-cultural perspectives: Nebraska symposium on motivation,* edited by J. Berman. Lincoln: University of Nebraska Press:201-234.

Berry, J. W. 1997. Acculturation and adaptation. In: *Handbook of cross-cultural psychology: social behaviour and applications*, edited by J. W. Berry, M. H. Segal & C. Kagitcibasi. Allyn & Bacon: Needham Heights: 291-326.

Borlund, Pia. 2010. *The cognitive viewpoint: the essence in information retrieval interaction*. Aalborg, Denmark: Royal school of library and information science.

Boston Public Library. 2010. Public use measures. http://bpl.org/finances/BPLMeasures03312010.pdf . Accessed 23 January 2010.

Bourdieu, P. 1984. *Distinction: a social critique of the judgment of taste.* Cambridge, MA: Harvard University Press.

Braziel, J. E. & Mannur. 2003. (eds). *Theorizing diaspora: a reader*. Oxford, Malden MA: Blackwell Publishing.

Breeding, M. 2009. The advance of computing from the ground to the cloud. *The systems librarian*, Nov/Dec:22-25.

BusinessDictionary.com 2011. http://www.businessdictionary.com/definition/portal.html . Accessed 28 June 2011.

Butterworth, G. 1992. Context and cognition in models of cognitive growth. In: *Context and cognition*, edited by P. Light & G. Butterworth. London: Harvester:1 – 13.

Caidi,N. 2008. *Information practices of ethno-cultural communities*. Toronto: Centre of Excellence for Research on Immigration and Settlement.

Case, Donald. 2002. *Looking for information: survey of research on information seeking needs and behaviour.* Academic Press: San Diego, CA.

Case, Donald. 2006. Information behaviour. *Annual review of information science and technology,* 40(1):293-327.

Case, Donald. 2007. *Looking for information: a survey of research on information seeking, needs and behaviour.* 2nd ed. Amsterdam: Elsevier.

Chatman, E. A. 1985. Information, mass media and the working poor. *Library and information science research,* 7:97-113.

Chatman, E. A. 1992. *The information world of retired women.* New York, NY: Greenwood Press.

Chatman, E. A. 1996. The impoverished life-world of outsiders. *Journal of the American society for information science,* 47(March):193-206.

Chatman, E. A 1999. A theory of life in the round. *Journal of the American society for information science,* 50:207-217.

Chatman, E. A. 2000. Framing social life in theory and research. *The new review of information behaviour research,* 1:3-17.

Chatman, E. A. 2005. Chatman's life in the round. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:79 – 82.

Childers, T. 1975. *The information poor in America.* Metuchen, NJ: Scarecrow Press.

Chu, C. W. 1999. Immigrant child mediators: bridging the literacy gap in immigrant communities. http://archive.ifla.org/IV/ifla65/papers/109-145e.htm. Accessed 23 May 2010.

Chu, C. M. 2004. Raison d'etre for multicultural library services. *IFLA newsletter.* http://www.ifla.org. Accessed 28 July 2010.

Cooper, Debra. 2007. Sustaining language diversity: the role of public libraries. *Aplis*, 21(1):28-32.

Courtright, C. 2007. Context in information behaviour research. *Annual review of information science and technology,* 41:273-306.

Cruz, Gemma Tulud. 2008. Between identity and security: the theological implications of migration in the context of globalisation. *Theological studies*, 69:357-375.

Cunningham, A. 1999. Multilingual unicode web page development. Community networking conference 1999: engaging regionalism. 29 Sep. – 1 Oct.

1999. Ballarat University, Victoria, Australia. http://home.vicnet.au/~andrewc/papers. Accessed 28 July 2010.

Cunningham, A. 2008. Open road. http://www.openroad.net.au. Accessed 23 May 2010.

Cunningham, A. & Stillman, L. 2002. The open road: language technology developments and the public library services. Paper presented at: VALVA 2002: e-volving information futures conference, February 2002. Victoria, Melbourne. http://www.openroad.net.au. Accessed 23 November 2010.

Dervin, Brenda. 1983. *An overview of sense-making research: concepts, methods and research to date.* [Unpublished]. Paper presented at the international communication association annual meeting. Dallas, Texas, USA.

Dervin, Brenda. 1992. From the mind's eye of the user: the sense-making qualitative-quantitative methodology. In: *Qualitative research in information management*, edited by Jack D. Glazier & Ronald R. Powell. Englewood, CO: Libraries Unlimited:61-84.

Dervin, Brenda. 1997. Given a context by any other name: methodological tools for taming the unruly beast. In: *Information seeking in context*, edited by P. Vakkari, R. Savolainen & B. Dervin. Taylor Graham: London & Los Angeles: 13 – 38.

Dervin, B. 1999. Sense-making theory and practice: an overview of user interests in knowledge seeking and use. *Journal of knowledge management,* 2(2):36-46.

Dervin, Brenda. 2005a. What methodology does to theory: sense-making methodology as exemplar. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:25 – 29.

Dervin, Brenda. 2005b. Libraries reaching out with health information to vulnerable populations: guidance from research on information seeking and use. *Medical library association s*upplement, 93(4):74-80.

Dervin, Brenda & Foreman-Wernet, L. (eds). 2003. *Sense-making methodology reader: selected writings of Brenda Dervin*. Cresskill, NJ: Hampton Press.

Dervin Brenda & Nilan, M. 1986. Information needs and uses. *Annual review of information science and technology*, 21:3-33. White Plains, NY: Knowledge Industry Publications.

Ellis, David. 1989. A behavioural approach to information retrieval system design. *Journal of information science*, 15:237-247.

Erdelez, Sandra. 2005. Information encountering. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:179 – 184.

