School of Information Systems

Information Systems Planning in the Not for Profit Sector in Western Australia

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material, which has been accepted for the award of any other degree or diploma in any university.

Signature: 

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Table of Contents

List of Abbreviations

ABS	Australian Bureau of Statistics
ACNC	Australian Charities and Not-for-profit Commission
AHS	American Hospital Supply
AIDS	Acquired Immune Deficiency Syndrome
ATO	Australian Taxation Office
BSP	Business Systems Planning
BIA	Business Impact Analysis
CEO	Chief Executive Officer
CRM	Customer Relationship Management
CSF	Critical Success Factors
CSS	Community Sector Services
DBCDE	The Department of Broadband, Communications and the Digital Economy
DCITA	Department of Communications, Information Technology and the Arts
FP	For-Profit
FPO	For-Profit Organisation
GDP	Gross Domestic Product
IBM	International Business Machines
ICNPO	International Classification of Non-Profit Organisations
ICT	Information and Communication Technology
ICTP	Information and Communication Planning
IE	Information Engineering
IEW	Information Engineering Workbench
IP	Information Planning
IS	Information Systems
ISP	Information Systems Planning
ISSP	Information Systems Strategic Planning
IT	Information Technology
ITP	Information and Technology Planning
NFP	Not-for-Profit
NFPO	Not-for-Profit Organisation
NGO	Non-Governmental Organisation

NPO	Non-Profit Organisations
O	Organisation
P	Participant
ROI	Return On Investment
SD	Standard Deviation
SIS	Strategic Information Systems
SISP	Strategic Information Systems Planning
SQL	Structured Query Language
SSP	Strategic Systems Planning
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UN	United Nations
USA	United States of America
VC	Value Chain
WA	Western Australia
WACOSS	Western Australian Council of Social Service

List of Tables

List of Figures

Abstract

This thesis presents an exploratory-descriptive study on information systems (IS) planning in not-for-profit organisations (NFPOs) in Western Australia (WA). It was motivated by the assertion that well-planned IS can enable organisations to allocate IS investment appropriately, which in turn can enable them to better achieve their mission or goals. Much has been written on IS planning in for-profit organisations (FPOs), but not much is known about it in the NFPOs. This research provides insight into IS planning in NFPOs and how it relates to the achievement of their mission or goals. It also identifies the problems of current IS planning practice in NFPOs and proposes improvements.

Data for this study were collected by means of self-administered questionnaires, face-to-face interviews and, to a small extent, document analysis. The data comprised both quantitative and qualitative data.

The study found that many NFPOs do not undertake IS planning and many of them invest in IS on an *ad hoc* basis and/or by learning from or copying other similar organisations. The study also found that there is a significant correlation between IS planning and mission achievement, albeit not very strong.

Lack of funds and lack of expertise were found to be the main factors negatively impacting IS planning in NFPOs. Integrated model of problems in NFPOs IS planning was developed; it incorporates the two main factors mentioned in the previous sentence. Lack of funds in NFPOs has a direct effect on IS planning and an indirect effect on expertise. It affects training, which in turn reduces the ability of NFPOs to gain expertise and build capacity. There appears to be a two-way relationship between lack of expertise and IS planning—lack of expertise has a direct effect on IS planning, but at the same time, there is a possibility that lack of IS planning is denying NFPOs opportunities to gain expertise through learning by doing. Other factors that contribute to lack of expertise are educational background and the fact that IS is not an area of specialisation for most NFPO staff members. Moreover, it is argued that lack of funds for IS activities is due to the fact that IS is not considered a core business activity by donors or NFPO staff members. The lack of funds and lack of expertise lead to a lack of IS plans, which is argued to have an effect on the ability of NFPOs to attract funds for IS activities.

This thesis recommends support from outside entities to assist NFPOs, not only financially to purchase IS equipment (hardware and software), but also in terms of training to help NFPOs build capacity in IS, including planning. With rapid advancements in technology, NFPOs need to have the ability to plan and implement IS to attract more funding and achieve their objectives.

CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter presents an overview of the thesis. It states the objectives, background and research questions. Following is a discussion on the significance of the research and its expected contributions.

1.2 Research Objectives

The main objective of this research was to explore information systems (IS) planning in not-for-profit organisations (NFPOs). More specifically, this research aimed to:

1. determine the status of IS planning among NFPOs,
2. examine whether IS planning and implementation enables NFPOs to better achieve their goals or mission,
3. explore problems encountered by NFPOs in regard to IS planning,
4. develop a model or theory that would explain the lack of IS planning in NFPOs, and
5. explore how to improve current IS planning among NFPOs.

Section 1.4 outlines how these objectives were formulated into research questions. The research questions will be answered later in the thesis.

1.3 Research Background

An NFPO is an organisation that is formed by a group of people or initiated by other organisations to achieve a common goal, such as producing goods or providing services. The organisation should be self-governed or independently run (i.e. not run by the government), and making profit should not be the principal objective. However, any profit generated by the organisation has to be reinvested into the organisation for the attainment of the organisation's objectives rather than distributed to the members of the organisations for individual benefits (the definition of NFPO is discussed in Chapter 3). In Australia, there are nine major groups of NFPOs serving different sectors. These sectors are (1) culture and recreation, (2) education and research, (3) health, (4) social services, (5) environment, development, housing, employment, law, philanthropic activities and international relations, (6) hospitals, (7) religion, (8) business and professional associations,

unions, and (9) other activities (Australian Bureau of Statistics [ABS], 2009). NFPOs make significant contributions to communities in which they are embedded. Some of their work involves:

- alleviating poverty,
- advocating for improving health care through education and prevention programmes on health issues such as stroke, heart disease and blindness,
- assisting people living with incurable/manageable diseases (e.g. diabetes, Alzheimer's disease, AIDS, cancer),
- advocating for the protection and conservation of the environment,
- developing water and electricity conservation techniques,
- improving the health of infants,
- preventing birth defects, premature birth and infant mortality,
- providing assistance to breastfeeding mothers,
- providing shelter for homeless people,
- advocating for the reduction of food waste,
- supporting the arts and sports,
- supporting at-risk youth regarding drug abuse and violent behaviour.

A more detailed discussion on the definition of an NFPO is provided in Chapter 3.

The nature of for-profit organisations (FPOs) differs from that of NFPOs in that profit making is not the focus of NFPOs. Most NFPOs do not have the budget to conduct activities that are outside of their core objectives (Klemz, Simon & Kumar, 2003). Additionally, most NFPOs do not have the breadth of experience that exists among FPOs. FPOs have more resources and are well staffed (Merkel et al., 2007).

Despite the different objectives of FPOs and NFPOs, NFPOs could benefit from better designed and implemented IS (Lewis & Madon, 2004). Lewis and Madon (2004) pointed out that NFPOs have begun acknowledging the importance of information in improving their operations and activities. Venable and Bhattacharjya (2006) indicated that NFPO stakeholders found IS planning to be valuable in renewing their focus on improving services to the community using technology. Despite the improvement in awareness, the literature indicates that very few NFPOs conduct formal IS planning within their organisations (Hackler & Saxton, 2007; Klemz et al., 2003). Moreover, this literature is based on research conducted within the United States of America (USA), which may not be applicable to Australia for various reasons, such as demographic and regulatory differences (Brady, Brace-

Govan, Brennan & Conduit, 2011). Additionally, IS planning has been researched mostly in FPOs (Klemz et al., 2003).

1.4 Research Questions

The above discussion indicates that most benefits of IS planning have been researched in FPOs. However, IS is also important to NFPOs (Lewis & Madon, 2004). Therefore, this research aimed to address the gap in research and understanding concerning IS planning in NFPOs. In particular, this research has attempted to answer the following questions:

1. How is IS planning conducted by NFPOs in Western Australia (WA)?
2. What is the relationship between IS planning and NFPOs' goal or mission achievement?
3. What problems and/or dilemmas, if any, are faced by NFPOs with regard to IS planning and its implementation?
4. What model or theory would explain the lack of IS planning in NFPOs? (additional question – see explanation in section 8.4)
5. How can IS planning be improved in NFPOs?

1.5 Research Significance

In many countries, NFPOs play an important role in society (Klemz et al., 2003). In Australia, NFPOs make a significant contribution to the economy. According to the Australian Bureau of Statistics (ABS) (2009), NFPOs contribute approximately $43 billion or 4.1 per cent of total gross domestic product (GDP) when volunteers' wages are included in GDP. NFPOs also account for '*889,900 paid employees and over 4.6 million volunteers*' (ABS, 2009). NFPOs contribute not only economically, but also socially; some of their social contributions are visible within education, environmental preservation, health, sports, advocacy and arts-related activities.

In conducting their activities, NFPOs use IS (knowingly or unknowingly) by collecting and disseminating information, both internally within their organisations and externally to stakeholders, such as the government and community (Hackler & Saxton, 2007; McNutt & Boland, 1999). Information enables NFPOs to conduct their day-to-day activities, which enables them to achieve their goals or mission.

Thus, in line with the objectives outlined in Section 1.2, the following are the most important areas of consideration in this research:

- IS planning has been studied widely in the FPOs context (Klemz et al., 2003). Thus, this research will enhance an understanding of IS planning in NFPOs.
- There is a need to broaden our understanding of the role of IS planning concerning NFPOs' mission achievement.
- The problems of IS planning in NFPOs are not clear.
- This is a unique study, because it was conducted in WA NFPOs. This can bring new insights and knowledge into IS planning in the WA context and the Australian context more generally.
- Because there is an increasing dependence on IS (Line, Jain & Lyons, 2011), there is a need to investigate and improve IS planning in various sectors including NFPOs.
- Most of the research in this field was conducted in the 1980s and 1990s. Hence, there is a need to provide insight into our current context.

1.6 Outline of the Report

1.6.1 Chapter 1: Introduction

Chapter 1 presents an overview of the research. This includes an outline of the background information pertaining to the research topic, research objectives, questions to be undertaken, the significance of the research and the overall thesis layout.

1.6.2 Chapter 2: A Review of IS Planning Literature

Chapter 2 discusses the definitions of IS planning before considering the definition that is applicable to the research. It also examines the reasons for undertaking IS planning. This is followed by a discussion of the problems of conducting IS planning, of which leadership-related problems appear to be the most significant. Next, IS planning maturity models are explored. The chapter then provides a presentation of IS planning approaches, methodologies, tools and techniques for application.

1.6.3 Chapter 3: NFPOs

Chapter 3 provides a review of Australian NFPOs and IS within the sector. The discussion of Australian NFPOs includes an analysis of the size of the sector, its source of income and its contributions to the community. The chapter then examines the factors affecting IS in NFPOs, the functioning of IS and IS planning in NFPOs.

1.6.4 Chapter 4: Research Methodology

A wide variety of research methodologies can be utilised by IS researchers. Chapter 4 reviews a number of research methodologies and then presents the selected methodology for this research. The chapter provides a detailed discussion on a number of widely used research methodologies in IS, and presents the selected methodology for this research and why it was chosen. The chapter also examines various philosophical assumptions within research (i.e. elements of inquiry) prior to presenting the philosophical assumptions that guided this research study. The chapter then outlines the research process and provides an overview of the instruments employed for data collection in this research.

1.6.5 Chapter 5: Data Collection and Analysis

Chapter 5 discusses the two phases in which data were collected. Phase I involved the distribution of self-administered questionnaires, whereby four sets of questionnaires were given to NFPOs. Phase II involved the use of semi-structured interviews. The chapter outlines the sampling technique and the method for analysing the data throughout both phases of data collection.

1.6.6 Chapter 6: Self-Administered Questionnaire Results

Chapter 6 presents the results of the self-administered questionnaires (Phase I). The aim of the self-administered questionnaires was to explore the status of IS planning in NFPOs, the relationship between IS planning and NFPOs' ability to achieve their goals or mission, and problems encountered by NFPOs regarding IS planning. The chapter is divided into nine sections. Section 1 introduces the chapter's objectives and its structure. Section 2 presents the four questionnaires' response rate. Section 3 presents the results of Questionnaire A and an overview of IS in WA NFPOs. Section 4 presents the results of Questionnaire B, which also covers strategic planning and IS planning practices in WA NFPOs. Section 5 presents the results of Questionnaire C, explaining the reasons why NFPOs are not undertaking IS planning (failure to initiate). Section 6 presents the results of Questionnaire D, including those on the problems faced by NFPOs in developing and implementing IS plans. Section 7 presents a summary of combined questionnaire results. Section 8 provides a discussion of the perceived IS planning problems. The final section is a summary of key points from the chapter.

1.6.7 Chapter 7: Interview Findings

Chapter 7 presents the interview findings (Phase II). The chapter discusses the obstacles to NFPOs achieving their goals or mission, general IS planning practices, problems related to IS planning in NFPOs and pathways to overcoming them. The chapter begins with an introduction, which is followed by a description of the participating organisations and details of the participants. The chapter finishes with the important points of the interview findings.

1.6.8 Chapter 8: Discussions, Limitations and Recommendations

Chapter 8 is the concluding chapter. It contains a summary of the research findings, a cross analysis of the questionnaire and interview findings, and addresses the research questions. Further, it presents the contributions of this research and its limitations, and proposes possible future research agendas.

1.7 Chapter Summary

This chapter has outlined the foundations for the report. It has introduced the objectives of the research and provided a background discussion to the research problem. The research gap that this thesis aimed to address has been discussed, and the significance and potential contributions of the research asserted. The research questions that will be addressed have been presented. As noted in Section 1.6.2, the next chapter provides a review of the IS planning literature.

CHAPTER 2: A REVIEW OF IS PLANNING LITERATURE

2.1 Introduction

This chapter presents a review of the literature on IS planning, and discusses reasons for IS planning, the problems of IS planning and IS planning approaches and methodologies.

Section 2.2 discusses the use of IS in organisations. Section 2.3 presents the definition of IS planning adopted for this research, which was derived from some of the well-known definitions in the field of IS planning, followed by the reasons for undertaking IS planning and IS planning problems. The section then presents a discussion on IS planning maturity models followed by IS planning approaches, methodologies and tools. Section 2.4 concludes the chapter by identifying the research gap and pointing to the next chapter.

2.2 Importance of IS

The importance of IS to organisations is well documented. IS has become part of our lives (Line, Jain et al., 2011). It is at the centre of such activities as our communication, transactions and medical procedures. For example, Fink and Disterer (2006) reported heavy usage of email by small Australian firms. IS serves as the driver of many (for-profit) organisational transformations (Pollack, 2010).

Since the 1980s, information has been considered a valuable strategic resource (Lederer & Mendelow, 1987). Scarrott (1985) argued that '*information can usefully be regarded as the lifeblood of organisation*' (p. 203). In addition, Hunton (2002) reported that IS has transformed the nature of business and accounting practice. Hence, organisations need to have a mechanism that enables them to gather the appropriate data, and analyse (to obtain information), process and disseminate information. Moreover, the mechanism should enable organisations to conduct the entire process in a timely manner (Goyal, 2007). One way of ensuring that a proper IS mechanism is in place is through IS planning (Issa-Salwe, Sharif & Ahmed, 2011).

2.3 IS Planning

There are many terms for IS planning, including information and communication technology planning (ICTP), information systems planning (ISP), information planning (IP), information and technology planning (ITP), strategic information systems (SIS), strategic information systems planning (SISP) and information systems strategic planning (ISSP). In this research, the term IS planning is used predominantly because it is more general and was considered more meaningful by people in the NFP sector.

Table 2.1 presents the 3 main categories of a number of IS planning definitions and the researchers who suggested those definitions.

Table 2.1: Categories of information systems planning definitions

Group	Definition category	Reference
1.	Support role to business	Bechor, Neuman, Zviran and Glezer (2010); Chen, Mocker, Preston and Teubner (2010); Cohen (2008); Doherty and Fulford (2006); Fink (1994); Leader and Sethi (1988); Lederer and Salmela (1996); Mentzas (1997); Segars, Grover and Teng (1998); Silvius and Stoop (2013); Ward and Peppard (2002); Xu and Quaddus (2013)
2.	Competitive advantage	Grover and Segars (2005); Synott (1987); Turban et al. (as cited in Haki, 2011)
3.	Both support role to business and competitive advantage	Boynton and Zmud (1987); Doherty, Marples and Suhaimi (1999); Earl (1993)

As seen in Table 2.1, IS planning definitions can be categorised into three generic groups. Definitions from the first group are based on a view that IS plays a supportive role in business. The IS planning process produces an IS plan that is subsidiary to, and supportive of, meeting overall business goals (Cohen, 2008; Doherty et al., 1999; Doherty & Fulford, 2006; Earl, 1993; Leader & Sethi, 1988; Silvius & Stoop, 2013; Xu & Quaddus, 2013). Thus, the IS planning process seeks to identify important business processes and key customer requirements, and then match these with IS that can support them. This process seeks to improve efficiency and effectiveness (Galliers & Whitley, 2007; Premkumar & King, 1991).

The second group comprises definitions that view IS planning as a process that enables organisations to identify IS that can be exploited for competitive advantage (e.g. Grover & Segars, 2005; Synott, 1987; Turban et al., as cited in Haki, 2011).

The third group defines IS according to the view that it can be used to support organisations in achieving their business goals as well as placing themselves at a competitive advantage (e.g. Boynton & Zmud, 1987; Doherty et al., 1999; Earl, 1993).

Additionally, apart from the three generic groups mentioned above, some researchers have suggested that the IS planning definition should include the schedule for implementing the identified solutions as part of the IS planning process (Cohen, 2008; Mentzas, 1997; Segars, Grover & Teng, 1998). Conversely, scheduling of implementation of the identified solutions is not a key part of the IS planning process according to other researchers (Earl, 1993; Lederer & Salmela, 1996; Leader & Sethi, 1988). However, a well-developed IS plan resulting from a good IS planning process will not be useful to an organisation if it is not implemented (Flynn & Goleniewska, 1993).

This research considers IS planning a process of selecting for implementation IS that are highly aligned with organisational strategy and have the ability to create competitive advantage. Additionally, IS planning should provide the implementation sequence of the identified IS.

This subsection examined the various IS definitions. The next subsection presents reasons for undertaking IS planning.

2.3.1 The Benefits of IS Planning

It has long been established that the likelihood of obtaining benefits from investing in IS is significantly improved by undertaking IS planning (Bechor et al., 2010; Lederer & Mendelow, 1987).

However, researchers in the field of IS have commonly listed the benefits of IS planning without empirically examining the extent of their usefulness (Teo & Ang, 2000). For example, Basahel and Irani (2010) reviewed and summarised the benefits of IS planning, but their review was based heavily on published books (e.g. Laudon & Laudon, 2004; Robson, 1997; Ward & Peppard, 2002), which suggest that the research origin is unclear i.e. they did not use empirical data.

Nevertheless, a few empirical studies have specifically addressed the benefits of IS planning. Some of the empirically examined benefits of IS planning are discussed in Sections 2.3.1.1–2.3.1.7, and Table 2.2 in Section 2.3.1.8 presents a summary of those benefits.

2.3.1.1 Organisational performance

Organisational performance can be defined broadly as '*the accumulated end results of all the organisation's work processes and activities*' (Hopkins, Hopkins & Mallette, 2005, p. 36). Teo and King (1996) suggested that it can be measured in terms of return on investment (ROI), market share of organisational products or services, efficiency of internal operations, annual sales revenue and customer satisfaction (effectiveness).

There appears to be a correlation between improved organisational performance and IS planning (Clemons, 1986; Kannabiran & Sundar, 2011; Leidner, Lo & Preston, 2011; Shore, 2006; Teo & King, 1996). Moreover, Premkumar and King (1991) found that the process of analysing key business functions, processes and information needs leads to higher planning effectiveness. Higher planning effectiveness enables organisations to identify repetitive and inefficient processes, and pinpoint potential areas in which IS can help to improve the speed of some business processes. The identified common repetitive processes are then combined, thereby improving inefficient business processes, and IS applications are implemented to improve the speed of the pinpointed areas. This whole process helps to improve the organisation's performance significantly (Premkumar & King, 1991).

Thus, it can be argued that, without IS planning, the contribution of IS to organisational performance is likely to be a result of serendipity (Galliers, 1993, 2006).

2.3.1.2 User/customer satisfaction

There appears to be a relationship between IS planning and the identified and implemented IS applications, which in turn leads to user/customer satisfaction (Premkumar & King, 1991; Raghunathan & King, 1988; Shore, 2006; Tang & Tang, 1996). User/customer satisfaction can be defined as the extent to which users believe the IS available to them provides access to information and better services through provision of timely and relevant information (Premkumar & King, 1991; Tang & Tang, 1996). Premkumar and King (1991) noted that the implemented IS applications in their study (which were identified during IS planning) enabled customers to easily access information and various important services, which in turn led to an increase in customer satisfaction.

2.3.1.3 Initiation or improvement of communication

IS planning studies have shown that IS planning can improve communication in two ways.

First, the implementation of IS that have been identified during the IS planning process can improve communication. Beheshti (2004) found that the implementation of compatible software applications improved communication in organisations. Improved communication enables organisational knowledge to be shared or communicated at the individual level as well as at the organisational level (Goldsmith, 1991; Tucker, Meyer & Westerman, 1996). In turn, the sharing of knowledge creates an ideal environment for developing internal strategic capabilities, which leads to better organisational performance (Tucker et al., 1996). Further, it has been argued that, because strategic capabilities are internal and specific to the organisation, they are capable of rendering a competitive advantage (Mata, Fuerst & Barney, 1995).

Second, the IS planning process itself may facilitate communication between different departments in the organisation (Bulchand & Rodriguez, 2005; Peak, Guynes & Kroon, 2005; Teo & Ang, 2000). For example, it has been noted that the IS planning process facilitates and improves communication on IT planning management and development by involving people from different departments of the organisation in the planning process (Bulchand & Rodriguez, 2005; Peak et al., 2005).

2.3.1.4 Obtaining top management support

Improved likelihood of obtaining top management support for IS and its role in the organisation has been found to be one of the benefits of IS planning (Kannabiran & Sundar, 2011; Teo & Ang, 2000). Top management support is important because it increases the IS planning success rate (Pita, Cheong & Corbitt, 2009). Teo and Ang (2000) explained that this is a result of communication and participation facilitated by the IS planning process. Communication helps the top management to understand the IS and its potential, which in turn increases the level of their support (Kannabiran & Sundar, 2011). However, a somewhat mixed result was obtained in Earl's (1993) study, in which top management support as a benefit of IS planning was ranked second (to aligning IS with business needs with average rate of 3.30) but received an average of only 1.49 out of 5.