Featherstone, M. 1995. *Undoing culture: globalisation, postmodernism and identity.* London: Sage.

Fischer, P. A., Reiner, M. & Thomas, S. 1997. Should I stay or should I go? In: *International migration, immobility and development: multidisciplinary perspectives,* edited by T. Hammar [et al]. Oxford, New York: Berg:49-90.

Fisher, Karen E. 2005. Information grounds. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:185 – 190.

Fisher, Karen E., Durrance, J. C. & Hinton, M. B. 2004. Information grounds and the use of need-based services by immigrants in Queens, NY: a context-based outcome evaluation approach. *Journal of the American society for information science and technology*, 55(8):754 – 766.

Fisher. Karen E., Durrance, J. C. & Unruh, K. T. 2003. Information communities: characteristics gleaned from studies of three online networks. *ASIST.* http://ibec.ischool.washington.edu/static/pubs/asist2003.pdf. Accessed 17 October 2010.

Fisher, Karen E. Erdelez, S. & McKechnie, L. (eds). 2005. *Theories of information behaviour.* Medford, N. J.: ASIS&T.

Fisher, Karen E., Landry, C.F & Naumer, C. 2006. Social spaces, casual interactions, meaningful exchanges: "information ground experiences based on the college student experience". *Information Research,* 12(2):paper 291. http://informationr.net/ir/10-2/paper291.html. Accessed 13 October 2010.

Fisher, Karen E. & Naumer, C. M. 2006. Information grounds: theoretical basis and empirical findings on information flow in social settings. In: *New directions in information behaviour*, edited by A. Spink & C. Cole. Netherlands: Springer:93 -111.

Fisher, Karen E., Naumer, C. M, Durrance, J., Stromski, L. & Christiansen, T. 2005. Something old, something new: preliminary findings from an exploratory study about people's information habits and information grounds. *Information Research,* 10(2):paper 223. http://informationr.net/ir/10-2/paper223.html. Accessed 13 October 2010.

Flythe, F. 2001. *Identification of the information needs of the newly arrived Hispanic/Latino immigrants in Durham County, North Carolina, and how the public library may address these needs.* Chapel Hill: University of North Carolina.

Gillham, R. 2006. Diary studies as a tool for efficient cross-cultural design. In: *Designing for global markets 7*. [Unpublished]. Proceedings of the 7th International workshop on internationalisation of products and systems, edited by D. L. Day; V. Evers & Galdo, E. Del. (IWIPS). Amsterdam, Netherlands.

Glick-Schiller, N. 1999. Transmigrants and nation-states. In: *The handbook of international migration,* edited by C. Hirschman, P. Kasinitz & J. DeWind. New York: Russell Sage Foundation:94-119.

Gordon, M. 1978. *Human nature, class and ethnicity.* New York: Oxford University Press.

Hall, Stuart. 1990. Cultural identity and diaspora. In: *Identity: community culture, difference*, edited by J. Rutherford. London: Lawrence & Wishart.

Hanold, P. 2005. Culture and context: an empirical study for the development a framework for the elicitation of cultural influence in product usage. *International journal of human-computer interaction,* 12(3&4):327-345.

Hare, Judith. 2009. Community- led libraries: the working together project. Metropolitan libraries conference. May 12, 2009. Brisbane. http://www.ifla.org/files/metropolitan-libraries/conferences/Hare%20IFLA.pdf. Accessed 09 August 2010.

Hargittai, E. 2003. The digital divide and what to do about it. In: *New economy handbook*, edited by D. C. Jones. San Diego, CA: Academic Press:822-841.

Hargittai, Eszter & Hinnant, Amanda. 2006. Towards a social framework for information seeking. In: *New directions in human information behaviour,* edited by A. Spink & C. Cole. Netherlands: Springer:55-70.

Harris, R. M. & Dewdney, P. 1994. *Barriers to information: how formal help systems fail battered women*. Westport, CT: Greenwood.

Henefer, Jean & Fulton, Crystal. 2005. Kriekelas's model of information seeking. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:225 – 229.

Hepworth, M. 2007. Knowledge of information behaviour and its relevance to the design of people-centred information products and service. *Journal of documentation,* 63(1):35-56.

Herner, S. 1958. The information gathering habits of American medical scientists, In: *International conference on scientific information,* Washington, DC, National Academy of Sciences, National Research Council.

Hoepfl, Marie C. 1997. Choosing qualitative research: a primer for technology education researchers. *Journal of technology education*, 9(1):47 – 63.

Hoffmann-Lange, U. 1987. Surveying national elites in the federal republic of Germany. In: *Research methods for élite studies*, edited by G. Moyser & M. Wagstaffe. London: Allen & Unwin:27-47.

IFLA. 2004. Library services to multicultural populations sections: strategic plan. http://archive.ifla.org/VII/s32/annual/sp32-04.pdf. Accessed 17 January 2011.

IFLA. 2008. IFLA Multicultural library manifesto. http://archive.ifla.org/VII/s32/MulticulturalLibraryManifesto.htm. Accessed 11 January 2010.

IFLA. 2009. Multicultural communities: guidelines for library services. 3rd ed. http://www.ifla.org/files/library-services-to-multicultural-populations/publications/multicultural-communities-en.pdf. Accessed 17 January 2011.

IFLA: IFLANET. 1994. IFLA/UNESCO: public library manifesto. http://archive.ifla.org/VII/s8/unesco/eng.htm . Accessed 29 January 2011.

Ingwersen, Peter. 1992. *Information retrieval interaction*. London: Taylor Graham.

Ingwersen, Peter. 1996. Cognitive perspective of information retrieval interaction: elements of a cognitive IR theory. *Journal of documentation*, 52(1):3-50.

Ingwersen, Peter & Jaevelin, Kalervo. 2005. *The turn: integration of information seeking and retrieval in context*. Netherlands: Springer.

Ip, M. 2007. Chinese. Te Ara: the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/NewZealanders/NewZealandPeoples/Chinese/en. Accessed 28 July 2010.

Kirkland, A. B. 2010. Clearing the fog about the cloud: some relationship advice. *School libraries in Canada,* 28(3);33-35.

Krikelas, J. 1983. Information seeking behaviour: patterns and concepts. *Drexel library quarterly*, 19(2):5-20.

Kuhlthau, Carol Collier. 1991. Inside the search process: seeking meaning from the users perspective. *Journal of the American society for information Science*, 42(5):361-371.

Kuhlthau, Carol Collier. 1993. A principle of uncertainty for information seeking. *Journal of documentation,* 49(4):339-355.

Kuhlthau, Carol Collier. 2004. *Seeking meaning - a process approach to library and information services.* London: Libraries Unlimited.

Kuhlthau, Carol Collier. 2005. Kuhlthau's information search process. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:230 – 234.

Kumar, Ranjit. 1996. *Research methodology.* Melbourne, Australia: Longman.

Leckie, G. J., & Hopkins, J. 2002. The public place of central libraries: findings from Toronto and Vancouver. *Library Quarterly*, 72(3):326-372.

Li, Honglei. 2004. Virtual community studies: a literature review: synthesis and research agenda. *Proceedings of the America's conference on information systems, New York*. August 2004.

Li, Peter S. 2008. World migration in the age of globalisation: policy implications and challenges. *New Zealand population review*, 33/34:1 – 22.

LIANZA. 2006. Public libraries of New Zealand: a strategic framework 2005 to 2015: consultation document. [Unpublished document].

Library and Archives Canada. 2003. Multicultural resources and services toolkit. Library and archives Canada. http://www.collectionscanada.gc.ca/multicultural/005007-300-e.html. Accessed 16 February 2011.

Library Board of Victoria. 2001. Responding to our diversity: multicultural library service guidelines for Victoria public libraries. http://www.openroad.net.au. Accessed 28 July 2010.

Liddicoat, A. J. 2008. The internet as a multilingual space: linguistic diversity and the democratisation of communication. *Open road 2008 conference: multilingualism and the information society*. Melbourne, Australia, 15-16 May 2008. http://www.openroad.net.au/conferences/2008/ Accessed 29 January 2011.

Lievrouw, L. A. 2001. New media and the "pluralisation of life-worlds". *New media & society,* 3(1):7-28.

Line, M.B. 1971. The information uses and needs of social scientists: an overview of INFROSS. *Aslib Proceedings*, 23(8):412 – 435.

Lo Bianco, Nicky. 2004. New and emerging communities for public libraries. *Aplis*, 17(1):27-31.

Lo Bianco, Nicky, Cunningham, Andrew & McCombe, Colleen. 2010. *New communities, emerging content: digital inclusion for minority language groups.* Victoria, Australia: Vicnet, State Library of Victoria.

Mack, Natasha, Woodsong, Cynthia, MacQueen, Kathleen M., Guest, Greg & Namey, Emily. 2005. Qualitative research methods: a data collector's field guide. *Family health international*. http://www.fhi.org. Accessed 25 October 2010.

Mana, Aadi & Orr, Emda. 2009. An integrated acculturation model of immigrants' social identity. *The journal of psychology*, 149(4):450-473.

Manukau City Council. 2001. *The changing face of Manukau into the future.* Manukau, New Zealand: Manukau City Council.

Manukau City Council. 2006. Tomorrow's Manukau: a vision for Manukau into the future 2006 – 2016. http://www.tomorrowsmanukau.co.nz. Accessed 23 May 2010.

Marchionini, G. 1995. *Information seeking in electronic environments.* Cambridge: Cambridge University Press.

Marga, Andrei. 2010. Globalisation, multiculturalism and brain drain. *Journal of organisational transformation and social change*, 7(1):105-115.

Marshall, Anne & Batten, Suzanne. 2003. Ethical issues in cross-cultural research. http://education2.uvic.ca/Research/conferences/connections2003/10Marshall105.pdf. Accessed 11 January 2011.

Mell, Peter & Grance, Tim. 2010. The NIST definition of cloud computing. *Communications of the ACM,* 53(6):50.

Metoyer-Duran, C. 1991. Information seeking behaviour of gatekeepers in ethno-linguistic communities: overview of a taxonomy. *Library and information science research,* 13:319 – 346.

Meyer, Hester W.J. 2009. The influence of information behaviour on information sharing across cultural boundaries in developed contexts. *Information research*, 14(1):paper 393. http://informationr.net/ir/10-2/paper393.html. Accessed 16 October 2010.

Milan, Danielle Patrick. 2008. Public library strategies for building stronger economies and communities. *National civic review*. http://www.ncl.org/publications/ncr/97-3/Libraries.pdf. Accessed 17 January 2011.

Modood, T., Beishon, S. & Satnam, V. 1994. *Changing ethnic identities*. London: Policies Studies Institute.

Motive web design glossary. 2010. http://www.motive.co.nz/glossary/portal.php#content . Accessed 28 June 2011.

Munck, Ronaldo. 2004. *Globalisation and social exclusion: a transformational perspective.* USA: Kumarian Press.

Munck, Ronaldo. 2008. Globalisation, governance and migration: an introduction. *Third world quarterly*, 29(7):1227 – 1246.

Munck, Ronaldo. 2010. Globalisation and the labour movement: challenges and responses. *Global labour journal,* 1(2):218 – 232.