2.3.1.5 Alignment of IS with business plans

The aligning of IS and business plans has been identified as one of the benefits of IS planning (Earl, 1993; Flynn & Goleniewska, 1993; Peak et al., 2005; Teo & Ang, 2000). Such alignment is important because it leads to more focused use of IS, which leads to a greater chance of selecting IS applications that directly support business goals, which in turn helps to improve the organisation's performance (Chan & Reich, 2007; Kearns & Lederer, 2003; Sabherwal & Chan, 2001). Therefore, organisations undertake IS planning so that they can create '*congruence between IS strategy and business strategy*' (King, 1988, p. 109).

Although the literature suggests that much success has been achieved as a result of IS and business plans alignments, much is still unknown regarding aligning organisational fixed ICT with business strategies and associated information requirements that are constantly changing (Galliers, 2006).

2.3.1.6 Competitive advantage

Several researchers have indicated that IS planning enables organisations to gain competitive advantages. A competitive advantage can be defined as an edge '*gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and service that justify similar, or possibly higher, prices*' (Ehmke, 2008, p. 1). Some of the classic examples of IT competitive advantage are:

- American Hospital Supply (AHS) with its Analytics Systems Automated Purchase,
- American Airlines with its Sabre reservation system,
- Federal Express with its package-tracking system,
- Mobile Oil with its Speedpass payment system,
- eBay with its internet auction,
- Wal-Mart with its point-of-sale system and inventory and distribution system,
- Dell with its build-to-order strategy. (Carr, 2003).

One criticism of the above examples is that most of them are old (Carr, 2003). Further, the rating of IT as important for competitive advantage has been dropping, from second in 1986 (Brancheau & Wetherbe, 1987), to eighth in 1990 (Niederman, Brancheau & Wetherbe, 1991), to 17th in 1994—below facilitating and managing end-user computing, and managing the existing portfolio of legacy applications, for

example (Brancheau, Janz & Wetherbe, 1996). This drop in rating was further supported in a study conducted by Flynn and Goleniewska (1993), in which competitive advantage was among one of two of the most lowly rated objectives. They offered three possible reasons for the low rate: (1) competitive advantage may not have been considered during planning, (2) identified applications for competitive advantage may not have been implemented and (3) competitive advantage may be difficult to measure, a point that was also raised by Segars and Grover (1998).

In line with Flynn and Goleniewska (1993), several researchers have warned about the sustainability of IS for competitive advantage (Carr, 2003; Galliers, 2006; Porter, 2001). It has been argued that the effect of ICT on competition is short lived and not as high as it is described in the literature (Carr, 2003; Galliers, 2006) because technology is readily available and thus it is easy for other organisations to acquire similar technology (Carr, 2003).

However, in studies conducted by Teo and Ang (2000), Johnson and Lederer (2010) and Wilkin and Cerpa (2012), the exploitation of IS for competitive advantage was highly rated as one of the benefits of IS planning. In line with these findings, Porter (2001) argued that strategy formulation is still the key for organisations to distinguish themselves from others.

2.3.1.7 Enhancement of resource allocation

IS planning is perceived to improve resource allocation (Lederer & Mendelow, 1989). In Teo and Ang's (2000) study, resource allocation was rated as one of the significant outcomes of IS planning. According to Teo and Ang (2000), organisations have limited resources; thus, it is imperative that they forecast and prioritise their resource utilisation in order to achieve their objectives. In contrast, in Flynn and Goleniewska's (1993) study, better forecasting and allocation of resources was rated below average as one of the benefits of IS planning. Flynn and Goleniewska (1993) provided no explanation for the below-average rating.

2.3.1.8 Synthesis of the Benefits of IS Planning

In synthesising the benefits of IS planning, they can be categorised into three generic groups (see Table 2.2): (1) benefits that focus on organisational outcomes or outputs, that is, how well the organisation conducts its activities, (2) benefits that help organisations to be competitive in their industry and (3) benefits that are

concerned with pairing resources with business objectives and making sure those resources are utilised appropriately.

Table 2.2: IS planning benefits

Focus	Benefit	Reference
Outcome/Output	Improve performance	Raghunathan and King, 1988; Gallier, 2006; Leidner et al., 2011
	Reduce running cost (efficiency)	Beheshti, 2004; Clemons, 1986; Salmela, Lederer and Reponen, 2000; Shore, 2006; Wilson, 1989
	Improve product quality (effectiveness)	Wilson, 1989
	Improve user/customer satisfaction (effectiveness)	Premkumar and King, 1991; Raghunathan and King, 1988; Shore, 2006; Tang and Tang, 1996
Competition	Improve communication	Beheshti, 2004
	Facilitate communication	Bulchand and Rodriguez, 2003; Peak et al., 2005
	Identify opportunities	Raghunathan and King, 1988; Teo and Ang, 2000; Wilkin and Cerpa, 2012
Alignment	Identify IS applications for business objectives	Bulchand and Rodriguez, 2003; Earl, 1993; Flynn and Goleniewska, 1993; King, 1988; Teo and Ang, 2000; Peak et al., 2005;
	Obtain top management support	Kannabiran and Sundar, 2011; Teo and Ang, 2000
	Enhance resource utilisation	Lederer and Mendelow, 1989; Teo and Ang, 2000

In conclusion, it is clear that conducting IS planning offers some benefits. However, the literature also suggests that, for various reasons, the organisations that undertake IS planning do not all experience similar results (Ward & Peppard, 2002). Additionally, a study conducted by Falconer and Hodgett (1996) concluded that many organisations do not undertake ISP. Thus, there is a need to review the problems that hinder the success of IS planning.

2.3.2 IS Planning Problems

IS planning is one of the top 10 IS problems facing organisations (Luftman & Ben-Zvi, 2010). The problems have been categorised differently by researchers. Some researchers have investigated IS planning problems in general (Flynn & Goleniewska, 1993; Luftman, Papp & Brier, 1999). Cerpa and Verna (1998), Pita et

al. (2009) and Wilson (1989) categorised the problems into two groups: problems that are related to formulation and problems related to the implementation phases of IS planning. In contrast, Teo and Ang (2001) categorised IS problems into three planning phases—launching, development and implementation—arguing that the significance of problems might differ between planning phases. Moreover, Earl (1993) categorised potential problems into method, process and implementation concerns. Lederer and Sethi (1988) categorised problems in terms of input, process and output problems. This study utilises Teo and Ang's (2001) categorisation to study the IS planning problems in WA NFPOs because organisations could potentially be experiencing different problems in different planning phases (Teo & Ang, 2001). Thus this will help this research to identify if IS planning problems differ from one planning phase to another.

Table 2.3 presents an overview of the highly rated IS planning problems from various studies.

Table 2.3: An overview of the most significant IS planning problems

Problem	Significance/ Rank (1 = highest)	Reference
Resource constraints	1	Earl, 1993
Solutions not fully implemented	2	
Lack of top management acceptance	3	
Length of time involved	4	
Poor user–IS relationships	5	
Measuring benefits	1	Wilson, 1989
Nature of business	2	
Difficulty in recruiting	3	
Existing IT investment	4	
Political conflicts	5	
Team leader dependence	1	Flynn and Goleniewska, 1993
Difficulty of gaining top management commitment to implement plan findings (management commitment)	2	
Length of planning study—Long planning exercise	3	
Difficulty of convincing management to implement planning technique	4	
Failure to obtain top management support for launching of IS planning (launching phase)	62.5%	Teo and Ang, 2001
Not having free communication and commitment to change throughout the organisation (launching phase)	61.1%	
Inability to obtain sufficiently qualified personnel to do a proper job (launching phase)	58.8%	

Delegating the planning responsibility to an individual without sufficient experience, influence or time to do a thorough job (launching phase)	57.3%	
Failure to involve top management sufficiently in developing IS plan (development phase)	57.3%	
IT/business lack close relationships	1	Luftman, Papp and Brier, 1999
IT does not prioritise well	2	
IT fails to meet its commitments	3	
IT does not understand business	4	
Senior executives do not support IT	5	
Unclear or unstable business mission, objectives and priority	1	Lederer and Mendelow, 1989
Lack of communication	2	
Absence of IS management from business planning process	3	
Unrealistic expectations and lack of sophistication of user manager	3	
Difficulty in securing top management commitment for implementing the plan	1	Lederer and Sethi, 1992
Implementation of the proposed solutions requires substantial further analysis	2	
Success depends on team leader	3	
Difficult to find team leader who meets the required criteria	4	
Methodology lacks sufficient computer support	5	
Organisational politics (both launching/formulation phase and implementation phase)	Crucial	Cerpa and Verna, 1998
Lack of senior management involvement (launching/formulation phase)	Crucial	
Lack of education/training on how to do ISSP (implementation phase)	Crucial	
Rapid change of technology (implementation phase)	Crucial	
Relationship of the IS executive with the CEO (launching)	Very important	
Lack of commitment from senior management (formulation and implementation phase)	1	Pita et al. (2009)
Budget limitation (formulation)	2	
Lack of senior management involvement (formulation)	3	
IS management is not part of the corporate planning process (formulation)	4	
Lack of alignment with business objectives (formulation)	5	

Below is a discussion of the most significant IS planning problems as shown in table 2.3.

2.3.2.1 Leadership/management-related problems

In reviewing past studies related to IS planning, leadership/management-related problems were found to be the most commonly rated. Lack of commitment from top management, top management involvement, top management support and top management acceptance are the most significant problems facing IS planning (Byrd, Sambamurthy & Zmud, 1995; Cerpa & Verna, 1998; Flynn & Goleniewska, 1993; Earl, 1993; Lederer & Sethi, 1992; Luftman et al., 1999; Pita et al., 2009). For example, lack of active top management involvement and/or support can cause members of the planning team to be less enthusiastic about the project, which in turn can have a negative effect on the outcome of the planning process (Teo & Ang, 2001). Further, lack of support from top management can translate into lack of funds and missed opportunities for IS to benefit the organisation (Luftman et al., 1999).

2.3.2.2 Poor intra-organisational relationships

Poor intra-organisational relationships are another significant recurring IS planning problem. The most commonly reported poor intra-organisational relationships related to IS planning are between IS units and other units, and between IS executives and top management. Studies by Earl (1993) and Luftman et al. (1999) both reported poor relationships as a significant problem for IS planning. In addition, Cerpa and Verner (1998) reported that relationships between IS executives and the chief executive officer (CEO) have a major effect on IS planning, especially during the launching of the IS planning process. A close relationship between IS executives and the CEO has been reported as enabling IS executives to understand the organisational business objectives, which in turn places their units in a better position to identify IS applications suitable for the organisation's mission achievements (Johnson & Lederer, 2010; Pybum, 1983).

2.3.2.3 Human resources constraints or lack of expertise

It is reported that among the most commonly significant reasons for lack of IS planning and/or failure of IS planning is resource constraints (Byrd et al., 1995; Earl, 1993; Lederer & Sethi, 1992; Wilson, 1989). Difficulties in recruiting qualified personnel to conduct IS planning is one of the most often mentioned human resource problems. This problem ranked third in significance in studies conducted by Teo and Ang (2001) and Wilson (1989), and fourth in Lederer and Sethi's (1992) study. The high ranking of this problem highlights the lack of expertise and qualified

personnel available at the time. However, Pita et al.'s (2009) study did not rate lack of adequate knowledge and expertise as one of the most significant problems. A probable explanation provided by Pita et al. (2009) was that IS planning had undergone an evolution whereby people involved in IS planning have become more knowledgeable and more people have been attracted to and educated in the IS field. Hence, there are more qualified people in IS professions, including that of planning (Pita et al., 2009).

2.3.2.4 Organisational politics

Organisational politics is another important problem identified by a number of studies (Bush, Lederer, Li, Palmisano & Rao, 2009; Cerpa & Verner, 1998; Wilson, 1989). In Wilson's (1989) study, it was rated among the top five most important IS planning problems, and Cerpa and Verner (1998) reported it as a crucial problem during both launching and implementation phases of IS planning. It is difficult to identify IS that will enable the organisation to achieve its business objectives when planning requirements are based on political initiatives (Flynn & Goleniewska, 1993). Further, '*internal organizational politics with vocal users and intimidated managers can foil an organization's attempts to invest in information systems that actually support strategy*' (Bush et al., 2009, p. 447).

2.3.2.5 Finance/budget limitations

Budget limitation was reported by Pita et al. (2009) as the second most significant problem for the formulation phase of IS planning. Conversely, Cerpa and Verner (1998) and Luftman et al. (1999) reported this problem as being of little importance. Moreover, none of the other studies reviewed reported budget limitation as a significant problem. Sufficient budget or availability of sufficient funds is important for IS planning because, without financial resources, an organisation cannot make the necessary investment even if the investment would be helpful in meeting its objectives (Bush et al., 2009). Past studies indicate that the majority of organisations spend less than 10 per cent of their total budget on IS (Cerpa & Verner, 1998; Kannabiran, Sharda, Gupta & Wilson, 2009; Premkumar & King, 1991; Teo & Ang, 2001).

In summary, leadership/management-related problems appear to be the most common significant problems related to IS planning. However, overcoming leadership/management problems alone is unlikely to lead to universal success in IS planning (Premkumar & King, 1994). For IS planning to be successful, '*it is essential*

for knowledgeable, experienced, highly skilled and well-motivated staff to be involved and for them to be committed to the work' (Ward & Peppard, 2002, p. 127).

This subsection discussed the IS planning problems. However, problems alone do not necessarily show the planning maturity level of an organisation. The next subsection reviews the IS planning maturity models which will help to determine the IS planning maturity level of NFPOs involved in this research.

2.3.3 IS Planning Maturity Models

The level of IS planning varies considerably from one organisation to another. Several researchers have studied IS planning and developed IS planning maturity models (Grover & Segars, 2005; King & Teo, 1997; Nolan, 1979; Synnott, 1987; Teo & King, 1996). IS planning maturity models describe the series of stages that organisations' IS planning activities should undergo (Doukidis, Lybereas & Galliers, 1996). Moreover, the models are useful in identifying the status of an organisation's IS planning by observing its IS planning activities. Once the planning activities are identified, the organisation can be positioned in the appropriate stage within a model, which can be useful in helping organisations to anticipate the next IS evolutionary stage.

Below is a review that covers the development of the maturity models and comparison between the maturity models before stating the preferred model for assessing the IS planning maturity level of NFPOs involved in this research.

Nolan's stages of growth framework is perhaps the most well-known maturity model in IS (Galliers & Sutherland, 1991; Grover & Segars, 2005; King & Teo, 1997). His initial (1973) model consisted of four stages (initiation, contagion, control and maturity), and these were later (1979) expanded to six stages (integration and administration were introduced as Stage 4 and 5, respectively, and thus maturity became Stage 6) (Poeppelbuss, Niehaves, Simons & Becker, 2011). However, Nolan's model has been criticised for its lack of strong empirical support in IS (Benbasat, Dexter, Drury & Goldstein, 1984; King & Kraemer, 1984). Its emphasis on the technologies of the 1970s makes it outdated for assessing today's organisational ISs (Doukidis et al., 1996). Further, a lack of detailed information on Nolan's stages of growth has resulted in conflicting results in validating Nolan's theory (Prananto, McKay & Marshall, 2003). Despite this criticism, Nolan's six stages of growth model has been the benchmark for many studies (Benbasat et al., 1984; King & Teo, 1997; Teo & King 1996).

In an attempt to rectify some of Nolan's weaknesses, Galliers and Sutherland (1991) developed a six-stage IS planning model drawing on the 7-S framework of Pascale and Athos (1981). The seven S's are strategy, structure, systems, skill, staff, style and superordinate goals. Their six-stage model is useful for describing and prescribing managerial action for an organisation's IS growth (Doukidis et al., 1996). In addition to Galliers and Sutherland, several other researchers have developed IS planning maturity models (Bhabuta, 1989; Earl, 1989; Hirschheim et al., as cited in Galliers & Sutherland, 1991).

King and Teo (1997) developed a four-stage maturity model for IS planning focusing on integration between business planning and IS planning. In general, their model is similar to Synnott's (1987) five levels of IS planning; the notable difference is the omission of the no planning level (see comparison in Table 2.4).

King and Teo (1997) omitted the no planning stage for two reasons. First, it is not easy to differentiate between weak planning and no planning; second, because of technological advancement, most organisations will have some sort of planning in place rather than no planning at all. The second reasoning for omitting the no planning stage may not be valid because Synnott (1987) actually did specify that, at the no planning stage, an organisation may be doing some informal planning at the senior level.

Table 2.4: Comparison between spectrum of IS planning (Synnott, 1987) and IS integration stages of growth (King & Teo, 1997)

Synnott (1987)	Synnott (1987) description	King and Teo (1997)	King and Teo (1997) description
No planning	No formal business plan or ISP	–	King and Teo did not have this stage
Stand-alone planning	Presence of either business plan or IS plan, but not both	Administrative integration	There is a weak relationship between business planning and ISP
Reactive planning	IS function reacts to business plans and has no input in the business plan process (passive systems role)	Sequential integration	Business plan provides directions for ISP
Linked planning	Business plan is interfaced with ISP—system resources are matched against business needs	Reciprocal integration	There is a reciprocal and interdependent relationship between business planning and ISP
Integrated planning	Business plan is indistinguishable from ISP—they occur simultaneously and interactively	Full integration	There is little distinction between business planning and ISP

Moreover, Grover and Segars (2005) suggested a three-stage IS planning maturity model. They named the three stages preliminary, evolving and mature (see Figure 2.1). Organisations at the preliminary stage are characterised as having little planning experience and IS planning procedures that are still emerging. Thus, at this stage, little informal planning or no planning is taking place. The evolving stage is characterised as having formalised planning activities and some planning experience; however, the planning process is still being refined. Organisations in the mature stage have a long history of planning activities. There is much planning experience and expertise among members of the planning team. Additionally, guidelines and techniques for conducting planning are well developed.

Further, Grover and Segars's (2005) model differs from King and Teo's (1997) model, discussed above, in that it is not centred on integration of business planning and IS planning. Rather, it is based on two fundamental principles: (1) IS planning will adapt over time through redesign of its process dimensions and (2) the redesign will then result in more effective IS planning. Thus, it could be said that organisational learning is an important aspect of IS planning growth and maturity.

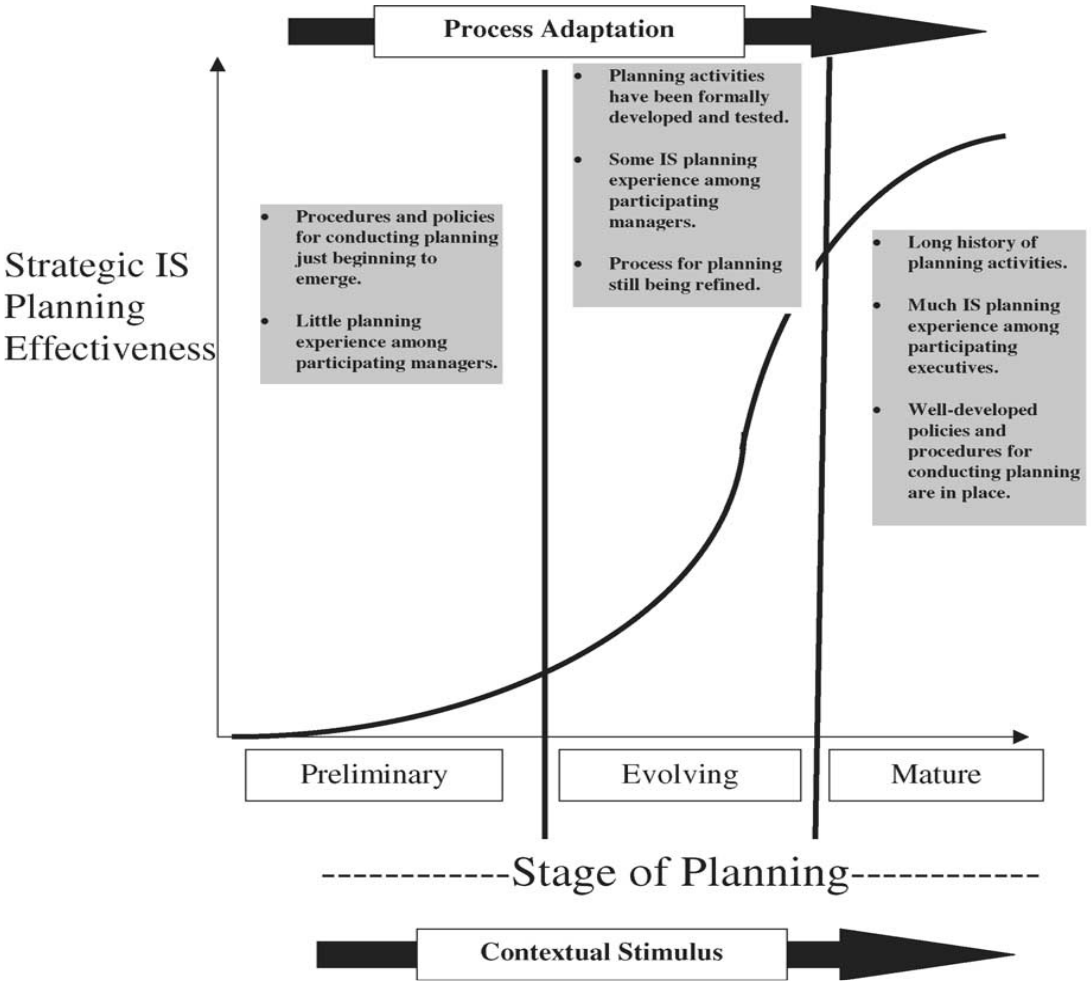

Figure 2.1: IS planning stages (Source: Grover & Segars, 2005)

More recently, Pita, Cheong and Corbitt (2011) developed a five-stage IS planning stages maturity model. The five stages are summarised in Table 2.5. Similarly to previous models, their model can be used to assess the stage of IS maturity of an organisation, study relations between IS constructs and help organisations to project the next IS evolutionary stage.