Nantel, Jacques.2008. The impact of language and culture on website usability. www.chairerbc.com/axisdocument.aspx. Accessed 4 October 2010.

National Library of New Zealand. LIANZA. Public libraries of New Zealand: a strategic framework 2006 to 2016. http://www.lianza.org.nz/sites/lianza.org.nz/files/StrategicFramework2006_0.pdf. Accessed 17 January 2011.

New Zealand Department of Immigration and Customs. 2010. http://www.immigration.govt.nz. Accessed 29 January 2011.

New Zealand Official Yearbook. 2007. Wellington: Government Printers.

New Zealand State Services Commission. 2008. Digital strategy: creating our digital future. http://www.umic.pt/images/stories/publicacoes2/MED11706_Digital%20Strategy.pdf. Accessed 23 May 2010 from

Noy, Chaim. 2008. Sampling knowledge: the hermeneutics of snowball sampling in qualitative research. *International journal of social research methodology,* 11(4):327-344.

Online business directory.com 2011. http://www.businessdictionary.com/definition/portal.html . Accessed 05 July 2011.

Padilla, Amado M. & Perez, William. 2003.Acculturation, social identity and social cognition: a new perspective. *Hispanic journal of behavioural sciences,* 25(1):35-55.

Palys, T.S. 1997. *Research decision: quantitative and qualitative perspective.* 2nd ed. Toronto: Harcourt Brace & Company Canada.

Papastergiadis, N. 2000. *The turbulence about identity: encounters in race, ethnicity and language.* Toronto: Between the lines.

Papillon, M. 2002. *Immigration, diversity and social inclusion in Canada's cities.* Ottawa: Canadian Policy Research Networks.

Parek, B. 2000. *Rethinking multiculturalism: cultural diversity and political theory.* Basingstoke: Macmillan, Palgrave.

Park, Robert & Burgess, Ernest. 1921. *Introduction to the science of sociology.* Chicago: University of Chicago Press.

Patton, M. Q. 1990. *Qualitative evaluation and research methods.* 2nd ed. Newbury Park, CA: Sage.

Pettigrew, K. E. 1998. *The role of community health nurses in providing information and referral to the elderly: a study based on social network theory.* University of Western Ontario: Ontario.

Pettigrew, K. E. 1999. Waiting for chiropody: contextual results from an ethnographic study of the information behaviour among attendees at community clinics. *Information processing and management*, 35(6):801 – 817.

Pettigrew, K. E. 2000. Lay information provision in community settings: how community health nurses disseminate human services information to the elderly. *Library quarterly*, 70(1):47 – 85.

Pettigrew, K. E., Fidel, R. & Bruce, H. 2001. Conceptual frameworks in information behaviour. *Annual review of information science and technology*, 35:43- 78.

Piaget, J. J. 1977. *The essential Piaget: 1896-1980.* Edited by H. E. Gruber & J. Voneche. London: Routledge & Kegan Paul.

Portes, A. 1997. Immigration theory for a new century: some problems and opportunities. *International migration review,* 31:799-825.

Reitz, Joan M. 2004. *Dictionary of library and information science.* London: Libraries Unlimited.

Rouse, R. 1991. Mexican migration and the social space of postmodernism. *Diaspora,* 1(1):8-23.

Savolainen, Reijo. 1995. Everyday life information seeking: approaching information seeking in the context of 'way of life'. *Library and information research,* 17(3):259-294.

Savolainen, Reijo. 2005. Everyday life information seeking. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:143 - 148.

Savolainen, Reijo. 2007. Information behaviour and information practice: reviewing the "umbrella concepts" of information seeking studies. *The library quarterly,* 77(2):109-127.

Schouten, H. 1996. Study finds many Asians not mixing with NZ society. *Dominion Post*:4.

Shoham, Sunith & Strauss, Sarah Kaufman. 2008. Immigrations' information needs: their role in the absorption process. *Information research*, 13(4):paper 359. http://informationr.net/ir/13-4/paper359.html . Accessed 13 October 2010.

Shurupova, A. S. 2007. The adaptation and acclimation of migrants. *Sociological research,* 46(4):90-95.

Skrzeszewski, Stan. 2001. From multiculturalism to cosmopolitanism: world fusion and libraries. *Feliciter,* 47(4):14-16.

Sligo, F. & Jameson, A. 2000. The knowledge: behaviour gap in the use of health information: cervical screen for Pacific immigrants living in New Zealand. *Journal of management in medicine,* (12)6:361- 369.

Smith, Michael Alan.2004. Towards an application framework for interoperability. *Communications of the ACM,* 47(10):93-97.

Smith, Roger. 2009. Computing in the cloud. *Research technology management,* 52(5):65 – 68.

Sonnenwald, Diane, H. 1999. Evolving perspectives of human information behaviour: contexts, situations, social networks and information horizons. In: *Exploring the contexts of information behaviour*, edited by T. Wilson. & D. Allen. London: Taylor Graham:179-190.

Srinivasen, R. 2006. Where information, society and community voice intersect. *The Information society*, 22(5):355 - 365.

Srinivasen, R. & Pyati, A. 2007. Diasporic information environments: re-framing information behaviour research. *Journal of the American society of information science and technology*, 58(12):1734 – 1744.

Statistics New Zealand. 2006. *New* Zealand's official statistics agency. http://www.stats.govt.nz/sitecore/content/statisphere/Home/statistics-by-agency.aspx?bid=t&mid=296. Accessed 23 May 2010.

Statistics New Zealand. 2010. New Zealand's official statistics agency. http://www.stats.govt.nz. Accessed 23 May 2010.