Table 2.5: Pita et al. (2011) IS planning maturity model

Stage	Description
Rudimentary planning	No formal IS plan. Plans are *ad hoc*, basic, and very often just financial plans to acquire hardware and software. There is no adequate IS planning or ICT technical resources. IS investment decisions are influenced by external consultants. No analysis of the external environment is performed before acquiring IS. Cost is the main concern; often a cost-effective solution is acquired regardless of future needs.
Ineffectual planning	Basic formal planning in place. No effective planning is performed. Plans are more tactical than strategic, out of date and not complete. The IS plan addresses only technical issues. Usually it is undertaken as part of the annual budgetary process. IS objectives are not aligned with business goals. Formal planning methodologies are acknowledged but often not utilised. Established policies are often abandoned under the pressure of deadlines and lack of commitment from the managerial structure.
Attainable planning	Formal methodologies are utilised. IS objectives are aligned with business goals. Management is involved in the IS planning process. The IS unit assumes the champion role for IS planning. IS solutions cover the major business areas, which are often different from real business needs. Users deploy their own IS in an uncoordinated manner.
Sustainable planning	Emphasis is on integration, coordination and information sharing. IS planning is driven by business needs and acts as an agent for adhesion of internal functions. Plans are independent of IT. Planning inconsistencies are overcome through synchronisation by the central IT planning function (if available) or coordinated across business units. IS review meetings are used to promote organisational learning and gather feedback. Integrated relations are established throughout the organisation and all areas are working towards common goals.
Adaptable planning	IS planning guides core business activities and influences organisational goals using IS opportunities for competitive advantage. IS planning is a continuous evolving process informed by a performance feedback mechanism. IS planning is dynamically synchronised with business needs. Multiple scenarios planning that explores interaction of the system with relevant environmental, social, political, technological and economic factors is in place and strategically increases organisational maneuverability.

2.3.4 IS Planning Approaches, Methodologies, Tools and Techniques

This subsection explores the approaches, methodologies and techniques that are commonly utilised in IS planning. Doing so will help to give an idea of responses that were expected from participants of this research.

2.3.4.1 Approaches

Often, the term approach is used interchangeably with methodology (Flynn & Goleniewska, 1993; Pollack, 2010). However, an approach is not a technique, an

explicit study or a formal, codified routine drawn from different IS planning methods, whereas methodology tends to focus on the technique, procedures or methods employed (Doherty et al., 1999; Earl, 1993). An approach is a way in which an organisation goes about planning for its IS (Sabherwal & King, 1995). It may contain a mix of methodologies or '*procedures, techniques, user-IS interactions, special analyses, and random discoveries'* (Earl, 1993, p. 7). The process of formulating a plan is also considered a learning process in that the organisation conducting the process accumulates experience and knowledge (Huysman, Fischer & Heng, 1994).

Many different approaches to IS planning have been covered in the literature (e.g. Earl, 1993; Grover & Segars, 2005; Segars & Grover, 1999; Warr, 2006). However, probably the most well-known approaches are Earl's five approaches (Pita, Cheong & Corbitt, 2008).

Several authors in the past have assumed, not only that formal IS planning methods are utilised, but that they are also appropriate (Lederer and Sethi, 1988; 1991), and that there is a systematic linkage between an organisation's business planning and IS planning procedures (Zmud, 1987; Karimi, 1988). However, Earl's (1993) findings suggest that these assumptions may not always be true.

In his study, Earl (1993) noted that there were five main ways (approaches) of conducting IS planning: business-led, method-driven, administrative, technological and organisational.

In the business-led approach, organisational business plans are used to identify the needs for IS. The emphasis is on the business leading IS rather than IS leading the business. In this approach, people in senior positions usually make decisions. The involvement of end users and middle-level managers is minimal, which reduces their opportunities to contribute their local requirements. For this reason, one could argue that plans resulting from this approach may not be well supported or accepted by lower-level personnel (Teo & Ang, 2001).

The method-driven approach is guided by the assumption that IS planning is improved by the use of formal techniques. This approach often involves the use of external expertise or consultants, who in turn become the drivers of the IS planning process. The emphasis is on the use of a best practice method or methods that have been tried and tested, usually by other organisation(s), and have proved to achieve good results. One possible criticism of this approach is that the best practice method is not always the best solution for every organisation; that is, what

works for one organisation may not necessarily work for other organisations (Pollack, 2010).

Resource planning is the key to the administrative approach. The approach emphasises the use of formal procedures in allocating IS resources. The argument is that formal procedures are more likely to produce better results. Usually, this approach is prepared either in line with or as part of the organisation's budgeting process, which is often done annually or semi-annually. This approach is often characterised by the use of organisational power, ability to influence decisions and internal interests.

The technological approach uses formal methods to map the activities, processes and data flows of the business that will be used to develop an IS model. The underpinning assumption for this approach is that the IS planning process should produce an IS model of the business. Analysts and technical people commonly dominate activities in this approach. Earl (1993) described this approach as very demanding on efforts, resources and time. He further said that this approach takes a long time to produce results.

In the organisational approach, IS plans emerge from continuous activities in the organisation between the IS department and other parts of the organisation. One of the main themes of this approach is participation and continuous enhancement of existing applications, which involves tactics such as trial and error and systems experimentation. This approach uses methods such as value analysis, workshops and vendor-visit arrangements. One of the benefits of this approach is that the IS investment is derived from a business consensus view of how IS '*can help to meet overall business objectives, agreed by the senior management team*' (Ward & Peppard, 2002, p. 125).

Earl (1993) found the organisational approach to be the most effective approach. Doherty et al. (1999) reported a similar finding. However, in contrast to Earl's (1993) findings, Warr (2006) found an additional approach—the comprehensive approach—to be the most successful. Warr's (2006) comprehensive approach is discussed later in this section. Table 2.6 provides a summary of Earl's (1993) approaches.

Table 2.6: Description of Earl's (1993) IS planning approaches (from Ward & Peppard, 2002)

	Technological	Method-driven	Administrative	Business-led	Organisational
Main task	IS application mapping	Defining business needs	Detailed IS planning	Strategic/ competitive advantage	Linking IS to business strategy
Key objective	Management understanding	Agreeing on priorities	Balancing the portfolio	Pursuing opportunities	Integrating IS and business strategies
Direction from	IT led	Senior management	User and IT	Senior management and users	Coalition of user/ management and IT
Main approach	Bottom-up development	Top-down analysis	Balanced top-down and bottom-up	User innovation	Multiple methods at the same time

Similar to Earl's (1993) study, Warr's (2006) study reported five approaches employed by organisations in the United Kingdom. Four approaches identified by Warr (2006) are similar to those of Earl (1993): administrative approach, technological approach, organisational approach and IS-led approach. The methods-driven approach was not found; instead, a new approach labelled comprehensive was found.

Warr's (2006) study found the use of technological and administrative approaches was in decline in comparison with the findings in Earl's (1993) study. The organisational approach was found to be still the most used of Earl's (1993) five approaches (Warr, 2006). However, it was noted that this approach had evolved over time in comparison with Earl's (1993) findings. The emphasis had changed from continuous enhancement of existing applications to the identification of opportunities for using IS.

Moreover, Warr (2006) described the IS function-led approach, whereby the IS unit is able to interpret the business plans and align strategic IS plans, as an evolution of Earl's (1993) business-led approach.

However, out of the five approaches, the comprehensive approach was found to be superior (Warr, 2006). It achieves its results through a balancing and treatment of all the IS planning behaviours available in the organisation (Warr, 2006). The comprehensive approach suggests that organisations should not place as much emphasis on a single dimension as is placed when one approach is employed (Earl, 1993).

The comprehensive approach supports Earl's (1993) proposition that a hybrid approach has the potential to achieve higher levels of IS planning success than a single approach. Other researchers who have supported the hybrid idea are Grover and Segars (2005) and Segars and Grover (1999). In contrast, Hartono, Lederer, Sethi and Zhuang (2003) suggested that the comprehensive approach is too costly and takes a long time in a turbulent environment. Table 2.7 compares the success levels of the approaches from Earl's (1993) and Warr's (2006) studies (note that success is relative to other approaches in the table, where 1 = top and 5 = bottom).

Table 2.7: Five ISP approaches by Earl (1993) and Warr (2006)

SISP Approach	Earl	Warr	Level of Success from Earl (1993)	Level of Success from Warr (2006)
Business-Led (IS Function-Led in Warr)	✓	✓	2	3
Method-Driven	✓	×	4	–
Administrative	✓	✓	4	5
Technological	✓	✓	3	4
Organisational	✓	✓	1	2
Comprehensive	×	✓	–	1

In addition to the approaches discussed above, other researchers have conducted studies in this field and formulated different approaches to IS planning. For example, Sabherwal and King (1995) reported five different ways of creating an IS strategy, namely, planned, provincial, incremental, fluid and political. Political is characterised with high levels of politics, internal influence and top management influence, and a low level of IS influence. This process is suitable for less formalised, small organisations and is generally useful when the external environment is hostile, resources are constrained and there is a need for inputs from several departments. Fluid is characterised with little planning and top management influence. It is primarily used for inter-organisational systems. Incremental is characterised by a high level of politics and low level of planning and top management influence. It is suitable for organisations that have a less mature IS department and whose need for planning has been minimised by a homogeneous environment. Provincial is highly influenced by IS personnel and top management. It involves a high level of politics and low level of planning. Planned is characterised by high levels of planning and top management influence. It is useful when a formalised organisation structure helps conduct the planning needed in heterogeneous environments. None of the approaches stood out; hence, Sabherwal and King (1995) suggested that no one

approach should be considered universally applicable and that an organisation's circumstances should be taken into consideration when deciding the approach to employ.

2.3.4.2 Methodologies, tools and techniques

An IS methodology is a methodical approach to IS planning (Olle et al., 1988). A methodology should inform a user/practitioner on 'what' steps to take, 'how' to perform those steps and the reasons 'why' those steps should be taken in a particular order (Jayaratna, 1994). IS planning methodologies can be categorised into impact and alignment (Lederer & Sethi, 1988). Impact methodologies aim at using IS to influence the business and its strategies, whereas the main objective of alignment methodologies is to align IS and business plans (Flynn & Goleniewska, 1993).

Many different methodologies, tools and techniques of IS planning are covered in the literature (see Table 2.8); however, there is no one single methodology or technique that is appropriate for every IS planning scenario (Boynton & Zmud, 1987; Pollack, 2010; Sabherwal & King, 1995). It is generally agreed that the use of the appropriate methodology, techniques and tools will increase the efficiency of the IS planning process (Lederer & Sethi, 1988; Zita et al., 2008). However, researchers have reported that selecting a methodology is a problem and selecting the wrong methodology or wrong combination of methodologies may significantly contribute to IS planning failure (Al-Aboud, 2011; Pita et al., 2008). Nevertheless, Premkumar and King (1991) reported that only 22 per cent of respondents in their study indicated they had used commercial IS planning methodologies and that 78 per cent used an in-house developed methodology. Similarly, in Flynn and Goleniewska's (1993) study, less than half (33 per cent) of their respondents indicated they had used commercially known IS planning methodologies and 56 per cent used non-commercial.

It is difficult to identify the most widely used IS planning methodology, although Lederer and Sethi (1988) reported that half of their survey respondents indicated that they were using business systems planning (BSP), strategic systems planning (SSP) and/or information engineering (IE). In addition, Premkumar and King (1991) found that the most used methodologies were IE, BSP, critical success factor (CSF) and value chain (VC). However, Pita et al. (2008) reported that the three most used methodologies in Australian organisations were ISP, SWOT analysis and a

combination bottom-up and top-down. Although combination bottom-up and top-down is listed as a methodology, it could be more appropriately regarded as an approach, based on the definition of approach provided in the previous subsection. Table 2.8 presents a complete list of IS planning methodologies from Pita et al. (2008) listed in the order of use.

Table 2.8: IS planning methodologies (from Pita et al., 2008)

Rank	Methodology	Rank	Methodology
1	Information Systems Planning	14	Resource Life Cycle
2	SWOT Analysis	15	BIA Integration Technique
3	Combination Bottom-Up and Top-Down (Approach)	16	Value Chain Analysis
4	Top-Down (Approach)	17	Information Quality Analysis
5	Technology Assess. IS Infrastructure Review	18	Inside-Out (Approach)
6	Business Systems Planning	19	Ends Means Analysis
7	Bottom-up (Approach)	20	Fuzzy Cognitive Maps
8	Staged Approach	21	Other
9	Current Portfolio Evaluation	22	Information Engineering
10	Business Portfolio Analysis	23	BI Characterisation Study
11	Executive Information Planning	24	Information Engineering Workbench (IEW)
12	Balanced Scored Analysis	25	Method 1
13	IS Investment Strategy	26	4 Front

As shown in Table 2.8, different IS planning methodologies are employed by different organisations. In questionnaire C (see Appendix B), respondents were asked an open ended question about methodologies and techniques used in their organisations. It was anticipated their responses would have been among the methodologies and techniques used in IS planning over the past 30 years as per the studies discussed above. To give an idea of the breadth of the methodologies and techniques here is brief description of five of them.

2.3.4.2.1 Business systems planning (BSP)

BSP is a planning process developed by International Business Machines (IBM) (Lederer & Sethi, 1988). It is a structured process developed to assist organisations in establishing an IS plan to satisfy short- and long-term information needs (IBM, 1984). This process involves top-down planning with bottom-up implementation (Basahel & Irani, 2009; Lederer & Sethi, 1988). The top-down analysis identifies the firm's information needs through extensive interviews with executives to determine their business plans. The bottom-up process focuses on identifying information

needs, developing IS solutions, establishing implementation goals (task scheduling) and identifying resource needs (Synnott, 1987). Moreover, in this process, data management is viewed as a company resource and is oriented around business processes (IBM, 1984). Additionally, heavy emphasis is placed on top management commitment and executive involvement in the planning process (Lederer & Sethi, 1988). According to Lederer and Sethi (1988), the final BSP plan describes the overall IS architecture as well as the installation schedule of every individual system. Table 2.9 presents the BSP steps.

Table 2.9: BSP planning process steps (IBM, 1984)

	Step	Activities
1.	Gain the commitment	Identify executives and obtain their commitment to the projects, reflect executives' view of the business, obtain agreement on the scope and objectives of the project, select a team leader.
2.	Prepare for the study	Participating members attend training on BSP, business data/details are gathered and study control book is prepared.
3.	Start the study	Business review meeting is conducted at which the executive sponsor specifies the objectives of the project, team leader reviews gathered business data, and IS manager presents recent IS projects and their major problems.
4.	Define business processes	The most important activity of BSP process, when business processes are identified. Each process is described and key processes to the success of the business are identified to be used in the follow-up activities.
5.	Define business data	Entities are identified; data of the identified entities are grouped into logically related categories called data classes.
6.	Define information architecture	Data classes are linked/related with the business processes.
7.	Analyse current systems support	Existing business process and IS are analysed with the aim of identifying voids, redundancies and better understanding of the business process and how it is supported by the IS.
8.	Interview executives	Gain executives' support and commitment. Learn about the business from the executives viewpoints.
9.	Define findings and conclusions	Analyse the problems, and sort them into several categories, then draw conclusions. Non-IS-related problems are given to executive's sponsor for follow-up.
10.	Determine architecture priorities	High priority IS are identified and a systems development schedule is prepared based on priorities.
11.	Review information resource management	The team establishes a controlled environment for developing, implementing and operating the information architecture. The team also defines the environment, which clearly shows how data are to be managed as a corporate resource.
12.	Develop recommendations	Develop follow-on activities schedule based on architectural priorities.
13.	Report results	Report or results of the study are prepared and presented to the executives with the intention of obtaining executives' commitment and involvement for the implementation of the recommendations.

2.3.4.2.2 Information engineering (IE)

IE was developed by Martin and by Finkelstein (Janssen & Steen, 2001). This method provides techniques for building enterprise, data and process models. These form a comprehensive repository of knowledge, which then creates and maintains the IS.

According to Finkelstein (2006), modern IE (or business-driven IE) contains five phases, namely, strategic planning, data modelling, process modelling, systems design and systems implementation. The first three phases focus on business, are independent of technology and produce a business model. The business model is then used as input to the systems design and systems implementation phases. Systems design and systems implementation phases are technology dependent (Finkelstein, 2006).

2.3.4.2.3 Critical success factors (CSF)

Ronald Daniel first introduced the concept of CSF in the 1960s (Rockart, 1979), although it was made popular in the field of IS by Rockart (Soliman, Clegg & Tantoush, 2001). CSF is based on the assumption or belief that every organisation has factors that are critical for that organisation's success (Caralli, Stevens, Willke & Wilson, 2004; Finney & Corbett, 2007). Thus, CSF analyses the organisation's information needs based on those key areas or factors critical to the organisation's survival and growth.

One of the strongest points of this technique is its '*flexibility regarding organisation needs and [that it] can be used as measurements and for a number of levels and a variety of purposes'* (Basahel & Irani, 2009, p. 3). Further, it is business driven, which makes it possible for non-technical organisations or staff to commence IS planning without having to worry about technology at an early stage (Shank, Boyton & Zmud, 1985). However, it can be difficult to identify all the information requirements by employing CSF alone; thus, it should be used together with other techniques and skills for defining critical factors (Al-Aboud, 2011; Basahel & Irani, 2009).

2.3.4.2.4 Value chain (VC) analysis

The concept of VC has been circulating since the 1960s (Kaplinsky, 2000). It was made popular in the IS field in the 1990s by Michael Porter (Dekker, 2003). Porter

(1985) described VC analysis as a basic tool for understanding the role of technology in competitive advantage.

Central to VC analysis is the assumption that each product or service has a range of activities that are linked together. As the material or product passes through these activities, value is added to the material, transforming it into the final product or service (Dekker, 2003).

The main motive for using VC analysis as a tool is to enable a firm to gain a competitive advantage in the industry by identifying and analysing the chain of value-adding activities. Once the actual activities have been identified, the appropriate technology can be embodied to support and facilitate the activities (Porter & Millar, 1985).

The tool has generic primary and secondary activities. The generic secondary activities include procurement, human resource management, technology development and infrastructure. The generic primary activities are inbound logistics, operations, outbound logistics, marketing and sales, and service.

The primary activities are generally considered vital for developing a competitive advantage. They are supported by secondary activities, but this is not to say that secondary activities do not add value per se. For instance, Porter (1985) demonstrated how technology is embedded in each value-added activity.

2.3.4.2.5 SWOT

SWOT is a tool used to analyse an organisation so that it can use its strength to exploit opportunities while, at the same time, defend itself against threats by addressing its weaknesses (Ward & Peppard, 2002). Generally, threats and opportunities are considered external factors, whereas strengths and weaknesses are considered internal qualities or characteristics (Hill & Westbrook, 1997).

SWOT analysis has been credited as being a good basis for identifying factors that can be used to formulate an organisation's plan (Kurttila, Pesonen, Kangas & Kajanus, 2000). However, it has been criticised for lack of rigour (Hill & Westbrook, 1997); for example, it does not provide the means to determine the importance of the identified factors and/or assess the fit between identified factors and decision alternatives (Kurttila et al., 2000).

2.4 Chapter Summary

This chapter started with a discussion of definitions of IS planning before providing the IS planning definition applicable to this study. The chapter then examined the common reasons for undertaking IS planning. This was followed by a discussion of the problems of conducting IS planning, of which leadership-related problems appear to be the most significant. IS planning maturity models were then discussed. The chapter concluded with a presentation of IS planning approaches, methodologies, tools and techniques.

The topics covered in this chapter were integral for comparison and analysis in this study for the following reasons:

1. Most if not all of the topics have been studied in the for-profit (FP) sector. Thus, they were useful for comparing the NFPO results with what is known in the FP sector. This helped to determine, for example, whether the reasons for conducting IS planning are the same for FPOs and NFPOs, whether NFPOs experience problems similar to those of FPOs, and whether the methodologies used by NFPOs are the same as those in FPOs.
2. IS planning maturity models were used to analyse the status/stage of the NFPO planning.

Two important conclusions were drawn from the literature review presented in this chapter. First, the bulk of the research in IS planning was conducted in the 1980s, 1990s and early 2000s. However, IS planning is still as relevant (if not more relevant) today as it was then; thus, there is still a need for more studies to be conducted in this area. Second, as mentioned earlier, most of the studies on IS planning have focused on the FP sector. For this reason, not much is known about IS planning in NFPOs. The NFP sector is potentially different from the FP sector (see Chapters 1 and 3) and fairly important for both the economy (contributing approximately 4.1 per cent of GDP in Australia) and society. It is worth exploring whether what we know about IS planning in the FP sector applies to the NFP sector. This indicates a need for IS planning research to be conducted in NFPOs, and hence the importance of this study.

The discussion in this chapter revolved around studies that were conducted in the FP sector. The next chapter will provide an overview of the NFP sector and what is known about IS in NFPOs.

CHAPTER 3: NFPOs

3.1 Introduction

This chapter presents an overview of the NFP sector in Australia. The principal aim is to describe and define the Australian NFP sector, the sector's planning and IS in NFPOs. There is not a great deal of data available concerning WA NFPOs; therefore, conclusions were extrapolated from data collected at the national level. Moreover, as noted in the previous chapter, most IS research has been conducted in business or government organisations.

The chapter is organised as follows. Section 3.2 provides an overview of Australian NFPOs that includes a definition of NFPO, a comparison between NFPOs and FPOs, the various types of NFPO, a classification of NFPOs, the size of the NFP sector, NFPOs' economic and non-economic contribution, and the sources of income for NFPOs. Section 3.3 discusses IS in NFPOs. Section 3.4 investigates IS planning in NFPOs, and Section 3.5 concludes the chapter by demonstrating the importance of filling the research gap.

3.2 Overview of Australian NFPOs

At the time of conducting this research, the researcher was not able to obtain any data specific to the WA NFP sector. However, data are available at the national level for the Australian sector.

3.2.1 Definition of NFPO

Many different terms and definitions are used to describe NFPOs, which can create confusion (Carey-Smith, Nelson & May, 2007). Some examples of the terms used are 'the third sector', 'the voluntary sector', 'non-governmental organisations' (NGOs), 'non-profit organisations' (NPOs), 'social economy', 'civil society', 'NFPOs', 'charitable organisations' and 'public organisations' (Braaksma, Commandeur & Berghout, 2006; Carey-Smith et al., 2007; Lyons, 2001).

There is no legal or statutory definition of an NFPO in Australia. One definition used by the Australian Taxation Office (ATO) was derived from a common law (ATO, 2013). The ATO defines an NFPO as '*an organisation that is not operating for the profit or gain of its individual members, whether these gains would have been direct*

or indirect. This applies both while the organisation is operating and when it winds up' (ATO, 2013, para. 1). The ATO further stipulates that any profit made by the organisation has to be 're-injected' into the organisation to carry out its purposes and not used for any other purpose. Key to this definition is that the distribution of any surplus is not to the benefit of anyone but the organisation.

The ABS adopted (with minor changes) the United Nations (UN) definition for the purpose of data collection and its other activities. Thus, the ABS defined NFPOs as '*legal or social entities, formed for the purpose of producing goods or services, and whose status does not permit them to be a source of income, profit or financial gain for the individuals or organisations that establish, control or finance them'* (ABS, 2013, para. 8).

Lyons (2001) argued that there are three sectors in which organisations can be categorised: the for-profit sector, the government sector and the non-profit sector. Lyons (2001) defined the non-profit sector as:

> *consisting of private organisations:*
>
> *1 that are formed and sustained by groups of people (members) acting voluntarily and without seeking personal profit to provide benefits for themselves or for others,*
>
> *2 that are democratically controlled and*
>
> *3 where any material benefit gained by a member is proportionate to their use of the organisation.* (p. 5)

Broadly, this definition means that any organisation that is not part of the government or business sector belongs to the third sector.

The common element in these definitions is that the wealth or profit cannot be distributed to individual stakeholders or entities outside the organisation. However, they differ in the factors they define; for example, Lyons (2001) defines the issue of voluntary participation but neither the ATO nor the ABS includes this factor in their definitions.

For the purpose of this research, the following definition is used: an organisation that is formed by a group of people or initiated by other organisations to achieve a common goal such as producing goods and/or providing services. The organisation

should be self-governed or independently run (i.e. not run by the government) and making profit should not be the principal objective. However, any profit generated by the organisation has to be reinvested into the organisation for the attainment of the organisation's objectives instead of being distributed to the members of the organisations for individual benefits. Further, organisation membership and participation is not compulsory.

3.2.1.1 Differences between NFPOs and FPOs

The following differences between NFPOs and FPOs have been identified:

- NFPOs do not have a great deal of resources (e.g. financial, human and know-how/expertise) compared with FPOs (Merkel et al., 2007). Light (2004) referred to lack or shortage of expertise (i.e. effective leadership and ability to plan effectively) in NFPOs as capacity deficit.
- NFPOs find it difficult to attract highly skilled staff (Collins, 2005).
- Governance structures in NFPOs are not as clearly defined as they are in FPOs (Cleary, 2003; Collins, 2005; Inglis & Minahan, 2005; Merkel et al., 2007).
- It is difficult to measure performance success in NFPOs because there are no widely agreeable performance-measuring metrics in NFPOs like there are in FPOs (Dameri, 2005; Kong, 2007; Speckbacher, 2003).
- NFPOs are said to focus on 'doing the right things' (effective) whereas FPOs are principally concerned with 'doing things right' (efficiency) (Collins, 2005).
- NFPO staff members are more motivated or satisfied with intrinsic incentives than explicit incentives, as opposed to staff at FPOs (Mirvis, 1992; Mirvis & Hackett, 1983; Onyx, 1993). Further, resistance to change or preservation of core values is much stronger in NFPOs than in FPOs (Chapman, 1998).

3.2.1.2 Types of NFPO

In classifying NFPOs, the UN recommends the use of the International Classification of Non-Profit Organisations (ICNPO) developed by Salamon and Anheir (1992). ICNPO classifies organisations based on their activities. The ABS, in their 2006–2007 NFPO survey, used a modified version of the ICNPO to suit the Australian environment better. The ABS version of the ICNPO is set out in Table 3.1.

Table 3.1: ABS version of the ICNPO

	Organisation Group	Description
1.	Culture and recreation	Culture and arts, sports, other recreation and socials clubs
2.	Education and research	Primary and secondary education, higher education, other education, and research
3.	Health	Rehabilitation, nursing homes, mental health and crisis intervention, and other health services
4.	Social services	Social services, emergency and relief, and income support and maintenance
5.	Environment, development, housing, employment, law, philanthropic and international	Environment, animal protection, economic, social and community development, housing, and employment and training
6.	Hospitals	Hospitals
7.	Religion	Religious congregations, associations of congregations
8.	Business and professional associations, unions	Business associations, professional associations and labour unions
9.	Other activities	Organisations that do not fit into any of the above classifications

3.2.1.3 Size classification of NFPOs

The Australian Charities and Not-for-profit Commission (ACNC) classifies NFPOs as small, medium or large. Small organisations have an income of less than $250,000 per annum, medium organisations have income of between $250,000 and $1 million per annum, and large organisations have income of over $1 million per annum. Note that for the purpose of this research, in determining the size of an organisation, the researcher used annual income based on the organisation's yearly budget.

3.2.2 Size of NFP Sector

In Australia, it is not clear how many NFPOs are operational or functioning, and the estimates vary widely. The ABS (2009) estimated that, in 2007, there were 41,008 NFPOs Australia-wide, whereas the Productivity Commission (2010) provided an estimation of 600,000 operational NFPOs Australia-wide. Lyons (2009) estimated that there were as many as 700,000 NFPOs. The Productivity Commission figure is also used by the ACNC.

The Australian government introduced the ACNC to regulate charities and NFPOs, and it is hopeful that, over time, it will be able to determine a more accurate estimate.

3.2.3 NFPO Contribution

In general, NFPOs' contribution can be classified into economic contribution and non-economic contribution (Department of Communications, Information Technology and the Arts [DCITA], 2005). The non-economic contribution includes provision of service, social innovation, advocacy, community building/connecting the community, and personal development/leadership development. The economic contribution includes contribution to GDP, income and source of employment.

The precise extent of NFPOs' contribution in Australia is uncertain, but it is clear that NFPOs play an important part in society (Klemz, Simon & Kumar, 2003) in many countries, including Australia.

3.2.3.1 Non-economic contribution

Non-economic contribution is the most difficult contribution to quantify because the outputs of NFPOs '*are intrinsically qualitative, hard to measure and tricky to express in financial ... terms*' (Harris, Mainelli & O'Callaghan, 2002, p. 401). Traditional economic theory describes the NFP sector principally as a provider of services to the community (DCITA, 2005).

Five significant contributions have been identified in the literature as significant to communities and countries (Chinnock & Salamon, 2002; Donoghue, 2008; Salamon, Hems & Chinnock, 2000). The key NFPO contributions are provision of services, social innovation, advocacy, community building/connecting communities and leadership/personal development.

3.2.3.1.1 Provision of service

Seventy per cent of disability services in WA are delivered by NFPOs (Barnett, 2014). These services may include support to vulnerable community members such as aged people, disabled people and children (ACNC Taskforce, 2012; Venable & Bhattacharjya, 2006). Often, NFPOs are willing to put in extra work to ensure they achieve good outcomes for their clients (Salamon et al., 2000). Closeness between NFPOs and the community is an essential feature for effective service delivery to the community (Productivity Commission, 2010). Examples of services provided by NFPOs in WA include:

- provision of mental health services to youth,

- assisting the elderly with day-to-day chores so that they are able to stay in their homes,
- helping newly arrived immigrant women to settle into the Australian way of living.

NFPOs also sell goods such as furniture, clothing and footwear.

3.2.3.1.2 Social innovation

Social innovation is about generating new ideas to address pressing social matters by applying new learning and strategies (Cahill, 2010). It provides societies with the means to re-imagine, re-calibrate and increase their resilience (Huddart, 2010). NFPOs tend to act as incubators for new ideas and approaches for identifying and solving public problems. NFPOs become pioneers in social innovation i.e. they are able to identify and focus attention on unsolved matters, formulate new approaches to problems and serve as a source of innovation in solving societal problems (Salamon et al., 2000). Examples of a social innovation include:

- the Grameen Bank, a microfinance institution that provides financial services to low-income clients in Bangladesh that was begun by Muhammed Yunus (Cahill, 2010),
- the 'Save a Child' initiative by World Vision for poor children (Johnson, 1999),
- the 'One Sunday at a Time' initiative that aims to change people's attitude towards binge drinking and create a better drinking culture (Hamley & Carah, 2012).

3.2.3.1.3 Advocacy

For many, the advocacy role represents the essence of NFPOs (Lyons, 2001). Because NFPOs work within communities, they are able to connect with people who share their concerns and work together to exert influence through advocacy, education programmes, research and demonstrations (O'Donnell & Ramaioli, 2004). In this role, NFPOs bring group and society concerns to broader public attention and incite social change (Salamon et al., 2000).

3.2.3.1.4 Community building (connecting the community)

Community building is achieved through the provision of services that give people an opportunity to engage with their community, thereby building social inclusion in

the community and expanding the social networks of community members (Productivity Commission, 2010). By encouraging social interaction, NFPOs help to create habits of trust and reciprocity, which in turn contribute to a sense of community and help to support democratic values (Salamon et al., 2000). Organisations involved in building societies in such a manner are also referred to as the 'elementary schools of democracy' (Lyons, 2001).

3.2.3.1.5 Personal development/leadership development

NFPOs provide opportunities to community members that encourage personal development. For some individuals, personal development leads to leadership development (Salamon et al., 2000).

In summary, although the non-economic contributions of NFPOs have been discussed individually, in reality, a combination of these contributions may occur at the same time from a single activity or initiative.

3.2.3.2 Economic contribution

The economic contribution of NFPOs is somewhat easier to measure than the non-economic contribution (Lyons, 1999). The ABS (2009) estimated that, in the financial year 2006–2007, NFPOs contributed approximately $43 billion or 4.1 per cent of the total GDP of Australia. In this period, NFPOs had income of about $76 billion and provided employment for approximately 889,900 paid staff and over 4.6 million volunteers (ABS, 2009).

Moreover, the NFP sector made an economic contribution that was equivalent to that of the government administration and defence industry, and one and a half times the size of the economic contribution of the agriculture industry (ABS, as cited in Lyons, 2009).

Thus, it can be concluded that NFPOs make a considerable economic contribution at a national and individual level by providing full-time and part-time employment, as well as by utilising volunteers' services.

3.2.4 Sources of Income

Most Australian NFPOs obtain their income or revenue primarily from donations, the government and sales of goods and services. According to ABS (2009) statistics, sales of goods and services contributed to approximately 39 per cent of the total income for NFPOs, followed by government grants and contracts at 34 per cent, and

donations at 10 per cent, with all other income sources accounting for the remaining 17 per cent. The majority of the income from sales was made by culture and creation organisations (ABS, 2009). This suggests that most organisations outside of culture and creation organisations rely on government grants and contracts as their principal source of income.

Heavy reliance on government income could come at the cost of the independence of an NFPO (Productivity Commission, 2010). Despite this concern, government funding seems to be useful for NFPOs that are not able to generate enough money through other sources. As Walker (2004) indicated, the Australian federal government views funding of NFPOs as an ideal model for the delivery of community services outside the public sector. This is further evidenced with the establishment of the Office for the Not-for-Profit Sector in 2010 and its principal agenda, the 'National Compact: *working together*'.

However, Cleary (2003) argued that the relationship between the government and NFPOs is ambiguous, stating that the use of the competitive tendering process has opened the door for the FP sector to tender for activities and/or services that were primarily the NFPOs' area. This has increased the level of competition and added pressure to the already extremely busy sector (Inglis & Minahan, 2005). In some cases, the increase in competition and pressure has resulted in the failure and closure of NFPOs (Cleary, 2003).

3.3 IS in NFPOs

3.3.1 IS Usage in NFPOs

A review of the literature indicates that NFPOs principally use IS for communication purposes, with email being the most used application (Berlinger & Te'eni, 1999; Hackler & Saxton, 2007; McNutt & Boland, 1999).

In addition to communication, other common uses of IS in NFPOs could be categorised as housekeeping and administrative or operational activities. These include activities such as word processing, storage of information (e.g. membership data and financial data on pledges, donations, etc.), and budget preparation (Berlinger & Te'eni, 1999; Mutschler & Hoefer, 1990).

3.3.2 IS Potential for NFPOs

The literature on the potential for IS in NFPOs is a cacophony of generalisations and motherhood statements. Examples include:

- NFPOs could benefit from IS through well-designed and implemented IS in a similar fashion to FPOs (Lewis & Madon, 2004).
- IS has the capacity to transform NFPOs through the reconfiguration of NFPOs' structures and working relationships, not only within organisations but also with external entities and organisational networks (Hackler & Saxton, 2007).

A more defined response is: IS has the potential to enable an organisation '*to manage organizational resources, track donors, maintain financial records, and monitor activities that lead to greater efficiency and productivity*' (Klemz et al., 2003, p. 216). IS '*can be used to provide information about services to people living in a community, enable people in a community to seek help when they hesitate to meet face-to-face, elicit funding, and provide transparency of operations that enables donors and government agencies to monitor spending*' (Klemz et al., 2003, p. 216).

In one example, Schneider (2003) found that some NFPOs were losing out on funding opportunities because '*they had trouble meeting expectations for proposal quality and record keeping systems*' (p. 385) of funding bodies.

3.3.3 Factors Affecting IS Activities in NFPOs

The factors that affect the success of IS in NFPOs are the same as for most organisations. These include top management support, resource allocation, decision-making structure, management style, alignment of goals and knowledge of IT management (Sepahvand & Arefnezhad, 2013). A full consideration of these factors is beyond the scope of this thesis, but the reader is referred to Sepahvand and Arefnezhad, 2013.

However, some factors are specific to NFPOs.

3.3.3.1 Staffing

NFPOs consistently experience full-time staff shortages (Berlinger & Te'eni, 1999; Fasano & Shapiro, 1991; McNutt & Boland, 1999; Merkel et al. 2007; Schneider, 2003). NFPO staff are often overworked and tend to operate in crisis-management mode, which in turn affects their ability to work on IS projects effectively (Fasano &

Shapiro, 1991; Schneider, 2003). Similar sentiments were expressed by Otting (2007), who asserted that '*employees are asked to do more work with fewer resources, create miracles on a daily basis, and satisfy competing interests*' (p. 10). Staff in these organisations tend to focus more on activities that are directly related to the achievement of the organisation's mission (Burt & Taylor, 2000), for example, administering programmes and providing direct services to clients (Schneider, 2003).

3.3.3.2 Expertise

NFPOs generally have little or no IS expertise (Berlinger & Te'eni, 1999; Fasano & Shapiro, 1991; Geller, Abramson & deLeon, 2010; Le Dantec & Edwards, 2008; Saidel & Cour, 2003; Schneider, 2003). Merkel et al. (2005) shared their experience, revealing that most of the NFPOs for which they have worked '*have some paid administrative staff*' and that none of them '*have a paid IT staff*' (p. 162). Additionally, NFPOs that lack IS expertise see IS and its related activities as an added burden to management. Therefore, they engage in minimal or no IS activities (Schneider, 2003).

McNutt and Boland (1999) attributed a lack of expertise in IS to the lack of IS education and experience of the staff. In this study, it was noted that most of the staff had a training background in social work and comments indicated that the limitations of social-work training for IS are well known (McNutt & Boland, 1999).

3.3.3.3 Use of volunteers

NFPOs often have scarce resources (i.e. staff shortages), which means they need to be effective in identifying and leveraging local resources such as volunteer efforts to achieve their goals (Hackler and Saxton, 2007; Merkel et al., 2007). Berlinger and Te'eni (1999) reported that the human resources required for developing and using computer applications are often fulfilled by volunteers from diverse backgrounds with differing levels of skills. Thus, NFPOs may not always be able to ensure that their workers have the necessary skills for IS activities (McPhail et al., 1998; Zhang & Gutierrez & Mathieson, 2010).

Further, the use of volunteers is reported to cause a lack of continuity on activities and/or projects. For example, some NFPOs develop a core set of volunteers responsible for IS planning and implementation, only to find those volunteers moving on to other interesting activities (Merkel et al., 2005). Thus, it is very difficult for an

organisation to enjoy long-term viability if they depend on volunteer staff to meet mission-critical needs (Merkel et al., 2005).

3.3.3.4 Funding and financial factors

NFPOs rarely have enough money for various activities such as IS (Fasano & Shapiro, 1991; Hackler & Saxton, 2007; Klemz et al., 2003; McNutt & Boland, 1999; Saidel & Cour, 2003; Schneider, 2003). For example, Saidel and Cour (2003) reported that funding for IS projects was a constant problem for NFPOs: '*finding revenues for anything, including funds to support IT development, is always difficult … Being a nonprofit, it was always an obstacle. Where are we going to get the money to do this?'* (p. 20). Thus, particularly small NFPOs '*operate on a shoestring budget derived from grants and donations*' (Fasano & Shapiro, 1991, p. 141).

A contributing factor is the perception that IS activities are overheads rather than fundamental activities, and donors usually see overhead costs as detrimental to an organisation's objectives and a cost that needs to be kept at a minimal level (Maiers, Reynolds & Haselkorn, 2005).

Financial factors have several implications for IS activities. The following are examples of the implications of financial factors for IS in NFPOs:

- In general, funding is a key determinant ensuring that IS activities will be initiated and supported until they are completed (Fasano & Shapiro, 1991). Fasano and Shapiro (1991) reported that small NFPOs that attempted to computerise their operations faced a number of problems because of a lack of financial resources.
- The ability to utilise IS effectively is affected. Hackler and Saxton (2007) found that '*less wealthy nonprofits are, in short, less likely to have the organizational capacity, or "IT savvy," that can facilitate the strategic utilization of information technology*' (p. 24).
- The funding for most positions depends on donations and/or annual government grants (Onyx, 1993). As a result, '*there is very little security of tenure, with positions frequently disappearing, or reverting to part-time or casualised positions*' (Onyx, 1993, p. 2).
- Lack of job security or inability to ensure funding for IS positions puts NFPOs in a position that prevents them for being able to attract people with the appropriate levels of skill (Collins, 2005; Zhang et al., 2010).

- NFPOs rely on donations for highly skilled external expertise (Le Dantec & Edwards, 2008). According to Fasano and Shapiro (1991), NFPOs '*can scarcely afford the sort of consulting that the rest of the public or profit-making organizational world takes for granted*' (p. 130).
- Financial factors have great implications for an organisation's ability to train its staff (Le Dantec & Edwards, 2008; Onyx, 1993; Saidel & Cour, 2003; Zhang et al., 2010). Fasano and Shapiro (1991) point out that there '*just isn't the money or the time to send people away for classes*' (p. 142).

3.3.3.5 Budgeting and priorities

It appears that IS activities are not given sufficiently high priority over other activities that are directly linked to the core of an NFPO organisation's mission (Merkel et al., 2005). This was evidenced in a study by Saidel and Cour (2003). When a participant explained about a tough 'trade-off' between spending resources to provide more direct services to clients against providing more computer training for staff, the participant was quoted as saying, '*Now how does that affect the IT system? Well, we're not going to spend, we don't have a lot of extra dollars, so we're not going to spend a lot of money on computer training*' (p. 20). Additionally, Hackler and Saxton (2007) noted that a relatively low proportion of the budget for NFPOs (9 per cent on average) is dedicated to IS and its related activities.

3.3.3.6 Board-member involvement

It has been found that board-member involvement in IS activities plays an important role in increasing the chances of obtaining positive results in IS projects (Berlinger & Te'eni, 1999; Hackler & Saxton, 2007). This usually depends on the board's awareness of the activity and its contribution to the organisation (Hackler & Saxton, 2007). Berlinger and Te'eni (1999) noted that board-member involvement was key to the successful introduction of computers to one organisation. Similarly, Hackler and Saxton (2007) noted that there was a positive relationship between board involvement in approving long-term plans and the ability of an organisation to secure grants for IS activities. According to Hackler and Saxton (2007), the presence of the board in IS decision-making increases the importance of IS as a valuable contributor to the organisation's mission, which in turn improves the chances of an IS project's success.

3.3.3.7 Organisational values: culture and resistance to change

For IS to have a long-term effect, a powerful new vision will have to emerge and be embraced by an NFPO. The new vision should include implementing changes that are more radical. However, the visionary leadership that established these organisations and made them so effective when they were established may become a powerful obstacle to change (Burt & Taylor, 2003). Therefore, it could be argued that introduction of IS that may change the way things are done in organisations may face strong resistance.

3.3.3.8 Lack of IS planning

Lack of IS planning is noted to cause NFPOs to fail to realise how IS has become critical to them achieving their objectives. In a study of community-based NFPOs, Merkel et al. (2005) argued that failure to maintain the website due to lack of planning would force users of the website to find other means to meet their needs (p. 162).

This section (3.3) provided an overview of how IS is used by NFPOs, IS potential for NFPOs and factors affecting the success of IS in NFPOs. The next section present an overview of IS planning in NFPOs.

3.4 IS Planning in NFPOs

In accordance with the objectives of this research, it is important to review empirical research in IS planning in NFPOs to provide a review of IS planning in NFPOs. NFPOs often acknowledge that technology might help them to achieve their mission or objectives (Merkel et al., 2007). However, they often encounter '*problems achieving their technology goals because technology planning is often not an explicit part of their organisational practice*' (Merkel et al., 2007, p. 1). A number of studies (Forster, Nirshel & Russell, 2008; Forster & Ruzanic, 2010; Hackler and Saxton, 2007) reported that a majority of NFPOs do not undertake IS planning. In contrast, a study by Klemz et al. (2003) reported that a majority of surveyed NFPOs were undertaking IS planning. All these studies were conducted in the USA. Unfortunately, the researcher was unable to find studies that reported similar conclusions for Australian NFPOs, which suggests that very few (or no) studies have been conducted in this area in Australia.

3.4.1 Alignment Between IS Planning and Organisational Planning

Klemz et al. (2003) reported that more than half (60 per cent) of the participating organisations in their study that claimed to do IS planning also indicated that their IS planning considered the future plans of their organisation. The researchers interpreted this result as an indication that those organisations understood the importance of alignment between IS planning and organisational planning. Thirty per cent of respondents in studies by Forster, Nirshel and Russell (2008) and Forster and Ruzanic (2010) indicated that their strategic plans addressed IS.

3.4.2 Top Management Involvement

Klemz et al. (2003) found that a majority (64 per cent) of top management was involved in the IS planning process in the NFPOs they surveyed. This is encouraging considering that the literature shows that it is often difficult for organisations to ensure the involvement of top management in IS planning (Sabherwal, 1999). Hackler and Saxton (2007) reported that a majority of the board members of the NFPOs they surveyed were involved in approving IS projects. According to Hackler and Saxton (2007), this process was found to have a positive effect on securing grant funding for IS projects.

3.5 Chapter Summary

This chapter provided a review on Australian NFPOs and IS in the NFP sector. The discussion of Australian NFPOs included the definition of NFPO, an analysis of the size of the sector, its contribution to the community and its source of income. The chapter then examined IS in NFPOs, including IS usage and the factors affecting IS in NFPOs, and concluded by reviewing IS planning in NFPOs.

The chapter has demonstrated that the size of the Australian NFP sector is unclear. Nevertheless, it is clear that the sector plays an important role (both economically and non-economically) in shaping Australian society. Although it is easy to measure the economic contribution, the non-economic contribution is not easily measured. Non-economic contributions include (but are not limited to) social and personal development, societal empowerment, enhancing social inclusion, caring for marginalised people and providing a source of inspiration. The economic contribution includes contribution to GDP, income and source of employment. Additionally, the main source of income for most Australian NFPOs is government

grants and contracts. However, the government grants and contracts process has introduced a competitive environment within NFPOs that is placing pressure on the already burdened NFPOs, which affects their ability to execute their activities.