Strauss, A. L. & Corbin, J. 1998. *Basics of qualitative research: techniques and procedures for developing grounded theory*. 2nd ed. Thousand Oaks, CA: Sage.

Tan, Lincoln. 2010. Migrants up against dual work woes in recession, 27 March 2010. *New Zealand Herald.* http://www.nzherald.co.nz/employment/news/article.cfm?c_id=11&objectid=10634608. Accessed 27 October 2010.

Tech terms.com: the tech terms computer dictionary. 2011. Cloud computing. http://www.techterms.com/definition/cloudcomputing. Accessed 28 June 2011.

Thompson, Kenneth. 2002. Border crossings and diasporic identities: media use and leisure practices of an ethnic minority. *Qualitative sociology,* 25(3):409 – 418.

Thorhauge, Jens. 2010. Digital libraries for all: a discussion on strategic development. Danish agency for libraries and media. http://www.bibliotekogmedier.dk/fileadmin/user_upload/dokumenter/om_os/Direktoeren/Taler_og_praesentationer/Digital_libraries_for_all._Paper. Accessed 10 January 2010.

Tuominen, K. & Savolainen, R. 1997. *A social constructionist approach to the study of information use as diverse action*. London: Graham Taylor.

Tuominen, K. Talja, S. & Savolainen, R. 2005. The social constructionist viewpoint on information practices. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:328-333.

Tylor, Edward. 1920 [1871]. *Primitive culture*. New York: J.P. Putnam's Sons.

UNESCO. 1994. Public Library Manifesto. http://unesdoc.unesco.org/images/0011/001121/112122eo.pdf. Accessed 24 January 2011.

United Nations. 2010. Department of economic and social affairs: international migration report. http://www.un.org/esa/population/migration. Accessed 29 January 2011.

Vakkari, P.1997. Information seeking in context: a challenging metatheory. In: *Information seeking in context*, edited by P. Vakkari, R. Savolainen & B. Dervin. Taylor Graham: London & Los Angeles: 451-464.

Vasil, R. & Yoon, H. 1996. *New Zealander of Asian origin*. Wellington: Victoria University.

Vogt, W.P. 1999. *Dictionary of statistics and methodology: a non technical guide for the social sciences.* London: Sage.

Vygotsky, L. S. 1979. *Mind in society: the development of higher psychological process.* Cambridge MA: Harvard University Press. (Translated from the original text published in 1934).

Vygotsky, L. S. 1989. *Thought and language.* Cambridge MA: MIT. (Translated).

Ward, C., Bochner, S. & Furnham, A. 2001. *The psychology of culture shock.* Hove, East Sussex: Routledge.

Walker, Ute. 2001. A question of ethnicity: one word, different people, many perceptions: the perspectives of groups other than Mäori, Pacific peoples and New Zealand Europeans. Review of the measurement of ethnicity in official statistics. Perspectives paper for consultation for Statistics New Zealand. http://www2.stats.govt.nz/domino/external/web/aboutsnz.nsf/874ea91c142289384c2567a80081308e/1ad29a474e3ccf5acc25691c0003a039/$FILE/ethnicity_other_main.pdf. Accessed 27 June 2011.

Webopedia. 2011. http://www.webopedia.com/TERM/P/portlet.html . Accessed 28 June 2011.

White , Douglas. 2002. Cross-cultural research: an introduction for students. http://www.scribd.com/doc/18017273/Cross-Cultural-Research. Accessed 04 October 2010.

Wilson, T. D. 1999. Models in information behaviour research. *Journal of documentation,* 55(3):249-270.

Wilson, T. D. 2000. Human information behaviour. *Information science* 3(2):49-55. http://inform.nu/Articles/Vol3/v3n2p49-56.pdf. Accessed 11 August 2010.

Wilson, T. D. 2005. Evolution in information behaviour modelling: Wilson's model. In: *Theories of information behaviour,* edited by K. E. Fisher, S. Erdelez & L. McKechnie. Medford, N. J.: ASIS&T:31-36.

Xinhua. 2011. Roundup: media coverage slants New Zealand attitudes to Asians. *China Daily.* http://www.chinadaily.com.cn/xinhua/2011-04-12/content_2278333.html Accessed 17 June 2011.

APPENDIX A

Interview Schedule - English

Date of interview:--

Time interview began:---

Name of interviewer:--

Name of interviewee:-- M/F----------------------------

Introduction and Participant Information

Hello, I am Sandra Govender from the University of South Africa. I am currently conducting a study about where and how new immigrant Chinese communities (arrived here in the last 12 months) who speak Mandarin get the information they need to adapt and survive in their new country. I would like to find out if they would use a public library portal or web page to meet this information need if it was available.

I will need about 30 minutes of your time for the interview. This interview is confidential. Your personal details will be kept confidential. I am interested in getting your honest comments, so please answer each question. If you have any questions or aren't sure what I am asking, please stop and ask me.

There are four sections to this interview. In the first section I will be asking you to tell me a little about yourself. In the sections following I will ask how often you use the internet to find everyday information and to establish your information seeking behaviour. In the last section I will ask you about your experience and knowledge of the internet and if you would consider using a public library web page if it provided access to Mandarin language information and resources.

For any enquiries about this project, I can be contacted by email at: sandragovender2@gmail.com

My supervisor is Prof. Myrna Machet and can be contacted by email at: myrna.machet@gmail.com

Thank you for your assistance.

Sandra Govender

Survey Questionnaire for New Immigrant Mandarin Speaking Chinese Communities and their Information Needs

Section A

Profile of the Immigrant

These first few questions are to help me to clarify my understanding about you as a new immigrant to New Zealand.