The seven principal factors found to affect IS activities in NFPOs are staffing, lack of expertise, use of volunteers, funding or financial issues, prioritisation, senior leader or board-member involvement, organisational values and culture or resistance to change and lack of IS planning. These factors can be categorised into internal and external factors. Funding or financial factors is an external factor because most of the income of NFPOs depends on external sources. The remaining factors can be categorised as internal factors. However, financial factors may affect any of these factors. For example, organisations with financial difficulties may not be able to train their staff or hire external expertise.

In relation to the research questions, particularly research question 1, 2 and 3 (see section 1.4), it was important to review the literature about IS planning in NFPOs. The literature suggests that there is scant research on IS planning in NFPOs. The few studies on IS planning in NFPOs reviewed in this chapter were conducted in countries other than Australia. Thus, very little is known about IS planning in either Australian or WA NFPOs. The importance of the NFP sector to Australia, coupled with the fact that there is little (or no) IS planning research in Australian NFPOs, means there is a need to conduct research in this area. The present research aimed to explore the IS planning in WA NFPOs and provide practical recommendations. The next chapter presents a discussion on research methodologies and arguments for selection of the research methodology design employed in this research.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents the research methodology together with arguments to support the methodology design choices. Philosophical assumptions and research instruments employed in conducting this research are also discussed.

The chapter is organised into five sections. Section 4.2 restates the research questions. Section 4.3 discusses the research relevance, various philosophical assumptions of the research, the research purpose and the research cycle before presenting the adopted methodology for this research. Section 4.4 discusses the research designs widely used in the IS research field. Definitions, comparisons and the strengths and weaknesses of quantitative, qualitative and mixed methods are also presented. The section also name the research design adopted for this research and providing arguments to support its selection. The section ends by presenting the research instruments employed for data collection in this research. Finally, Section 4.5 concludes the chapter by presenting the key points.

4.2 Research Questions Restated

The research questions presented in Chapter 1 are restated here to guide the process of choosing the research methodology:

1. How is IS planning conducted by NFPOs in Western Australia (WA)?
2. What is the relationship between IS planning and NFPOs' goal or mission achievement?
3. What problems and/or dilemmas, if any, are faced by NFPOs with regard to IS planning and its implementation?
4. What model or theory would explain the lack of IS planning in NFPOs? (additional question – see explanation in section 8.4)
5. How can IS planning be improved in NFPOs?

4.3 Choosing the Methodology

A wide array of methodologies are available to researchers. Thus, the researcher needs to choose an appropriate methodology that will guide the research study (Creswell, 2003). However, what constitutes an appropriate methodology and how

this should be selected has been and still is at the centre of debate in the IS field (Galliers, 1991; Shanks, Rouse & Arnott, 1993; Warfield, 2010). For example, some authors (e.g., Chen & Hirscheim, 2004) are calling for a combination of research methods to improve research quality, and some institutions have preferred to adopt and teach a particular methodology (Galliers, 1991).

For this study, the research methodology choice was based on Shanks et al.'s (1993) suggestions and Galliers's (1991) revised taxonomy of IS research approaches. In their review of research approaches and scholarship in IS, Shanks et al. (1993) recommended that research students consider four important factors:

1. Relevance—who is the intended audience?
2. Philosophical assumption—is the research better understood in a positivist or interpretivist position or at a position in between these two extremes?
3. Purpose—what is the purpose of the research (i.e. exploratory, explanatory or descriptive)?
4. Life cycle—at what stage of the research cycle is the research phenomenon positioned (i.e. theory building, theory testing or theory refinement)?

4.3.1 Relevance

The intended audience for this study includes but is not limited to IS scholars. The findings will also be relevant to NFPO executives and staff members and funders or funding bodies (e.g. government agencies, business organisations and members of communities with an interest in NFPOs).

4.3.2 Philosophical Assumption

4.3.2.1 Positivism

Positivist research is research that employs an organised method for combining deductive logic with precise empirical observations of individual behaviour to determine and confirm causal laws to predict future social behaviour (Allan, 1998; Neuman, 2006; Shanks et al., 1993). Causal laws govern the world and apply to social behaviour (Shanks et al., 1993). Positivists believe that causal laws need to be tested, verified and refined so that the world can be reliably understood (Allan, 1998; Creswell, 2009). Positivists assume that causal laws exist independently of the researcher; thus, it is possible to separate the researcher and reality (Allan, 1998; Neuman, 2006). Inherent in this assumption is the belief that the researcher

should try to understand the reality without having an influence on the reality (Chen & Hirschheim, 2004; Klein & Lyytinen, 1985; Shanks et al., 1993).

Moreover, research based on positivism is usually characterised by reductionism (Checkland, 1999; Creswell, 2009). The aim is to reduce a major idea to a small, discrete set of ideas to examine the effect of one or more variables, like those found in hypotheses or research questions (Creswell, 2009; Kaplan & Duchon, 1988).

Positivist research normally uses quantitative measures to understand a phenomenon and, in some cases, code qualitative data so that it can be analysed quantitatively (Shanks et al., 1993). It commonly employs methods such as systematic observation, surveys, experiments and case studies (Shanks et al., 1993; Chen & Hirschheim, 2004). However, some methodologies such as survey and case studies are difficult to classify because they may be used in quantitative (positivist) and qualitative (interpretivist) research, depending on the research design (Shanks et al., 1993). Thus, Shanks et al. (1993) suggested the use of a methodology spectrum to accommodate methodologies that belong on both sides (see Figure 4.1).

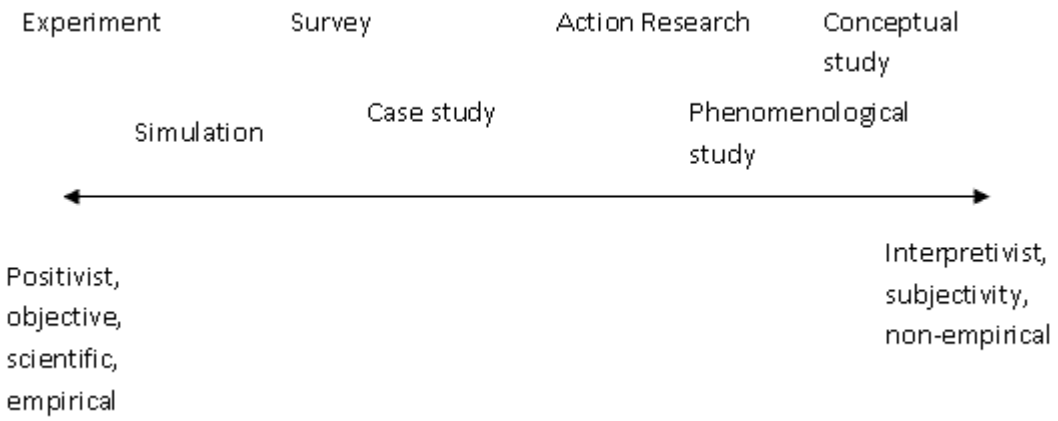

Figure 4.1: Spectrum of IS research methodologies (Source: Shanks et al., 1993)

Additionally, reliability is central to positivism-based studies. Accordingly, as Checkland (1999) pointed out, positivist studies are generally characterised by repeatability or reproducibility. That is, should another researcher conduct the same study using the same methodology, under the same environment, ideally, the same or similar results would be obtained. Positivist research is also characterised by refutability and acceptability (Checkland, 1999). According to Creswell (2009), this begins with a researcher identifying a theory and then collecting data that either support or refute the theory. Theories or explanations for social behaviour are

considered correct (and accepted) when they are consistent with observed facts and have no logical contradictions (Shanks et al., 1993). According to Hirschheim (1985), '*Positivism has a long and rich historical tradition. It is so embedded in our society that knowledge claims not grounded in positivist thought are simply dismissed as ascientific and therefore invalid*' (p. 12). However, positivism has been criticised because its process excludes alternative explanations and it is difficult to apply positivism to social behaviour studies (including IS) because of the complexity of social behaviour (Shanks et al., 1993).

4.3.2.2 Interpretivism

According to Neuman (2006), interpretivist research uses '*the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds*' (p. 88). Thus, interpretivist researchers are generally interested in the meanings people attribute to their social experiences (Shanks et al., 1993) or, as Orlikowski and Baroudi (1991) observe, interpretivist researchers attempt to '*understand phenomena through accessing the meanings participants assign to them*' (p. 5). From an IS perspective, interpretivists aim to produce '*an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context*' (Walsham, as cited in Myers, 1997).

Unlike positivist researchers, interpretivist researchers argue that individuals do not exist in isolation; rather, they exist in the context of their social and cultural lives, where the social and cultural life or social world is the reality (Neuman, 2006; Shanks et al., 1993). Moreover, interpretivist research uses techniques such as participant observation, field research and interviews to collect data (Shanks et al., 1993). These techniques involve personal contact between the researcher and participants. Thus, researchers often become part of the research, as opposed to the researcher being objective or detached from the phenomenon under study. Additionally, there is often no attempt to quantify the data because of the nature of the data collected (text, voice, etc.); rather, the analyst will attempt to gain a deep understanding of its meaning (Shanks et al., 1993).

Interpretivism is not concerned with proving reliability through repeatability or reproducibility. Instead, interpretivists argue that it is never possible to reproduce all factors involved in the study (Shanks, et al., 1993). Therefore, interpretivism is more

concerned with explaining the phenomenon under study in such a way that people can understand it than trying to repeat it (Neuman, 2006). The differences between the positivist and interpretivist philosophical assumptions are shown in Table 4.1.

Table 4.1: Comparison between positivism and interpretivism

	Positivism	**Interpretivism**
Reality existence	Reality exists objectively and independently from people's experience.	Reality is constructed and reconstructed by people's social interaction.
Causality	Deterministic—concerned with testing and verifying reality theories. The aim of social science should be to identify causal explanations and fundamental laws that explain regularities in human social behaviour.	Understanding—reality needs to be understood through the meanings assigned by participants. The aim is to understand what is happening.
Measurability	Reality is measured and results used to predict the future. Any phenomenon that is not measurable is not real.	Not every phenomenon is measurable. The aim is not to measure but to understand what is happening.
Generalisation	Results that are generalisable are sought.	Results are not necessarily generalisable.
Independence	Researcher should take a value-free position and use objective measurement to collect research evidence.	The researcher needs to engage in the social setting that is being investigated.
Reproducibility	Reproducibility and repeatability are central to proving reliability.	The study is difficult to reproduce because of the researcher's subjectivity.
Reductionism	The phenomenon is broken down and its parts studied (reductionism).	The phenomenon is studied in its entirety by analysing multiple participants' meanings.
Methods/ Operationalisation	Quantitative methods are often used to understand the phenomenon.	The researcher often assigns meaning to collected evidence.
Theory	The theory is tested and verified through the deduction process.	Theory is generated by using the induction process.

Research can be categorised as quantitative, qualitative or mixed (Chen & Hirschheim, 2004). Moreover, it is important for a researcher to decide whether the data collected will be of an essentially qualitative or quantitative nature (Remenyi & Williams, 1996). Once the type of data is known, carrying out the research study is largely a matter of routine, using well-established methods for analysing and interpreting the data (Remenyi & Williams, 1996). The next three sections provide detailed discussion of quantitative, qualitative and mixed methods research.

4.3.2.3 Quantitative

Quantitative research is considered the oldest type of research and the foundation of modern science (Creswell, 2003; Swanson & Holton, 2005, as cited in Warfield, 2010). Further, it has been noted as the most widely used in the field of IS (Kaplan & Duchon, 1988; Palvia et al., 2004). Researchers who use this research design often argue that they are using the scientific method (Swanson & Holton, 2005, as cited in Warfield, 2010). However, recently there has been less debate about quantitative versus qualitative methods and more on the way in which research practices lie on a continuum between the two (Creswell, 2003).

Quantitative research often aims to test or verify theories or explanations (Creswell, 2009). This is done by identifying variables to study based on a specific theory or hypothesis (Creswell, 2009; Warfield, 2010). Those variables are then analysed and related to questions or hypotheses (Creswell, 2009). The study and analysis of information is usually done numerically or quantitatively using statistical procedures (Creswell, 2009; Neuman, 2006; Remenyi & Williams, 1996; Swanson & Holton, 2005, as cited in Warfield, 2010).

Quantitative researchers primarily use positivist (also called scientific method, post-positivist research or empirical science) philosophical assumptions to develop knowledge (Creswell, 2003; Neuman, 2006). They tend to employ survey- and experiment-based research methodologies when conducting their research (Creswell, 2003). When surveys are employed, most questions tend to be closed ended (Neuman, 2006; Creswell, 2003).

Additionally, quantitative researchers use predetermined approaches when conducting their studies (Creswell, 2003); that is, they need to define or design the approach or framework and use it as a guide when conducting the research. The predefined research design helps to provide precision in observations and studies (Chen & Hirschheim, 2004; Creswell, 2003; Neuman, 2006; Remenyi & Williams, 1996). Quantitative researchers are usually more concerned about research design, measurement and sampling procedures because their deductive approach emphasises detailed planning prior to data collection and analysis (Neuman, 2006). This is done to ensure their results are valid and reliable (Swanson & Holton, 2005, as cited in Warfield, 2010); that is, the results obtained should be accurate and other researchers should be able to obtain the same results when they follow the same procedure (Neuman, 2006). Moreover, quantitative researchers tend to focus on

objectivity by attempting to control or eliminate the human factor and restrict their focus to a relatively narrow band of behaviour (Neuman, 2006; Rudestam & Newton, 2007). This practice helps to prevent or minimise bias in the research (Creswell, 2003).

4.3.2.4 Qualitative

Qualitative research is when the researcher makes knowledge claims based primarily on constructivist perspectives, interpretivist philosophical assumptions and/or advocacy/participatory perspectives (e.g. political, issue oriented, collaborative or change oriented) (Creswell, 2003; Kaplan & Duchon, 1988; Neuman, 2006). According to Creswell (2003), it '*is exploratory and is useful when the researcher does not know the important variables to examine*' (p. 22). Thus, it is often used when the topic is new or has never been addressed for a certain sample or group of people or when existing theories do not apply to the particular sample or group under study (Johnson & Christensen, 2008; Morse, as cited in Creswell, 2003).

Qualitative researchers try to understand the situation or experiences from the perspective of those who experience them (Chen & Hirschheim, 2004; Rudestam & Newton, 2007). This means that multiple meanings of individual experiences are studied, usually with the intention of developing a theory or pattern (Neuman, 2006).

Commonly used methodologies in qualitative research include narratives, phenomenologies, ethnographies, grounded theory and case studies (Creswell, 2003). Within these methodologies, qualitative researchers collect data from participants, usually by asking open-ended questions (Johnson & Christensen, 2008). Open-ended questions give participants freedom to express themselves in their own way and in their own words (Creswell, 2003). Data or evidence (nature of data) is typically non-numerical and often expressed in the form of text, images, voice and video clips (Johnson & Christensen, 2008; Neuman, 2006; Remenyi & Williams, 1996). Non-numerical data or qualitative evidence (also known as soft data) (Neuman, 2006) are then used to develop categories, themes and meanings through an iterative process that begins with developing an initial understanding of the perspectives of participants (Cresswell, 2003; Kaplan & Duchon, 1988).

The researcher's position in the research is one of the key fundamentals of qualitative research. Qualitative research emphasises firsthand knowledge of the research setting to avoid creating distance between the researcher and the people

or events that he or she studies. Qualitative researchers usually bring their personal values to the study by being close to or part of the event or study. This enables researchers to take advantage of personal insights, feelings and human perspectives to understand social life more fully (Creswell, 2003). For this reason, it is common for qualitative researchers to communicate their presence explicitly and to be sensitive to prior assumptions (Neuman, 2006).

In qualitative research, trustworthiness is seen as a parallel idea to the idea of objective standards in quantitative research design. It is created based on how the evidence is presented (Neuman, 2006). Therefore, the researcher's integrity is central to qualitative research credibility (Neuman, 2006). According to Rudestam and Newton (2007), adopted procedures and evidence used should be described in the research report. This is important because readers need to believe in the research to maintain any interest in it; otherwise, the research will have no value because the intended audience will not be convinced that the research is believable and worth reading. A summary of the comparison between quantitative and qualitative methodologies, which was prepared by Rudestam and Newton (2007), is presented in Table 4.2.

Table 4.2: Common differences between quantitative and qualitative methodologies (Source: Rudestam & Newton, 2007)

	Quantitative Methodologies	Qualitative Methodologies
1.	Data expressed in numbers	Data expressed in words
2.	Hypothetical-deductive	Inductive
3.	Controlled research situation	Naturally occurring and contextual
4.	Isolation of operationally defined variables	Holistic view of phenomenon
5.	Objectivity is sought	Subjectivity is sought
6.	Emphasis on prediction and explanation	Emphasis on description, exploration and search for meaning
7.	Researcher directs, manipulates and controls	Researcher participates and collaborates
8.	Statistical analysis	Text analysis

4.3.2.5 Mixed Methods

Mixed method design bases its inquiry on the assumption that collecting diverse types of data provides a better understanding of the research problem. It uses both qualitative and quantitative methods (see Figure 4.2) to collect and analyse empirical data systematically and to examine patterns carefully to understand and explain the phenomenon (Neuman, 2006). Thus, it shows '*appreciation of objective, subjective, and intersubjective reality and their interrelations*' (Johnson & Christensen, 2008, p. 34). Further, mixed method design '*employs strategies of*

inquiry that involve collecting data either simultaneously or sequentially to best understand [the] research problem' (Creswell, 2003, p. 21). The data collection process '*involves gathering both numeric information (e.g., on instruments) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information*' (Creswell, 2003, p. 21). Moreover, mixed methods may be used within a single methodology (e.g. survey or case study) to collect quantitative data, qualitative data or both and check the consistency of the different data sources (Burns, 2000).

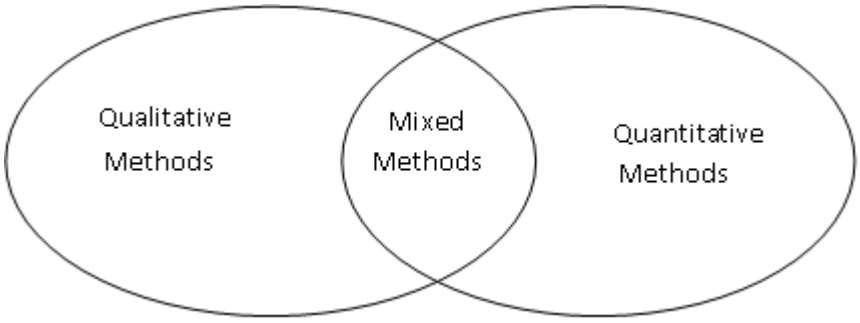

Figure 4.2: Representation of mixed methods research design

There are different types of mixed method research based on when, where and how the methods are used. The mixing of methods within a mixed model thesis may occur in the data collection phase, the data analysis phase and/or the data interpretation phase of the study. Quantitative and qualitative elements of the study can be sequential or concurrent and, in some cases, one method could be nested within the other or used to confirm the findings obtained by the other (Rudestam & Newton, 2007). In a sequential strategy, a researcher begins with one approach and subsequently uses the other approach to elaborate on or expand those findings (Creswell, 2003). In concurrent design, a researcher would collect or analyse both forms of data at the same time. In a nested strategy, one approach is used predominantly, while the other approach is embedded within it to enable the researcher to obtain a richer perspective on the phenomenon being studied (Rudestam & Newton, 2007). A summary of quantitative, qualitative and mixed methods research design is provided in Table 4.3.

Table 4.3: Summary of quantitative, qualitative and mixed methods research design (Source: Creswell, 2003)

Research design	Philosophical assumptions	Methods	Data collection	Purpose
Quantitative	Positivist knowledge claims	Surveys and experiments	Closed-ended questions, predetermined approaches, numerical data	Tests or verifies theories or explanations, identifies variables to study, relates variables to questions or hypotheses, uses standards of validity and reliability, observes and measures information numerically, uses unbiased approaches, employs statistical procedures
Qualitative	Constructivist/advocacy /participatory	Phenomenology, grounded theory, ethnography, case study and narrative	Open-ended questions, emerging approaches, text or image data and voice	Positions himself or herself, collects participants' meanings, focuses on a single concept or phenomenon, brings personal values into the study, studies the context or settings of participants, validates the accuracy of findings, makes interpretations of the data, creates an agenda for change or reform, collaborates with the participants
Mixed methods	Pragmatic/pluralistic	Sequential, concurrent and transformative	Both open- and closed-ended questions, both emerging and predetermined approaches and both quantitative and qualitative data analysis	Collects both quantitative and qualitative data, develops a rationale for mixing, integrates the data at different stages of inquiry, presents visual pictures of the procedures in the study, employs the practices of both quantitative and qualitative research

4.3.2.6 Selected philosophical assumption

The research described in this thesis is influenced by the pluralistic philosophical assumption. That is, research should not be restricted to one system of philosophy and the researcher should use methods, techniques and procedures that best help to understand the phenomenon. The data collection methods and data analysis techniques utilised in this research, which included questionnaire, interviews and document analysis, reflect this philosophical viewpoint. Further, analysis techniques from both the positivism and the interpretivism schools of thought were utilised (i.e. descriptive analysis and qualitative analysis).

However, it should also be noted that the pluralistic approach to this research leans more towards interpretivism. This is because the researcher was trying to understand the phenomenon by studying individuals' perceptions about IS planning in NFPOs and this required an in-depth understanding of the participants' IS planning views.

Additionally, according to Johnson and Christensen (2008), the decision of which method (i.e. quantitative or qualitative) to use should be based on what will best help the researcher to answer the research questions. Given the nature and complexity of behavioural IS research, Orlikowski and Baroudi (1991) suggest that a mixed method design would better serve IS research endeavours. In line with Orlikowski and Baroudi's (1991) findings, Kaplan and Duchon (1988) state that there is no single approach to IS research that can provide the richness that the discipline needs for further advancement. IS researchers should be prepared to draw on both kinds of evidence to address different aspects of a research problem, especially in the field of IS (Remenyi & Williams, 1996). In fact, it is essential that the IS community fully embrace the traditions of quantitative and qualitative research and encourage their use in creative ways to answer the many questions generated by the discipline (Remenyi & Williams, 1996).

Based on the above discussion, a mixed method research approach was employed because this research is perceived to be complex behavioural IS research. Additionally, when deciding on the research methods, based on the objectives of this research (as outlined in Chapter 2), the researcher considered the following:

- The nature of IS research requires a pluralist approach (Kaplan & Duchon, 1988; Orlikowski & Baroudi, 1991).