1. How long have you lived in New Zealand?
   Less than 12 months – Proceed to complete the rest of the questionnaire, otherwise stop the interview process.

   YES ☐   NO   ☐

2. Which country did you come from?

----

3. What is your highest level of education?

   ☐   Primary school

   ☐   High school

   ☐   Tertiary education or training

4. Before coming to New Zealand what was your occupation?
   List determined by the New Zealand Standard Classification of Occupations (NZCCO)[1]

   ☐   Legislator, administrator and manager

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[1] *NZ Official Year book.* 2007. Wellington: Government Printers.

☐   Professional

☐   Technical and associate professional

☐   Clerk

☐   Service and sales workers

☐   Agriculture and fishery worker

☐   Trade worker

☐   Plant and machine operator and assembler

☐   Elementary occupation, that is, not actively engaged,

     for example, fruit picking

☐   Homemaker

☐   Not adequately defined

5. What work do you do now?

----

6. What languages do you speak?

----

7. What languages do you read?

----

8. I read English …

1	2	3	4	5
Very well	Well	Average	Not well	Not at all

9. I understand English …

1	2	3	4	5
Very well	Well	Average	Not well	Not at all

10. When you are not working do you have any hobbies?

----

11. Do you have any pastimes?

Section B

Establish the new immigrant's use of the internet.

12. Do you use the internet?
    YES ☐   NO ☐

13. If yes can you tell me how often you will use the internet for the following:
    a) To find general information about a subject

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

b) To correspond with friends

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

c) To meet people

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

d) Use chat rooms

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

e) To play games

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

f) To study – for example distance education

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

g) To read the news

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

h) To find software

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

i) To buy things

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

j) To advertise or sell a product

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

k) To share knowledge with the world, for example through a blog.

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

l) For hobby information

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

m) To learn about local events

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

n) To download or listen to music

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

o) To get personal help

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

p) To get educational material

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

q) To get employment information

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

r) To get travel and accommodation information, for example, book accommodation or airline tickets.

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

s) To do your personal banking

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

Section C

Information Seeking Behaviour

14. I have a list of things people might want to find out about. Can you please tell me where and how you found information on the following:

a) Place and travel – as in visiting places

----

b) Products and business - as in yellow pages

----

c) Services including health

----

d) Education

----

e) Recreation

----

f) Finance – as in budgeting, consumer affairs, mortgages or business

----

----

g) Work and employment

----

h) Local news

----

i) News from your home country

----

j) Language resources – as in help with learning English

----

k) Language resources – resources in Mandarin language

----

l) Government departments – such as IRD, WINZ, CHFA, ACC[2]

----

m) Housing

----

n) Driving

----

15. Is there any other information need that you may have that is not covered by this list?

----

16. When finding out about something, which of the following do you feel are important to use?

☐ Telephone

☐ Talking to people

☐ Email

---

[2] IRD=Inland Revenue Department, WINZ=Work and Income New Zealand, CHFA=Child Youth and Family Association, ACC=Accident Compensation Corporation

☐   Searching in newspapers and magazines

☐   Internet

☐   Other

Section D

Information Seeking - The internet and Mandarin language

I appreciate your patience in answering all these questions. This is the final section. I would like to ask you about your use of the internet and whether you would use the internet more for Mandarin language resources if it was more easily available.

17. How often do you use the internet?
    ☐   Everyday

    ☐   4 or 5 times a week

    ☐   Once a week

    ☐   Only when I need to

18. Do you pay to use the internet?
    YES   ☐   NO   ☐

    If the answer to the above question is no, go to question 20.

19. Would you use the internet more for information seeking if you did not pay?

    YES   ☐   NO   ☐

20. Is the local public library close to where you live?
    YES   ☐   NO   ☐

21. Are you aware that you do not have to pay for some internet sites when you visit the public library?
    YES   ☐   NO   ☐

22. Have you used the internet at your local public library?
    YES   ☐   NO   ☐

23. Have you used the internet to get information resources in Mandarin language related to your information need?

1	2	3	4	5

Always	Very often	Sometimes	Rarely	Never

24. Will you use the internet more for your information need if resources are more readily available in Mandarin language.

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

25. Will you use the internet more if it provided access to newspapers in Mandarin?

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

26. Would you use a public library webpage if it provided access to Mandarin language resources.

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

27. Are you confident with using the internet?

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

28. Do you require help from someone when you need to use the internet?

1	2	3	4	5
Always	Very often	Sometimes	Rarely	Never

29. Is there anything else that you would like to tell me about your experience with using the internet in general and finding information in Mandarin?

-

Thank you very much for answering the questions.

APPENDIX B

Interview Schedule - Mandarin

采访计划

采访日期:--

采访开始时间:--

采访人姓名:--

被采访人姓名:--- 性别------------------------------

采访人简要介绍

您好，我是来自南非大学的Sandra Govender.

我最近在研究一项课题，目的是想了解那些来自中国大陆的新移民（来新西兰少于一年的）是通过什么途径来获取和新西兰有关的信息资料，以便让自己更快更好的适应这个新环境的呢？他们更多的是利用当地的公共图书馆还是通过上网浏览来获取所需要的信息呢？

这项问卷调查需要借用您30分钟的时间。您的个人资料和问题的答案均是保密的。我真诚期待您诚实的意见和看法，所以请务必完成每一道问题。如果您有任何疑问，或者您对某些提问不是很确定，请随时询问我。

此项问卷调查分为四部分。第一部分是简要的了解一下您的个人情况。第二部分是想了解您多久上一次网来查询每日的生活讯息。第三部分是想了解您信息获取的途径及手段，最后一部分想知道您对互联网的了解程度和生活体验如果公共图书馆的网站有中文翻译的话，您是否会考虑利用他们的网站呢。

如果您对本调查有任何疑问，请用以下的电子邮件联系我：
sandragovender2@gmail.com

我的导师是Myrna Machet 教授，她的电子邮件是：

myrna.machet@telkomsa.net

非常感谢您的参与和帮助

Sandra Govender

高质量调查

关于中国大陆新移民及他们信息获取手段的问卷调查

第一部分

移民个人资料

这些问题是帮助我对您的个人情况有个初步的了解。

1.　　　　您来新西兰多久了?