- Mixed method approach is useful when the researcher wants to capture both qualitative and quantitative data (Creswell, 2003). For example, research questions that require information such as 'what', 'who' and 'how much' are well suited to quantitative research (this applies to research questions 2 and 3 in this study), whereas questions that involve the 'how' and 'why' are more suited to qualitative research (this applies to research questions 1 and 4 in this study) (Williamson, 2002).
- Mixed method approach is ideal when the researcher wants to survey a large number of participants and follow up with some interviews to obtain deeper understanding from participants about the topic (Creswell, 2003).

Thus, this study used a sequential mixed method approach, whereby quantitative data were collected and analysed first and then used to inform the researcher on areas to be studied further using qualitative methods (see Table 4.4). Further, qualitative findings helped derive meaning from and explain the quantitative results.

Table 4.4: Summary of research methods employed in this research

Research Method	Research Activity	Research Phase
Self-administered questionnaire	Data collection	Phase I
	Descriptive statistics analysis	Phase I
	Text analysis	Phase I
Interview	Interviews	Phase II
	Coding analysis	Phase II
Document analyses	Annual report and/or website content analysis	Phase II

4.3.3 Purpose of the Research

The research purpose can be described as exploratory, explanatory or descriptive, depending on what the researcher is trying to accomplish (Neuman, 2006; Shanks et al., 1993).

4.3.3.1 Exploratory

Exploratory research is usually undertaken when little is understood or there is not enough information available about the research subject (Neuman, 2006; Sarantakos, 1998; Shanks et al., 1993). Exploratory researchers frequently use qualitative techniques for gathering data (Sarantakos, 1998; Shanks et al., 1993). This type of research is usually used in the theory-building stage of the research process (Shanks et al., 1993).

4.3.3.2 Explanatory

The main objective of explanatory research is to explain why events occur and to build, detail or advance knowledge, and test or revise theory (Neuman, 2006; Sarantakos, 1998; Shanks et al., 1993). Explanatory researchers often use methods with a high level of control, such as experiments of other purely positivist methods (Shanks et al., 1993).

4.3.3.3 Descriptive

Descriptive research attempts to analyse and describe the specific details of a phenomenon using words or numbers and to present a profile, a classification of types or an outline of steps (Neuman, 2006; Sarantakos, 1998; Shanks et al., 1993). The objective is to take a well-defined area under discussion and describe its structure and function accurately. Descriptive research is most appropriate to research in a theory-building stage; however, it can also be employed to test theory and disprove hypotheses. A great deal of IS research is descriptive (Shanks et al., 1993). Descriptive studies utilise most data-gathering methods such as surveys (questionnaires), field research, content analysis and historical comparative research (Neuman, 2006).

4.3.3.4 Position of this research

This research is categorised as exploratory-descriptive because very little is known about IS planning in NFPOs and, hence, the intent was to explore the status of IS planning in NFPOs and describe the IS planning phenomenon in NFPOs.

4.3.4 Life Cycle

Research can be said to follow a three-stage cycle. The first stage is theory building, which involves exploring an area about which little is known. This may lead to formulation of research questions or hypotheses. The second stage is theory testing, which involves addressing the research question and/or testing the hypothesis. The third stage involves the refinement of the theory formed in the first and second stages and the subsequent repetition of the cycle (Shanks et al., 1993).

Based on the above discussion, this research was categorised as being in the theory-building stage for the following reasons:

- It was in the area where little is known (i.e. exploratory research). According to Shanks et al. (1993), exploratory researches are usually employed in the theory-building stage.
- One of the objectives of this research was to develop a model (theory) that will explain the lack of IS planning in NFPOs. The knowledge generated by this research can be used as a starting point to test and improve the model developed as well as other IS planning theories in NFPOs discussed.

4.3.5 Selected Methodology

A review of IS-planning-related articles presented between 1978 and 2013 (not exhaustive but indicative) shows that the most commonly used methodologies are survey (45 per cent), case study (20 per cent) and descriptive, including reviews (16 per cent) (see Table 4.5—two studies use both survey and case study, so they were counted in both methodologies). Out of these methodologies, survey and case study appear to be good candidates for this research.

Table 4.5: Most commonly used research methodologies in IS planning studies

Research Methodology	Rank (%)
Survey	45
Case study	20
Phenomenological study—descriptive/interpretive (including reviews)	16
Not stated	11
Key informant	6
Action research	3
Nominal group technique	2
Structured in-depth interviews	2

4.3.5.1 Survey

The term survey is often used interchangeably with questionnaire. In this research, survey is considered a research methodology and questionnaire is regarded as a data collection method. A survey research methodology is a systematic approach for conducting research in which data is gathered about a situation for the purpose of describing a situation of interest (Leary, 2012; Williamson, 2002). Survey data can be gathered through questionnaires, interviews and, in some cases, observation (Burns, 2000; Creswell, 2009; Williamson, 2002). According to Shanks et al. (1993), collected '*data can be either quantitative or qualitative, fact or opinion*' (p. 38). Survey is the most widely used methodology in IS-related research (Shanks et al., 1993; Williamson, 2002).

Williamson (2002) categorised survey research methodologies as descriptive or explanatory. Explanatory surveys aim to explore the relationship between variables and determine causal links between them. Thus, they are often used to confirm or refute hypotheses. Data collected for explanatory surveys tend to be numerical.

Descriptive surveys are mainly concerned with collecting facts, and detailing and describing a phenomenon (Jackson, 2009). Descriptive surveys are not used to draw conclusions from data about causations (Jackson, 2009). Descriptive surveys analysis can use a significant amount of both qualitative and quantitative data. Questionnaires and interviews are the most commonly used methods for collecting data (Williamson, 2002).

A major advantage of the descriptive survey methodology, particularly for a novice researcher, is that it is relatively straightforward and easy to implement (Williamson, 2002). However, Williamson (2002) has identified four major disadvantages (some of these are also covered in the section of self-administered questionnaires and interviews):

- non-cooperation/low response rate,
- rival explanations or intervening variables,
- accuracy of self-report data,
- generalisability of results or external validity of surveys is affected by the techniques used to select samples.

The descriptive/status survey was chosen for this research because of its ability to gather and describe phenomenon (Williamson, 2002). This ability enabled the researcher to achieve the research objectives stated in Chapter 1, which were to determine the status of IS planning among NFPOs, to examine whether IS planning and implementation enables NFPOs to better achieve their goals or mission, and to uncover whether NFPOs encounter problems in regard to IS planning. Further, the use of the survey methodology is consistent with many other IS planning studies (see Table 4.5).

4.3.5.2 Case study

There is no agreed standard definition of a case study (Benbasat, Goldstein & Mead, 1987). However, for this study, a case study is considered a study that involves detailed study of a particular issue within a single organisation, group of

organisations, individual, event, programme or process (Burns, 2000; Rudestam & Newton, 2007; Yin, 2009). The advantages of case studies include:

- the richness of information that can be obtained through the use of a combination of data collection methods such as observation, interviews, questionnaires and documentation (Johnston, Leach & Liu, 2001; Galliers, 1991; Runeson & Host, 2009; Shanks et al., 1993);
- the ability to study IS in a natural setting, learn about the state of the art and generate or develop theories (Benbasat, et al., 1987; Cavaye, as cited in Darke, Shanks & Broadbent, 1998; Shanks, et al., 1993; Williamson, 2002);
- the ability of the researcher to answer the 'how' and 'why' questions to understand the nature and complexity of the processes taking place (Benbasat et al., 1987; Meyer, 2001; Yin, 2009);
- the appropriate exploration of an area in which few previous studies have been carried out or existing knowledge is limited (Benbasat et al., 1987; Cavaye, as cited in Darke et al., 1998; Sarantakos, 1998; Shanks et al., 1993; Williamson, 2002).

Conversely, the weaknesses of the case study methodology include the following:

- Difficulty in acquiring similar data from a statistically meaningful number of similar organisations provides little evidence for scientific generalisation (Burns, 2000; Galliers, 1991; Runeson & Host, 2009). A counterargument to this point is that there is more to knowledge than statistical significance (Flyvbjerg, 2006; Lee, 1989, as cited in Runeson & Host, 2009).
- Results are often not easily communicated in a summary fashion for decision-makers (Youtie, Bozeman & Shapira, 1999).
- The data collection and analysis processes are subject to influence from the researcher's characteristics and background, and rely heavily on the researcher's interpretation of documents and interview material (Galliers, as cited in Darke et al., 1998).
- Human subjectivity plays a role when selecting evidence to support or refute or when choosing a particular explanation for the evidence (Burns, 2000).
- The process is time consuming and often produces a large amount of information that is impossible to analyse adequately. This, in turn, increases the tendency for selectivity and bias (Johnston et al., 2001).

- The researcher's bias is said to limit the validity of the research findings; however, bias may also affect the design and conduct of other types of research (Yin, 2009). However, Yin (2009) notes that bias may also enter into the design and conduct of other types of research.

A case study was deemed suitable for this research; however, it was not selected because of time constraints. The researcher would not have been able to collect sufficient data from various cases (i.e. organisations).

4.4 Research Design

This section present the research process employed in this research. Additionally, it also discusses the research instruments that were used to collect data.

4.4.1 Research Process

The research approach was broken into two phases labelled Phase I and Phase II. Phase I adopted a largely quantitative approach whereas Phase II adopted a qualitative approach. The rationale for having two phases was to enable the researcher to survey a large number of NFPOs for a general understanding of IS planning in NFPOs and then follow it up with some interviews for deeper understanding and validation of the self-administered questionnaire responses.

Phase I was based on a series of self-administered questionnaires. The questionnaires were based on the review of the empirical research concerning IS strategic planning and the management of NPOs. Phase II was based on semi-structured interviews. The interview questions were based on the self-administered findings. Figure 4.3 illustrates the entire research process.

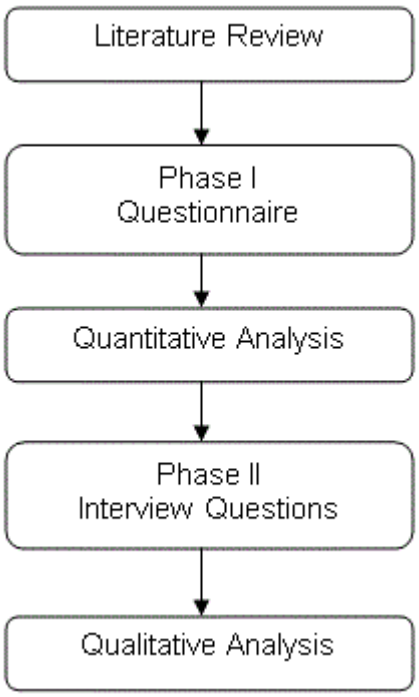

Figure 4.3: Process employed in this research

4.4.2 Research Instruments (Data Collection)

Research instruments or methods of data collection and analysis are an integral part of research design. This research used self-administered questionnaires and interviews for data collection, and document (including websites) analysis to collect background information.

4.4.2.1 Self-Administered Questionnaires

The self-administered questionnaire is a data collection method whereby '*participants respond by writing their answers*' (Leary, 2012, p. 80). This method is less expensive in comparison with most other methods (Oppenheim, 1992). It enables the researcher to collect a large amount of data in a considerably short period because he or she can approach participants more easily in comparison with other methods (Sarantakos, 1998). Each respondent receives exactly the same set of questions, which makes it possible to compare responses (Sarantakos, 1998). It offers greater assurance of anonymity because there is no direct contact between interviewer and participant. This lack of direct contact also has the added advantage of eliminating opportunities for respondents' responses to be affected (i.e. bias and errors) by the personal appearance, mood or conduct of the researcher (Neuman, 2006). Participants can complete the questionnaire at a time convenient to them; thus, it offers a considered and objective view on the issue because participants

have time to consult their files (Sarantakos, 1998). Moreover, a carefully designed questionnaire can provide a reasonably accurate description of a real world situation from a variety of perspectives (Galliers, 1991).

On the downside, the use of self-administered questionnaires does not provide the opportunity to collect additional information through observation when the questionnaire is being completed (Sarantakos, 1998). Questionnaires do not give the researcher the opportunity to probe, prompt and ask clarifying questions (Oppenheim, 2000). Although they can provide a useful description of a situation, those based on quantitative data can sometimes give less insight into the processes underlying the situation than other research methods (Galliers, 1991; Shanks et al., 1993). Obtaining a high response rate is a challenge because of an increase in the number of surveys being conducted for research, and many people and organisations are tired of being continually surveyed (Williamson, 2002). There is also a possibility of receiving partial responses because of a lack of supervision (Sarantakos, 1998). External validity of the results is often affected by the sampling techniques employed (Shanks et al., 1993; Williamson, 2002). Moreover, the accuracy of self-reported data is sometimes questioned because humans tend to present themselves to others in the most positive light (Williamson, 2002). It is difficult to know whether some intervening variables, rather than the variables under consideration, are responsible for the results because of a lack of control of rival explanations (Williamson, 2002).

4.4.2.2 Face-to-Face Interviews

The interview is a data collection method whereby participants' answers are obtained in a face-to-face dialogue (Leary, 2012). It has a distinct advantage of providing the highest response rate (Burns, 2000). This method allows the researcher to observe both the participants in their surroundings and their reactions to questions (Neuman, 2006). Further, it is possible for the researcher to use some probes or follow-up questions for incomplete or ambiguous answers (Yin, 2009). Interviews can also be adjusted to meet many diverse situations (Sarantakos, 1998). The researcher controls the sequence of the questions; this is an advantage in studies in which the sequence of responding to questions is important (Burns, 2000; Neuman, 2006; Sarantakos, 1998). Moreover, face-to-face interviews have the ability to provide much richer data and reports are usually enhanced by the opportunity to use or quote the participants' own words (Williamson, 2002).

However, face-to-face interviews have the disadvantage of being more expensive to conduct and time consuming (i.e. setting up, conducting interviews, transcribing, analysing and writing a report) (Burns, 2000; Neuman, 2006). Further, because of their face-to-face nature, interviewee responses may be affected by the appearance, tone of voice and question wording of the researcher (Neuman, 2006; Sarantakos, 1998). Some interview questions and discussion may make the participants feel uncomfortable (Burns, 2000). In addition, the face-to-face interview is not suitable for participants who want to remain anonymous to the researcher because the researcher would know their identity (Sarantakos, 1998). It may also be difficult to find a convenient time for both the researcher and the participant to conduct the interview (Burns, 2000; Sarantakos, 1998). Moreover, information gathered by unstructured interviews may generate difficulties when attempting to categorise them (Burns, 2000).

4.4.2.3 Benefits of the Combination

The benefit of combining these data collection methods is that they complement each other in such a way that the advantages of one method compensate for the disadvantages in the other (see Table 4.6). For example, self-administered questionnaires are known for having a low response rate in comparison with interviews, and detailed information gathered from interviews can be useful in the interpretation of self-administered questionnaires' results. Additionally, data collected by using the two methods can be used for triangulation, which in turn could enhance the validity and reliability of the research (Burns, 2000). Burns (2000) defined triangulation as '*the use of two or more methods of data collection in the study*' (p. 419). The relative strengths of the self-administered questionnaire and interview methods are summarised in Table 4.6.

The benefits of combining questionnaire and interview methods made the use of questionnaires and interviews suitable for this research because this research was exploratory-descriptive.

Table 4.6: Summary of features of mail questionnaire and interview (Source: Neuman, 2006).

Features	Mail questionnaire	Interview
Administrative issues		
Cost	Cheap	Expensive
Speed	Slow	Slow to moderate
Length	Moderate	Long
Response rate	Low	High
Research control		
Probes possible	No	Yes
Specific respondent	No	Yes
Question sequence	No	Yes
Only one respondent	No	Yes
Visual observation	No	Yes
Success with different questions		
Visual aids	Limited	Yes
Open-ended questions	Limited	Yes
Contingency questions	Limited	Yes
Complex questions	Limited	Yes
Sensitive questions	Some	Limited
Sources of bias		
Social desirability	No	Yes
Interviewer bias	No	Yes
Respondent's reading skills	Yes	No

4.5 Chapter Summary

This chapter has presented a discussion on research design and its main components, which were identified as philosophical assumptions, research methodologies and research instruments (data collection and analysis methods). The chapter shows that a mixed method approach was the preferred research design for this study and the reasons for this preference were presented. The research was based on a pluralistic philosophical assumption and conducted using a survey research methodology (see Figure 4.4).

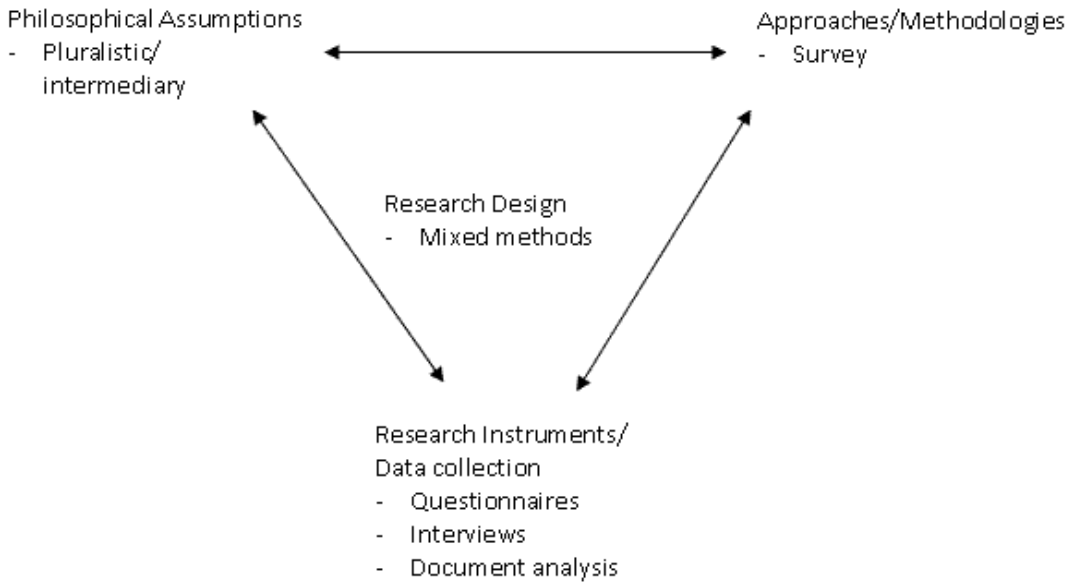

Figure 4.4: Research framework employed in this research

Further, data were collected using questionnaires, interviews and document analyses, which were selected to enable the researcher to explore and describe IS planning in WA NFPOs (see Table 4.7). The next chapter will presents the data collection and analysis process employed in this research.

Table 4.7: Key points of the chapter

Agenda	Description
Research purpose	To explore and describe the IS planning phenomenon in NFPOs
Philosophical assumption	The research was conducted based on the belief that IS planning phenomenon is best understood from the intermediary position between the two extremes i.e. positivist and interpretivist.
Research methodology	Survey
Data type	Both quantitative and qualitative
Data collection methods	Mixed methods: self-administered questionnaires and interviews
Data analysis techniques	Mixed techniques: descriptive analysis and qualitative analysis/ content analysis
Justification	The data collection methods and data analysis techniques were chosen because they enabled the researcher to gain richer understanding of the IS planning phenomenon in NFPOs. Upon acquiring richer understanding, the researcher was then able to describe the phenomenon.

CHAPTER 5: DATA COLLECTION AND ANALYSIS

5.1 Introduction

This chapter describes the steps applied in collecting and analysing the data for this research. The chapter is organised into four sections. Section 5.2 discusses the quantitative data collection and analysis used for Phase I of the research. Section 5.3 discusses the qualitative data collection and analysis methods used for Phase II of the research. Section 5.4 concludes the chapter with a summary of the chapter's key points.

5.2 Phase I: Self-Administered Questionnaire

5.2.1 Sampling

Sampling is the process of selecting a portion of the total population of interest (Burns, 2000). A population is the complete list of all the subjects of interest for a study (Donley, 2012). The opportunity sampling technique was used in selecting the Phase I participants. Opportunity sampling is a non-random sampling technique in which the sampling elements are selected by means other than mathematical random procedures (Neuman, 2006). The opportunity sampling technique is particularly useful when a researcher is facing one or more of the following constraints: financial restrictions, time limitations or lack of permission to engage with the potential participants (Burns, 2000). It can help the researcher gather useful data that would not have been possible to gather using probability sampling techniques. However, in some cases '*opportunity sampling may produce biased samples and therefore greater likelihood of error*' (Burns, 2000, p. 93).

This research used opportunity sampling because:

1. This research did not receive any funding; therefore, the researcher did not have the financial means to conduct the research in a way that other sampling techniques would have required.
2. This research was conducted as part of a PhD programme; hence, it was restricted by time (i.e. the PhD programme duration).

3. The main objective of Phase I was to explore the status of IS planning in NFPOs in WA.
4. Community Sector Services (CSS) permitted the researcher to engage with its members. CSS was an NFPO and a peak body with access to many NFPOs in WA. One of its main activities was to provide ICT guidance to NFPOs in WA. Therefore, it was expected that NFPOs affiliated with CSS would best help the researcher to understand IS planning issues (Creswell, 2009), which would probably have been difficult had it been conducted differently.
5. When Phase I was conducted, there was no governing body with a list of all registered and active serving NFPOs in WA; therefore, it was not clear how many NFPOs were operational. The figures available at the time were only estimates of the NFPOs Australia-wide (Department of Broadband, Communications and the Digital Economy [DBCDE] Archive, 2009; Gryst, 2010; Productivity Commission Report, 2010), which were impossible to substantiate. This made it impossible to determine the sample size (Williamson, 2002).

For these reasons, participants were drawn from a list of members of the WA NFPOs' peak bodies affiliated with the CSS (the distribution process is explained in detail in the procedure subsection of Phase I).

5.2.2 Instruments

As mentioned earlier, this research was inspired by the minimal literature in the field of IS planning for NFPOs, especially in WA. Therefore, the main objective of Phase I of the research was to explore the IS planning status in NFPOs in WA. To achieve this, a self-administered questionnaire was used. As pointed out in Chapter 4, self-administered questionnaires were used for the following reasons:

- This method is less expensive in comparison with most other methods (Oppenheim, 1992).
- It enabled the researcher to collect a large amount of data in a considerably short period because the researcher was able to approach participants more easily (Sarantakos, 1998).
- Each respondent received one of the four sets of questionnaires, which made it possible to compare responses (Sarantakos, 1998).