少于12个月 –

如果**是，请继续**回答下面的**问题**，如果**不是，请**停止。

是　□　　　　　　　　　　不是　□

2.　　　您来自哪个国家？

3.　　　您接受的最高教育是？

□　　小学

□　　中学

□　　**大专**以上

4.　　　来新西兰以前您是从事什**么职业**的？
选项来自新西**兰职业专业**分类中心 (NZCCO)[3]

□　　**议员**，管理者及**经理**

□　　具有某**专业资**格的人，例如医生

□　　技**术**及相**关专业人员**

□　　文**员**

---

[3] NZ Official Year book 2007. Wellington: Government Printers.

□ 销售服务业

□ 农业/渔业从业者

□ 贸易

□ 重型机械操作/装配人员

□ 初级职业，例如水果采摘工

□ 主妇

□ 不能确切定义

5. 您现在的职业？

----

6. 你说什么语言？

----

7. 您的阅读语言是？

----

8. 我的英文水平

1	2	3	4	5
非常好	好	平均	不太好	完全不会

9. 我的英文理解水平

1	2	3	4	5
非常好	好	平均	不太好	完全不会

10.　　　　当您不工作时，您的**爱**好是什么?

11.　　　　您有什么其他**娱乐**消遣吗?

第二部分

新移民互**联**网使用**调查**

12. 您使用互**联**网吗?

是　□　　　　　　　　不是　□

13. 如果**是**，**请问**您多久使用互**联**网来:

a)　　　**查询简单**的**讯**息?

1	2	3	4	5
总是	**经**常	有**时**	很少	几乎不

b)　　　**联络**朋友?

1	2	3	4	5
总是	经常	有时	很少	几乎不

c) 结识新朋友？

1	2	3	4	5
总是	经常	有时	很少	几乎不

d) 使用聊天室？

1	2	3	4	5
总是	经常	有时	很少	几乎不

e) 玩游戏？

1	2	3	4	5
总是	经常	有时	很少	几乎不

f) 学习，例如远程教学？

1	2	3	4	5
总是	经常	有时	很少	几乎不

g) 了解新闻？

1	2	3	4	5
总是	经常	有时	很少	几乎不

h) 查找软件？

1	2	3	4	5
总是	经常	有时	很少	几乎不

i)   购物？

1	2	3	4	5
总是	经常	有时	很少	几乎不

j)   宣传或出售商品？

1	2	3	4	5
总是	经常	有时	很少	几乎不

k)   分享信息，例如写博客？

1	2	3	4	5
总是	经常	有时	很少	几乎不

l)   为了自己的兴趣爱好？

1	2	3	4	5
总是	经常	有时	很少	几乎不

m)   了解当地发生的事情？

1	2	3	4	5
总是	经常	有时	很少	几乎不

n)   欣赏或下载音乐？

1	2	3	4	5
总是	经常	有时	很少	几乎不

o)   寻求帮助？

1	2	3	4	5

总是	经常	有时	很少	几乎不

p)　　获取教育信息？

1	2	3	4	5
总是	经常	有时	很少	几乎不

q)　　获取求职信息？

1	2	3	4	5
总是	经常	有时	很少	几乎不

r)　　获取旅行住宿信息，例如网上订房，订机票等？

1	2	3	4	5
总是	经常	有时	很少	几乎不

s)　　处理个人网上银行业务？

1	2	3	4	5
总是	经常	有时	很少	几乎不

第三部分

信息获取手段

14.我还有一些其他问题想要进一步了解.
　　可否请您告诉我您是如何查找如下信息资料的？

a) 旅行地点，比如去某处观光：

----

b) 商品及商业 – 例如黄页

----

c) 健康资讯

----

d) 教育

----

e) 娱乐

----

f) 金融 – 预算, 消费, 房贷或生意

----

g) 工作

----

h) 本地新闻

----

i) 自己国家的新闻

----

j) 语言资源 – 比如如何学习英文

----

k) 语言资源 – 中文信息咨询

----

l) 政府部门 – 比如 IRD, WINZ, CHFA, ACC[4]

----

m) 房屋信息

----

n) 驾驶信息

----

15. 还有以上没有提及的领域吗？

---

[4] IRD=Inland Revenue Department, WINZ=Work and Income New Zealand, CHFA=Child Youth and Family Association, ACC=Accident Compensation Corporation

16. 当您**查**找信息**时**, 如下哪**项**手段您**觉**得最**为**重要？

    ☐   **电话**

    ☐   **问**周**围**的人

    ☐   电子**邮**件

    ☐   **报纸**和**杂**志

    ☐   互**联**网

    ☐   其他

第四部分

信息**查询** - 互**联**网及中文**翻译**

非常感**谢**您耐心的回答完前三部分的**问题**。下面是最后一部分，我想了解您个人互**联**网的使用情况，如果网上的**资**源有中文翻**译**的**话**您会更多的使用互**联**网的可能性。·

17. 您多久用一次互**联**网？

    ☐   **每**天

    ☐   一周四到五次

    ☐   一周一次

    ☐   当我有需要**时**

18.您付费使用互联网吗？

是　　□　　　　　　　　　不是　□

如果不是, 请跳到问题20.