- This method offered greater assurance of anonymity because there was no direct contact with participants. The lack of direct contact had the added advantage of eliminating opportunities for respondents' responses to be affected (i.e. through bias and errors) by the personal appearance, mood or conduct of the researcher (Neuman, 2006).
- Further, as pointed out by Galliers (1991), the questionnaires enabled the researcher to gain a reasonably accurate description of a real world situation (i.e. IS planning in NFPOs) from a variety of perspectives.
- The questionnaires were prepared by the researcher from a combination of self-developed components and modified components of several instruments. Components borrowed from other instruments were modified to meet the objectives of the research in Phase I. The borrowed components were from instruments developed by Geller et al. (2010), Pita et al. (2008) and Teo and Ang (2000). The researcher sought and obtained permission to use these instruments from the developers, as suggested by Creswell (2009). The use of components from instruments developed by well-established researchers not only helped reduce the amount of time required during the design stage, but also assisted in improving the quality of the instrumentation.
- Based on the recommendation from the CSS IT Research and Development Manager, the questionnaire was separated into four questionnaires encompassing different areas. These were labelled A, B, C and D (see Appendix A, B, C & D respectively). This recommendation aligned with Kitchenham and Pfleeger's (2003) assertion that participants do not like to answer excessively long questionnaires. The intention was to make it easier to answer the questions and thus reduce the time needed to complete the questionnaire to increase the likelihood of participants completing them, thereby increasing the response rate.
- Each questionnaire covered different areas, although there were core questions that were identical. The rationale for this was to have a bigger pool of respondents that would have enabled more data to be collected for questions that were to be analysed using regression analysis. These questions were directly linked to key research questions such as relationship between IS planning and NFPO's goal or mission achievement. Questionnaire A aimed to obtain an overview of IS in NFPOs, Questionnaire B aimed to explore IS planning in NFPOs, Questionnaire C aimed to explore

reasons for not doing IS planning and Questionnaire D aimed to explore problems faced by NFPOs in the planning and implementation phases of IS planning. The common topics were demographic characteristics, mission achievement, whether participating organisations were doing IS planning, the relationship between IS planning and mission achievement, and IS helpfulness in achieving the organisation's mission.

5.2.2.1 Validity and reliability

Validity and reliability are key features of any research instrumentation, although achieving perfect validity and reliability is almost impossible (Neuman, 2006). Validity means that an instrument measures what it is purported to measure (Rudestam & Newton, 2007). Neuman (2006) described four types of validity measurement: face validity, content validity, criterion validity and concurrent validity. Table 5.1 provides a brief description of the four types of validity.

Table 5.1: Description of types of validity

Validity Type	Description
Face validity	is based on judgement by experienced people in the field of study. Its purpose is to check whether the instrument really does measure what it is meant to measure (Neuman, 2006). That is, it '*indicates the questionnaire appears to be appropriate to the study purpose and content area*' (Parsian, 2009, p. 3).
Content validity	is a type of measurement in which an instrument represents a broad range of the topic under study (DeVon et al., 2007). Content validity helps ascertain that the content of the questionnaires is appropriate and relevant to the study (Parsian, 2009).
Criterion validity	is a type of validity in which the evidence of a relationship between the attributes of an instrument depends on verification with other variables of the same objective (DeVon et al., 2007).
Construct validity	is a type of measurement that checks whether the research instrument measures the phenomenon the way the theory suggests it should be measured (Sarantakos, 1998).

As stated earlier, the main objective of Phase I of this research was exploratory; therefore, face validity and content validity were deemed sufficient to measure validity. Face validity was achieved by a rigorous review process that was applied to the development of the questionnaires (survey instrument), as presented below. Content validity was covered by the use of questions that were drawn from a large pool of items encompassing a broad range of topics in the field of IS and IS planning for NFPOs.

Reliability can be defined as the dependability or consistency of a research instrument (Leary, 2012; Neuman, 2006); thus, a reliable research instrument should yield similar results when used by other researchers under the same conditions (Rudestam & Newton, 2007). Almost all researchers aim for perfect reliability when developing their research instrument; however, as pointed out by Neuman (2006), this is rarely achieved. The best researchers can do is to make every effort to maximise instrument reliability (Leary, 2012). In the effort to maximise reliability, this researcher followed the steps suggested by Leary (2008):

1. Standardisation: standardise administration of the instrument.
2. Clarity: use easily understandable instructions and questions.
3. Minimal errors: seek to minimise errors in recording and coding data.

The researcher employed a thorough process to develop the questionnaire in Phase I. The questionnaires were reviewed several times by six different people, including well-respected academicians, IS personnel with NFPO experience and NFPO executive. The researcher revised the questionnaire after each review.

5.2.3 Procedures

The questionnaires were distributed to NFPOs through the CSS members that are the peak bodies representing WA NFPOs in their respective fields. The CSS provided the researcher with the peak body addresses and contact details, which enabled the researcher to contact them. The questionnaires were hand-delivered to the peak bodies, which helped distribute them to their respective NFPO members (see Figure 5.1). A total of 1,036 questionnaires were hand-delivered to the WA NFPO peak bodies. Each questionnaire was colour-coded to identify the peak bodies easily when receiving responses. Upon delivery, one peak body (with 379 members) was unable to distribute the questionnaires to its members (the reasons are presented in the limitation subsection), and gave permission to the researcher to send the questionnaires directly to its members from a contact list available on its website. However, there were 374 members on the website, as opposed to the 379 members listed in the initial information.

The package for each NFPO contained a cover letter, information sheet, questionnaire and prepaid return envelope. The questionnaire cover letter (see Appendix E) introduced the project and invited potential respondents to participate in the project. The questionnaire information sheet (see Appendix F) clearly stated that participation was voluntary, and explained where the data gathered would be stored

and who would have access to the data. It also discussed identity confidentiality and listed the Curtin University ethical approval number to which respondents could refer, should they have any ethical issues. Consent was assumed for all participants who responded and mailed the questionnaires back to the researcher.

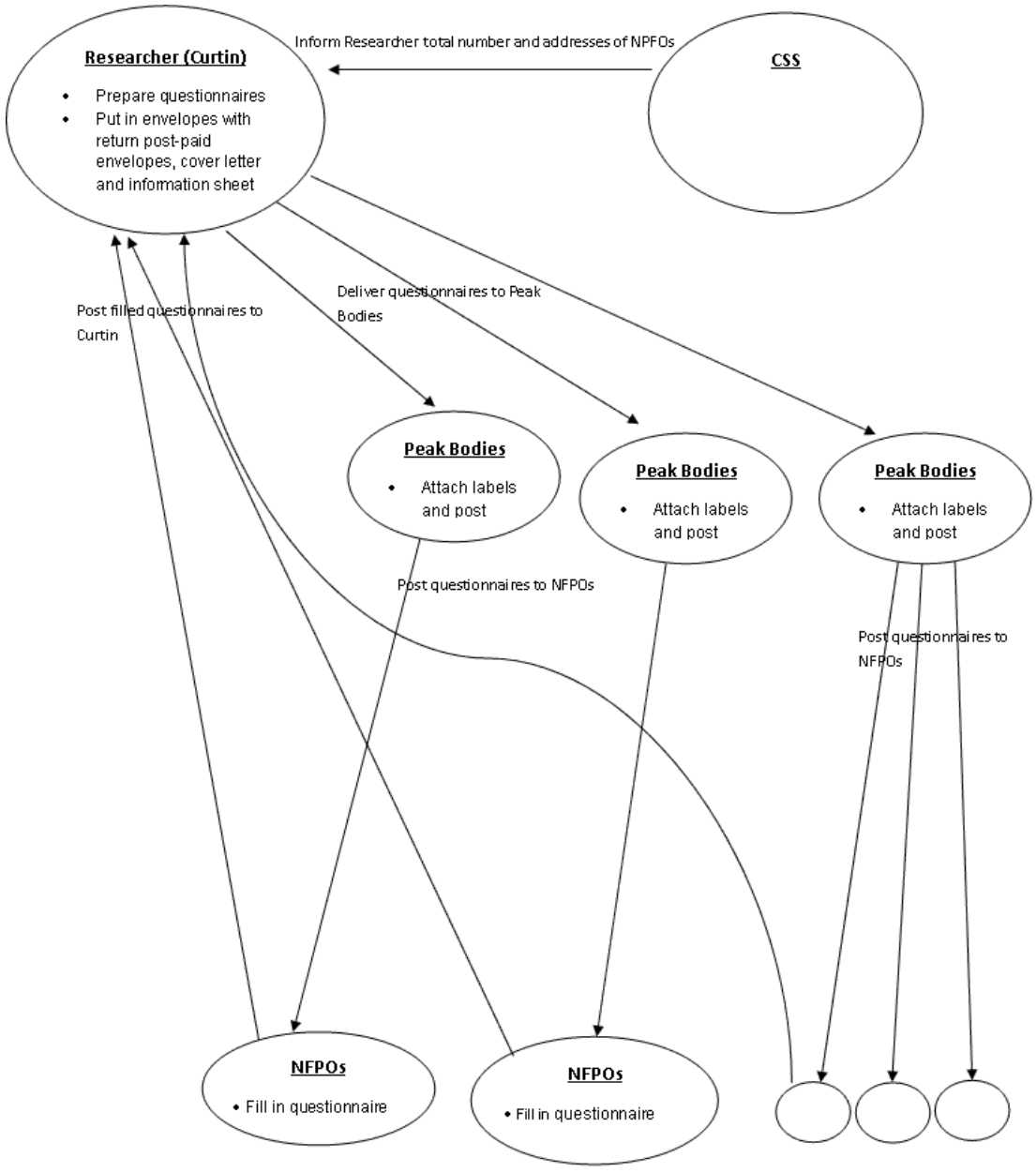

Figure 5.1: Initial questionnaire distribution process

Four weeks later, a follow-up email was sent to the peak bodies whose members were yet to respond (not a single response received). Three days later, follow-up telephone calls were made to the non-responding peak bodies. One peak body had 50 members instead of 75 (as per the initial information provided); hence, it was only

able to distribute questionnaires to those 50 members. This highlights the issue of not knowing how many NFPOs are operational, as noted in the previous chapter.

The follow-up process revealed that three peak bodies were unable to distribute questionnaires to their members at all. Two of these (with a combined total of 110 members) were unable to distribute questionnaires for unexplained reasons. One peak body (with approximately 196 members) did not distribute questionnaires to its members because the person responsible for such activities was away on official duties, followed by a holiday. In the end, only 700 questionnaires (175 of each set) were distributed to NFPOs. A table showing the questionnaires' response rate is presented in Chapter 6.

5.2.4 Data Analysis

Descriptive statistics methods and tools—such as the histogram, bar chart, measure of central tendency (mean, mode and median) and measure of variation (standard deviation)—were used to summarise and describe the patterns in the data—that is, the responses of people in a sample (Neuman, 2006).

A histogram was used to create a graphic representation of univariate data frequencies and/or percentages of interest to the research (Neuman, 2006). For example, a histogram was used to display graphically the frequency distribution of full-time employees of NFPOs in WA.

A bar chart was used to represent categorical data—for example, to plot the number of times a particular category appears in a data set—with the height of the bar used to represent the number of observations in a category (Kumar, 2005). For example, a bar chart was used to show the IS planning success.

Measures of central tendency, such as mean, mode and median, were used to summarise information into a single number (Burns, 2000). For example, mean was used to identify perceived significance of IS uses in NFPOs, where the average ratings for external communication and office administration were rated as the two most significant. In addition, mean, mode and median were used to calculate the average number of employees in WA NFPOs; however, median painted a much clearer picture because the distribution was skewed (Neuman, 2006).

Moreover, the measures of dispersal were used to describe the distribution of data for a variable of interest (the spread of the observations) (Neuman, 2006). For example, maximum and minimum were used to calculate the spread (range or

measure of dispersion) of the employees in WA NFPOs. Further, variance and standard deviation were used to determine how well the mean summarised the distribution (Leary, 2012).

A cross-tabulation was used to analyse the interrelationship between two or more variables. For example, it was used to analyse the interrelationship between having IT personnel and undertaking IS planning. Further, simple regression was used to examine the relationship and its strength between variables (Sykes, 1993). For example, regression was conducted on IS planning success against mission achievement to determine whether there was any significant relationship between the two variables. The interpretation of the regression results was done based on the guideline cited in Wong and Hiew (2005): a correlation coefficient range of 0.10 to 0.29 is considered weak, 0.30 to 0.49 is considered moderate and 0.50 to 1.0 is considered strong.

The chi-square test for independence was used to test association between two categorical variables (Burdess, 2010; Pallant, 2013). For example, in Chapter 6, it was used to test the association between IS planning and IS helpfulness to mission achievement. When conducting chi-square testing, the following assumptions suggested by Field (2013) were observed:

1. Each participating organisation contributed to only one cell of the contingency table.
2. No more than 20 per cent of the expected counts should be less than 5.

Additionally, when assumption number 2 was violated, a likelihood ratio was used to interpret the results because the sample was considered not large enough for Pearson's chi square (Field, 2013).

5.3 Phase II (Interviews—Qualitative)

5.3.1 Sampling

Unlike quantitative research, qualitative research does not rely on random or probability sampling techniques when selecting participants for the purpose of generalisation (Curtis et al., 2000). However, there is less agreement regarding how qualitative sampling should occur, which reflects the different views of experts on qualitative research methods. On one hand, there are those who advocate 'theoretical' sampling, which is intended to generate theory that is 'grounded' in the

data (e.g. Glaser & Strauss, 1967; Corbin & Strauss, 1990). On the other hand, there are those who promote forms of 'purposive or criterion' sampling, which is suitable for qualitative research that is informed by an existing body of theory and/or research questions (e.g. Creswell, 2009; Miles & Huberman, 1994). In the former group (theoretical sampling), the sampling process is evolutionary. In the latter group, the researchers generally use '*criterion sampling, selecting participants who closely match the criteria of the study as set by the researcher*' (Rudestam & Newton, 2007, p. 107).

In Phase II, the intention was to select participants from a pool of NFPOs that participated in Phase I (responded to the self-administered questionnaires) based on the following criteria as set out by the researcher (Rudestam & Newton, 2007):

1. willing to work with the researcher;
2. willing to be interviewed and/or have a follow-up clarification session;
3. would like to receive a copy of the summary of the survey (Phase I) report;
4. located in or near Perth (50-km radius—the researcher could not visit organisations located outside Perth for financial reasons);
5. organisational size based on the number of employees—the researcher wanted to have at least three organisations in large, medium and small NFPOs;
6. from organisations undertaking IS planning, and from organisations not undertaking IS planning.

These criteria would have enabled the researcher to compare between NFPOs of different sizes, as well as conduct a comparison between NFPOs undertaking IS planning and NFPOs not undertaking IS planning.

From the Phase I results, 45 participants were identified. Only 11 of these 45 participants were willing to complete an interview, and an interview schedule was prepared based on these participants' availability.

5.3.2 Instrumentation and Data Collection Procedures

5.3.2.1 Interview

According to Myers and Newman (2007), there are three main types of interviews:

1. Structured interview: this involves a complete script that is prepared beforehand, and there is no room or need for improvisation. These types of

interviews are often used in surveys when the interviews are not necessarily conducted by the researcher.

2. Unstructured or semi-structured interview: this involves an incomplete script. The researcher may have prepared some questions beforehand, but there is room or need for improvisation. Usually, the interviewer is the researcher or one of the members of a research team.
3. Group interview: this involves one or more interviewers interviewing two or more people at once. This type of interview can be either structured or unstructured. (p. 5)

Semi-structured interviews were chosen because they enable researchers to gain insight into participants' perceptions, without limiting the participants to a set of predetermined questions. This allows participants to discuss matters that the researcher did not consider before the interview, and allows the researcher to ask additional questions. Interview questions were used as a tool to help participants reflect on the IS planning, its implications for their organisations, and what needs to be done to overcome the IS planning problems faced by NFPOs (Rudestam & Newton, 2007).

Preparation for the interviews included the following steps:

1. The researcher prepared the cover letter, information sheet, interview overview, consent form and interview guide. These were then reviewed by the researcher's supervisor before they were submitted to the ethics committee for approval. Minor changes were made to the interview overview, information sheet, consent form and interview guide as per the ethics committee recommendations. The interview cover letter introduced the research and invited potential participants to participate in the interviews (see Appendix G). The interview information sheet stipulated, among other things, what is required of participants, and explained the potential risk of participation, the confidentiality and security of the information and the research ethics approval number (see Appendix H). The interview overview listed topics covered in the interviews (see Appendix I). The interview consent form gave potential participants an opportunity to accept or decline to participate in the interview (see Appendix J). The interview guide listed a number of questions that were used to guide the interviewer during interviews (see Appendix K).
2. Potential participants were contacted via email to schedule interviews.

3. The information sheet, interview overview and consent form were sent to the participants via email.

During the interviews, to improve the quality of the responses, the researcher adhered to the following guidelines suggested by Leary (2012):

1. Create a friendly atmosphere.
2. Maintain an attitude of friendly interest.
3. Conceal personal reactions to the respondents' answers.
4. Order the sections of the interview to facilitate building rapport, and to create a logical sequence.
5. Do not lead the respondents. (p. 88)

5.3.2.2 Document analysis

Hoepfl (1997) described document analysis as an important source of information in qualitative research. Document analysis can include analysis of documents such as organisation reports, meeting minutes, organisation charts, letters, diaries, organisation policy documents, published and unpublished documents, memos, email messages, faxes and newspaper articles (Myers, 1997). In this research, documents such as strategic plans and annual reports, as well as website content, were analysed. This analysis was used to collect background information, which also formed part of the triangulation process (see Figure 5.2).

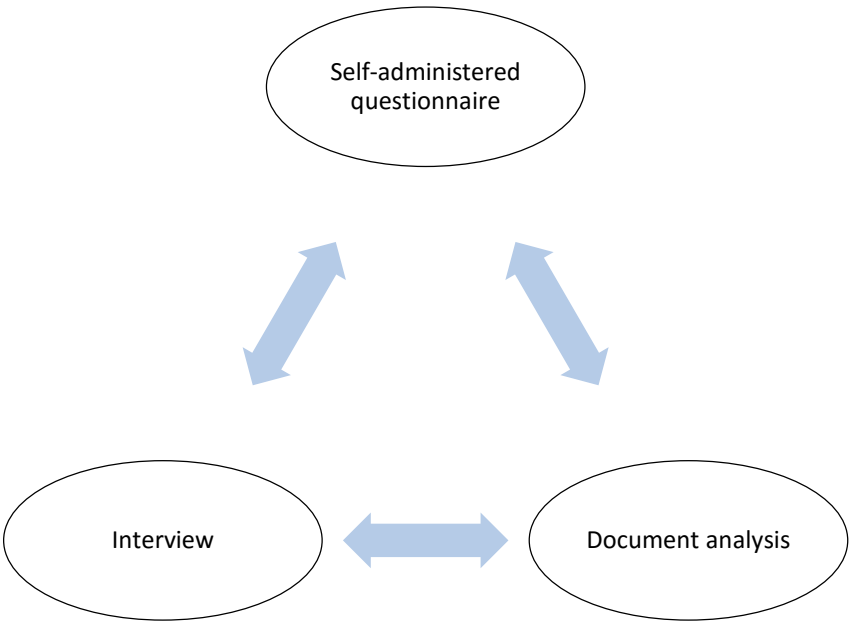

Figure 5.2: Information gathering triangulation

5.3.3 Data Analysis: Content Analysis

This subsection presents the data analysis scheme used to analyse the data collected from the interviews. The data collected from the interviews were mostly qualitative; hence, a qualitative data analysis was undertaken. Qualitative data analysis deals with the meanings of non-numerical data, such as text, audio or digital recordings, pictures and observations (Dey, 1993). It is a process in which the researcher analyses meanings through conceptualisation, by articulating concepts via describing, classifying and analysing the connections between those categories (Dey, 1993). Corbin and Strauss (1990) described qualitative analysis as a process in which data are broken down, conceptualised and put back together in new ways.

There are many different approaches to analysing qualitative data advocated by various authors; however, according to Dey (1993), categorisation of data and making connections remain a common theme in different approaches of qualitative analysis. In this research, qualitative data analysis was guided by the grounded theory concept. The process outlined by Taylor-Powell and Renner (2003) guided the qualitative data analysis. This process was used because it enabled the researcher to break down and understand the content before reaching any conclusion. The process included the following steps: getting to know the data, focusing on the analysis, categorising the information, identifying patterns and interpreting the data.

5.3.3.1 Getting to know the data

Getting to know the data relates to having a good understanding of the participants' responses (Taylor-Powell & Renner, 2003). In this research, all interviews were digitally recorded as per the interviewees' agreement. The recorded interviews were listened to several times by the researcher, and then transcribed from the digital recordings into typed text. The transcripts were read and re-read before being copied into NVivo software for further analysis. In addition, the researcher wrote brief summaries from each transcript.

5.3.3.2 Focus on the analysis

Focus on the analysis relates to the researcher knowing the purpose of the evaluation, and what he or she seeks to discover. This can be done by focusing on key questions, focusing on individual participants' responses, or focusing on both (Taylor-Powell & Renner, 2003).

In this research, the analysis focus was on how the participants had responded to the questions. This technique is commonly used by researchers to analyse open-ended questions (Taylor-Powell & Renner, 2003). Thus, the data were organised by questions, which enabled the researcher to look across all respondents and their answers to identify consistencies and differences.

5.3.3.3 Categorise information

Information categorisation is referred to as 'coding' by some researchers (Taylor-Powell & Renner, 2003) and is an important aspect of qualitative analysis. This is a process of reviewing qualitative data and dissecting them meaningfully, while retaining the connections between the parts (Miles & Huberman, 1994). In this research, categorisation was undertaken using an open coding technique. Corbin and Strauss (1990) defined open coding as a process of breaking down, examining and categorising qualitative data.

An initial coding scheme of categories was developed based on the self-administered questionnaire questions (see Appendix L). As each transcript was coded, new categories were identified. As Miles and Huberman (1994) pointed out, codes can be identified at different times during analysis—some are created and used at the beginning, and others follow.

The typed data (transcripts) were examined line by line, and the concepts were then organised by recurring subject. Open coding was then employed to label common themes and place them in appropriate categories. Dey (1993) also referred to this as 'classification'.

5.3.3.4 Identify patterns and connections between categories

An axial coding technique was used to identify patterns and connections between categories. Orlikowski (1993) described axial coding as a process of determining a set of categories and concepts or themes that cover as much of the data as possible by grouping codes or labels given to the data (Orlikowski, 1993).

Categories identified from the previous step were re-examined to explore the relationships between categories (how one code relates to another) and make connections between them (Corbin & Strauss, 2008; Orlikowski, 1993). This process was conducted by going back and forth between categories and responding to the following questions: What are the key ideas expressed within the category? What

are the similarities and differences in the way the participants responded to similar questions?