19. 如果未付费的话，您还会使用互联网吗？

是　　□　　　　　　　　　不是　□

20. 当地的公共图书馆离您的住所近吗？

是　　□　　　　　　　　　不是　□

21.您了解有些互联网服务在当地的公共图书馆是免费的吗？

是　　□　　　　　　　　　不是　□

22.您在当地公共图书馆上过网吗？

是　　□　　　　　　　　　不是　□

23.您曾经使用过互联网来查找您想要的信息（中文）吗？

1	2	3	4	5
总是	经常	有时	很少	几乎不

24.如果您需要的信息在网上有中文翻译的话，您会经常上网浏览吗？

1	2	3	4	5
总是	经常	有时	很少	几乎不

25.如果网上的**报纸**都提供中文翻**译**的**话**，您会**经常**上网**阅读吗**？

1	2	3	4	5
总是	**经常**	有**时**	很少	几乎不

26.如果**图书馆**网站有中文网**页**的**话**，您会使用它**吗**？

1	2	3	4	5
总是	**经常**	有**时**	很少	几乎不

27.您能熟**练**使用互**联**网**吗**？

1	2	3	4	5
总是	**经常**	有**时**	很少	几乎不

28.使用互**联**网**时**您需要**别**人知道或帮助**吗**？

1	2	3	4	5
总是	**经常**	有**时**	很少	几乎不

29.
您还有什么**关**于互**联**网中文**资料查**找及使用的相**关**生活**经验**想和我分享的**吗**？--

非常感**谢**您的耐心回答！

APPENDIX C

Email correspondences

From: Sandra Govender [mailto:SandraG@mountisa.qld.gov.au]
Sent: Wednesday, 19 August 2009 1:56 p.m.
To: mary.dawson@arms-mrc.org.nz
Subject: Research

Hello Ms Dawson,

I am now residing in Australia for about a year but I've lived and worked in New Zealand for just over twelve years and worked as a librarian at MIT. I am a qualified librarian with a degree and honours degree in Library and Information Science and completing the Masters degree in Library and Information Science through the University of South Africa. I was born the South Africa.

My current research studies which was started in New Zealand are based on studying the information needs of new migrant mandarin Chinese speakers who live in the Auckland region of NZ, that is, how they go about their search for information to resolve their everyday information problem and whether they would use a library website to meet their information need. I have completed all the literature study/review for this research whilst I was living in NZ but I now am required to complete the research methodology section.

I was wondering if I could sample my respondents from the Auckland regional migrants centre for my research. I am required to interview at least 30 respondents in-depth using the qualitative methodology. I will be in NZ from the middle of Nov and return to Australia early Jan 2010. Respondents will remain anonymous and all data will be destroyed after the study is complete. I am more than happy to attach my research proposal for perusal and pass on the contact details of my supervisor.

I look forward in anticipation to you granting me permission to carry out my studies.

Regards

Sandra Govender

Senior Librarian

for Bhan Pratap - Chief Executive Officer

_____

Mount Isa City Library

23 West Street

P O Box 815

MOUNT ISA

QLD, 4825

Phone: (07) 4747 3352

Fax: (07) 4747 3359

E-mail: library@mountisa.qld.gov.au

From: Carolynn [mailto:carolynnd@arms-mrc.org.nz]
Sent: Thursday, 20 August 2009 11:53 AM
To: Sandra Govender
Subject: FW: Research

Hi Sandra

Mary has forwarded your email over to me and I'd very much like to help you with your project.

We have a number of routes we could use to recruit participants. We could discuss this via email or arrange a suitable time to talk by phone/Skype etc. My thinking at this stage would be around coming up with a suitable 'advert' we could email, post on websites, create fliers from and perhaps send to the community access radio station.

One quick question – are you looking to conduct the interviews in English-only or Mandarin? Do you need to find Mandarin-speaking research assistants or have materials translated into Chinese script? We may not be able to help directly in this area – but we can point you to people who can help ☺

Please let me know how you would like to proceed

Looking forward to hearing from you soon

Kind regards

Carolynn

Carolynn Day

Co-ordinator - Communications Development

Auckland Regional Migrant Services

532 Mt Albert Rd, Three Kings Plaza, Three Kings

PO Box 27 367 Mt Roskill Auckland

Phone: 09-625 3099

Email: carolynnd@arms-mrc.org.nz

Website: www.arms-mrc.org.nz

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From: Carolynn [carolynnd@arms-mrc.org.nz]
Sent: Thursday, 3 September 2009 2:25 PM
To: Sandra Govender
Subject: RE: Research

Hi Sandra

Thanks for getting back to me and clarifying those things. In answer to your questions:

I've checked with our stats person and we get around 50 Chinese-speakers a month visiting the Three Kings office (we could also canvas the Manukau and North Shore branches too if you would like)

I would recommend the CAB – Language Link translation service – do contact Sherryl McKelvie settlement@cab.org.nz and say that this is a project you are doing jointly with ARMS. If you cc me in, we might be able to work out a good deal. CAB would be one of the places I would suggest you advertise as well. They would be able to recommend a good translator too, if necessary

Just to let you know that I will be on leave from 16th – 20th November, so we may have to work around that and involve other staff to assist you

Hope that is all OK!

Wishing you all the very best

Carolynn

Carolynn Day

Co-ordinator - Communications Development

Auckland Regional Migrant Services

532 Mt Albert Rd, Three Kings Plaza, Three Kings

PO Box 27 367 Mt Roskill Auckland

Phone: 09-625 3099

Email: carolynnd@arms-mrc.org.nz

Website: www.arms-mrc.org.nz