5.3.3.5 Interpretation: bringing it all together

The final step in qualitative analysis concerns interpreting the data or findings to explain what it all means (Taylor-Powell & Renner, 2003). This process was conducted using a selective coding technique. Corbin and Strauss (1990) described selective coding as a process of systematically relating the main category to other categories, and refining categories that need further refinement. Corbin and Strauss (2008) referred to this same process as 'integration'. They defined integration as a process of linking categories around a core category, and refining and trimming the resulting theoretical construction.

The aim of using selective coding was to identify categories that formed the core concept that had the power to elucidate most of the situations the researcher studied. This enabled the researcher to provide an explanation regarding the state of IS planning in NFPOs. Table 5.2 presents the techniques used for the analysis of the qualitative data collected from the interviews.

Table 5.2: Techniques used for qualitative analysis

Step	Technique	Description
Getting to know the data	Listen to the interviews several times, read the interview scripts several times	Attempt to understand the participants' responses
Focus on the analysis	Organise the responses based on the questions	Know the purpose of the analysis
Categorise information	Open coding (labelling)	Break down the text or empirical materials, and give names/labels to common patterns
Identify patterns and connections between categories	Axial coding	Analyse relationships or identify connections of codes or categories
Interpretation—bringing it all together	Selective coding	Choose one category to be the core category, and relate all other categories to that category—the essential idea is to develop a single storyline around which everything else is draped

5.4 Chapter Summary

This chapter discussed the two phases conducted in this research. Phase I employed self-administered questionnaires as a research instrument for data collection, and Phase II employed interviews as an instrument for data collection. In addition, the chapter discussed the sampling technique and the data analysis employed on both phases. The results from Phase I are presented in the next chapter (Chapter 6), and the results from Phase II are presented in Chapter 7.

One of the key points highlighted in this chapter was the list of reasons provided by one of the executives of a peak body for NFPOs for not wanting to be involved in this research. In short, the reasons provided were that IS is not related to small NFPOs, limited time and a shortage of staff.

CHAPTER 6: SELF-ADMINISTERED QUESTIONNAIRE (PHASE I) RESULTS

6.1 Introduction

This chapter presents the results of the self-administered questionnaires sent to NFPOs in WA. The self-administered questionnaires were designed to address three research objectives:

1. to explore the status of IS planning in NFPOs,
2. to examine whether IS planning enables NFPOs to better achieve their mission or goals,
3. to explore problems encountered by NFPOs in regard to IS planning.

As stated in chapter 1, the above objectives were formulated into the following research questions:

1. How is IS planning conducted by NFPOs in Western Australia (WA)?
2. What is the relationship between IS planning and NFPOs' goal or mission achievement?
3. What problems and/or dilemmas, if any, are faced by NFPOs with regard to IS planning and its implementation?

This chapter is divided into nine sections. Section 6.2 provides the questionnaires' response rate. Section 6.3 presents the results of Questionnaire A, which provides an overview of IS in WA NFPOs. Section 6.4 presents the results of Questionnaire B, which covers the NFPOs' strategic planning and IS planning practices. Section 6.5 presents the results of Questionnaire C, which provides reasons for WA NFPOs not doing IS planning. Section 6.6 presents the results of Questionnaire D, which covers problems faced by WA NFPOs in developing and implementing IS plans. Section 6.7 present summary of combined questionnaire results. Section 6.8 provide a discussion of the perceived IS planning problems. Section 6.9 summarises the important points of the chapter.

6.2 Questionnaire Response

As mentioned, 175 questionnaires comprising each of the four sets (A, B, C and D) were sent to NFPOs according to the distribution procedure explained in Chapter 5. Of the 700 questionnaires sent, 146 were returned. Twenty-two questionnaires were returned unanswered, and three were returned answered but were deemed unusable for the purpose of this research. Reasons for non-response included the wrong address, the organisation was no longer at the specified address and the staff were no longer working for the organisation. The 25 unusable and/or unanswered questionnaires were removed from the initial 700 distributed making actual distributed questionnaires to be 675. Therefore, the response rate (from 675 questionnaires) for usable questionnaires was 17.93 per cent (see Table 6.1). This response rate was not completely unexpected because questionnaires are known to be susceptible to low response rates (Neuman, 2006). However, because this is an exploratory study, the response rate was considered adequate to provide a general understanding of IS planning in WA NFPOs (O'Brien & Castelloe, 2004).

In total, 121 valid responses were received; Table 6.1 shows the response across each questionnaire set.

Table 6.1: Survey response rate

Questionnaire	Questionnaires distributed	Questionnaires returned	Response rate (%)
A	165	35	21.21
B	167	27	16.17
C	168	37	13.10
D	175	22	21.14
Total	675	121	17.93

Based on the ABS NFPO classification (see Table 3.1), the majority of questionnaire responses came from social services, social and community development, and housing NFPOs. Table 6.2 shows the classification of the organisations that responded to the questionnaires.

Table 6.2: Participants classification

	Organisation Group	Participation (%)
1.	Culture and recreation	1.7
2.	Education and research	0.0
3.	Health	23.7
4.	Social services	29.7
5.	Environment, development, housing, employment, law, philanthropic and international	42.4
6.	Hospitals	0.0
7.	Religion	1.7
8.	Business and professional associations, unions	0.0
9.	Other activities	0.8
	Total	100

6.3 Questionnaire A Results

This section presents the results of Questionnaire A, which sought to obtain an overview of IS usage in the NFPOs. As shown in Table 6.1, 35 responses were received for Questionnaire A. Each response was from a separate organisation. About three-quarters (74 per cent) of the participating organisations had 15 or fewer full-time staff (see Figure 6.1). Two-thirds (66 per cent) of the participating organisations had 10 or fewer part-time staff. More than half (58 per cent) of the participating organisations had 10 or fewer volunteers.

Figure 6.1: Questionnaire A—Full-time staff

Among other results, Table 6.3 displays the results of Questionnaire A regarding the respondent organisations' mission achievement and whether IS is helpful in achieving their mission. In addition, it presents the results regarding whether the organisations plan for IS, its success and the effect of IS planning on mission achievement.

Table 6.3: Questionnaire A results

In your opinion, how successful is your organisation at achieving its mission/goals?						
1	2	3	4	5	Mean	SD
3%	3%	12%	47%	35%	4.09	0.93
In your opinion, how helpful is IS for your organisation in achieving its mission/goals?						
1	2	3	4	5	Mean	SD
6%	15%	18%	32%	29%	3.65	1.23
Organisations undertaking IS planning						
					Yes	No
Does your organisation do IS planning?					53%	47%
In your opinion, how successful has IS planning been in your organisation? (Answers only from those who claimed to do IS planning)						
1	2	3	4	5	Mean	SD
0%	12%	24%	41%	24%	3.73	0.96
Combined analysis of IS personnel and IS planning						
				Does your organisation have IT personnel?		
Does your organisation do IS planning?				Yes	No	
Yes				76%	28%	
No				24%	72%	
Application programs available in NFPOs						
Does your organisation have...					Yes	No
IS application programs that are of strategic importance (strategic)?					57%	43%
IS application programs that are playing a key role in day-to-day processes that are crucial to organisational activities (key operational)?					66%	34%
IS application programs that are valuable but not critical to the success of the organisation (support)?					74%	26%
Plans to acquire IS application programs that may be important in achieving future success (high potential)?					60%	40%
Organisation overall IS usage						
IS is integrated into many, but not all, aspects of our organisation						40%
IS is integrated into all aspects of our organisation						26%
Our use of IS is minimal						14%
IS is integrated into some aspects of our organisation						11%
We do not use IS						9%
IS usage: Please rate how important IS is to the following activities in your organisation						
External communication						
1	2	3	4	5	Mean	SD
0%	12%	9%	17%	62%	4.29	1.06
Office administration						

1	2	3	4	5	Mean	SD
0%	6%	15%	29%	50%	4.24	0.92
Internal communication						
1	2	3	4	5	Mean	SD
12%	6%	9%	17%	56%	4.00	1.41
Finance						
1	2	3	4	5	Mean	SD
3%	13%	19%	13%	53%	4.00	1.24
Networking with other organisations						
1	2	3	4	5	Mean	SD
9%	9%	18%	21%	44.0%	3.82	1.34
Publicity						
1	2	3	4	5	Mean	SD
9%	6%	24%	24%	38%	3.76	1.28
Service delivery						
1	2	3	4	5	Mean	SD
11%	11%	21%	7%	50%	3.75	1.46
E-commerce						
1	2	3	4	5	Mean	SD
16%	16%	21%	10%	37%	3.37	1.54
Fundraising						
1	2	3	4	5	Mean	SD
15%	11%	33%	11%	30%	3.30	1.41
Please rate, overall, the contribution of your IS to…						
Improving the efficiency of internal operations						
1	2	3	4	5	Mean	SD
6%	15%	6%	30%	43%	3.86	1.29
Organisation's reputation						
1	2	3	4	5	Mean	SD
3%	9%	31%	22%	34%	3.75	1.14
Overall success of organisation						
1	2	3	4	5	Mean	SD
3%	6%	25%	28%	38%	3.91	1.09

Comparison of IS contribution between organisations doing and those not doing IS planning		
	Organisations doing IS planning Mean score	Organisations not doing IS planning Mean score
IS contribution to organisation's overall success	4.33	3.31
IS contribution to the efficiency of internal operations	4.47	3.07
IS contribution to enhancement of organisation's reputation	4.06	3.31

Respondents were asked to provide their perceptions on the success level of their organisation's mission achievement. A five-point Likert-type scale was used, in which 1 was defined as *not very successful* and 5 was defined as *very successful*.

The responses indicated that 29 of the 35 organisations (82 per cent) were either successful or very successful at achieving their mission (see Table 6.3).

On IS helpfulness to the organisation's mission achievement, 22 respondents out of 34 (61 per cent) opined that IS was either helpful or very helpful towards their organisation's mission achievement (see Table 6.3). The IS helpfulness to the organisation's achievement results were then analysed together with the mission achievement results. Of those who said that their organisation's mission achievement was very successful, 33 per cent also indicated that IS was very helpful in achieving their organisation's mission. Only 8 per cent indicated that IS was not helpful in achieving their organisation's mission.

A closed question was used to determine whether organisations were undertaking IS planning. More than half (18 out of 34, or 53 per cent) of the respondents indicated that their organisations were undertaking IS planning (see Table 6.3).

Moreover, respondents were asked to provide their opinions on the level of success of their organisation's IS planning. A five-point Likert-type scale question was used to collect their opinions with response values ranging from 1 (*not very successful*) to 5 (*very successful*). Of the 17 respondents who claimed that their organisations were doing IS planning, 11 (65 per cent) also indicated that their IS planning was either successful or very successful (see Table 6.3).

When analysing the IS planning success results, the researcher noticed some contradictory responses. One respondent claimed that their organisation was doing IS planning, but at the same time, the respondent stated that IS planning success did not apply to their organisation. Additionally, the researcher expected that, if an organisation was not doing IS planning, the logical answer to the question on the level of success of IS planning would be 'not applicable'. However, contrary to the researcher's expectation, 75 per cent of those who said no to IS planning responded to the IS planning success question as if they were doing IS planning (see Figure 6.2).

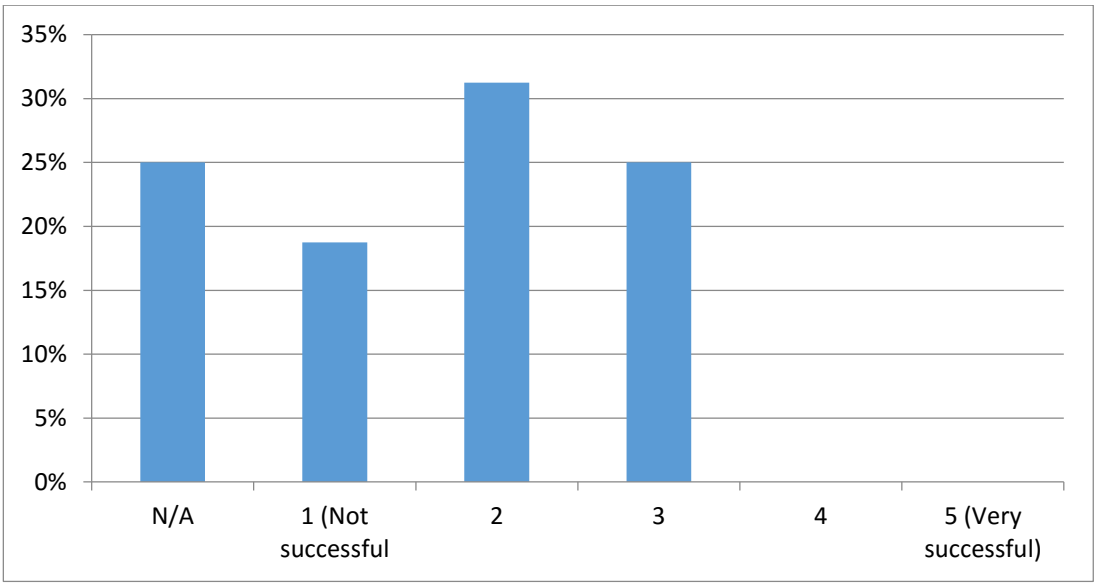

Figure 6.2: Questionnaire A—IS planning success for organisations not doing IS planning

To determine whether IS planning has an effect on the organisations' mission achievement, the researcher compared the mean scores of mission achievement between organisations that indicated they were doing IS planning and those that indicated they were not. The comparison revealed that mission achievement was rated higher by the organisations that were doing IS planning than those that were not doing IS planning. The mean score for those doing IS planning was 4.28, and for those not doing IS planning, the score was 3.88.

The IS planning results and the IS helpfulness in achieving the organisation's mission results show that, on average, IS helpfulness in achieving the organisation's mission had a higher rating (4.17) by those undertaking IS planning than by organisations that were not doing IS planning (3.06).

In addition to the above comparisons, regression analysis was conducted between IS planning success and mission achievement. The intention was to determine if there was a correlation between the two variables, where IS planning success was the independent variable and mission achievement was the dependent variable. The results were correlation coefficient (r) = 0.48, coefficient of determination (r^2) = 0.23 and standard deviation (SD) = 0.88. The results interpretation was based on the guideline cited in Wong and Hiew (2005) explained in Chapter 5. There was a moderate correlation between the two variables; however, IS planning success only accounted for 23 per cent of the mission achievement.

To determine whether the responding organisations had a designated IS/IT staff member to deal with IS-related issues, the question ‘does your organisation have IS/IT personnel?’ was asked. More than half of the respondents (18 out of 35 respondents, or 51 per cent) advised that their organisations did not have IS/IT personnel. A cross-sectional analysis between IS/IT personnel results and organisations doing IS planning was conducted. The analysis revealed that a majority of the organisations that had IS/IT personnel were also doing IS planning (see Table 6.3). However, a majority of the organisations that did not have IS/IT personnel were also not doing IS planning.

Respondents were presented with four questions asking them to identify the type of applications their organisations had. The four questions were categorised based on the application portfolio matrix (Ward & Peppard, 2002) as *strategic*, *key operational*, *supporting* and *high potential to the organisation*. Respondents indicated that their organisations had more supporting and key operational applications than strategic and high potential applications (see Table 6.3).

The questionnaire also asked respondents to select a statement that best described their organisation’s IS usage. The results indicate that in two-thirds (23 out of 35, or 66 per cent) of the organisations, IS is integrated into many or all aspects of their organisations (see Table 6.3). A closer examination of the results shows that, of the 66 per cent respondents who said that IS was integrated into many or all aspects of their activities, 70 per cent of them also indicated that their organisations were doing IS planning. The results also show that, of those who indicated that IS usage was minimal or only used in some aspects, 78 per cent also indicated that their organisations were not doing IS planning. Not surprisingly, respondents who indicated that their organisations were not using IS (9 per cent) also indicated that they were not doing IS planning.

Further, the questionnaires presented respondents with a list of activities and asked them to rate how important IS is/was to those activities in their organisations on a five-point Likert-type scale, in which 1 was defined as *unimportant* and 5 as *critical*. The results show that the respondents found IS to be more important to external communication and office administration: 27 out of 34 (79 per cent) gave a rating of at least 4 (see Table 6.3). When comparing the average rating, external communication was found to be the highest rated, at 4.29, whereas office administration had an average score of 4.24. Internal communication was third in the order of importance: 25 out of 34 (73 per cent) gave internal communication a

rating of at least 4. However, based on the average rating, internal communication is tied with finance, both having an average score of 4.00.

Additionally, respondents were asked to indicate their perceptions on the contribution of IS to the efficiency of their internal operations, enhancement of the organisation's reputation and the organisation's overall success. A five-point Likert-type scale was used, in which 1 was defined as *not much* and 5 as *extensively*. The results show that a majority of the respondents (24 out of 33, or 73 per cent) opined that IS contributed more towards improving the efficiency of their organisation's internal operations (see Table 6.3).

Closer inspection based on average ratings show that there were differences between those organisations that were doing IS planning and those not doing IS planning. As can be seen in Table 6.3, the ratings of organisations that were doing IS planning were higher than those of organisations that were not. This finding suggests that organisations doing IS planning are more likely to benefit from or realise IS's contribution.

6.3.1 Summary Highlights of Questionnaire A Results

In summary, Questionnaire A, which addressed IS usage in NFPOs, provided the following results:

- Most (74 per cent) of the participating organisations had 15 or fewer full-time staff.
- Most (82 per cent) of the respondents indicated that their organisations were very successful at achieving their mission.
- A majority (61 per cent) of the participating organisations found IS either helpful or very helpful in achieving their mission.
- Almost half (47 per cent) of the participating organisations were not doing IS planning.
- Of those doing IS planning, 65 per cent indicated that their IS planning was either successful or very successful.
- On average, the mission achievement rating was higher for those doing IS planning (4.28) than for those not doing IS planning (3.88).
- IS helpfulness in achieving the organisation's mission had a higher rating by those doing IS planning (4.17) than those not doing IS planning (3.06).

- IS planning success accounted for 23 per cent of the organisations' mission achievement.
- More than half (51 per cent) of the participating organisations did not have IS/IT personnel.
- Most (76 per cent) of the organisations doing IS had IS/IT personnel.
- Participating organisations had more operational and supporting applications than strategic and high potential applications.
- IS was mostly used for external communication and administrative activities.
- On average, those doing IS planning rated IS contribution higher than those not doing IS planning.

6.4 Questionnaire B Results

This section presents the results of Questionnaire B. As stated in Chapter 5, the aim of Questionnaire B was to explore IS planning in NFPOs. Accordingly, this section presents the results on IS planning practices, methodologies/methods used in IS planning and IS planning outcome/output. This section also presents the results on the IS contribution to the efficiency of internal operations, enhancement of the organisation's reputation and the organisation's overall success. Additionally, the section covers topics that were common to all four.

As shown in Table 6.1, 27 responses were received for Questionnaire B. Each response was from a separate organisation. As indicated in Figure 6.3, almost two-thirds (65 per cent) of the participating organisations had five or fewer full-time staff and more than two-thirds (69 per cent) had 15 or fewer full-time staff. More than half (56 per cent) of the participating organisations had 10 or fewer part-time staff. More than one-third (37 per cent) of the participating organisations had 10 or fewer volunteers.

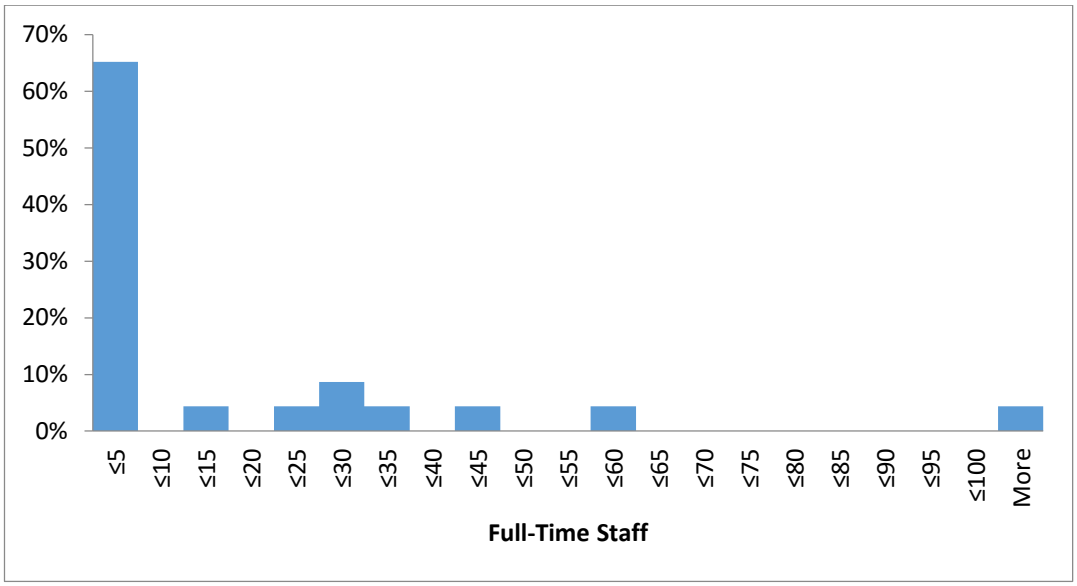

Figure 6.3: Questionnaire B—Full-time staff

Among other results, Table 6.4 displays the results of Questionnaire B on the mission achievement of the respondents' organisations and whether IS is helpful in achieving the mission. Additionally, it presents the results on IS planning, the outcome of IS planning and the effect of IS planning on mission achievement.

Table 6.4: Questionnaire B results

In your opinion, how successful is your organisation at achieving its mission/goals?						
1	2	3	4	5	Mean	SD
0%	0%	4%	63%	33%	4.28	0.53
In your opinion, how helpful is IS for your organisation in achieving its mission/goals?						
1	2	3	4	5	Mean	SD
4%	11%	30%	30%	26%	3.63	1.11
Organisations undertaking IS planning						
					Yes	No
Does your organisation do IS planning?					41%	59%
In your opinion, how successful has IS planning been in your organisation? (Answers only from those who claimed to do IS planning)						
1	2	3	4	5	Mean	SD
9%	0%	27%	55%	9%	3.45	1.01
Please tick all that apply (organisational strategic planning)						
Our organisation doesn't have a strategic plan						26%
Our organisation does have a strategic plan						67%
Non-respondents						7%
Please tick all that apply (IS planning/plans)						
Our organisation does not have an IS plan						70%
Our organisation does have an IS plan						26%
Non-respondents						4%

Please tick all that apply (IS planning process)						
Our organisation doesn't have a process for IS planning						19%
Our organisation does have a process for IS planning, but it is not utilised						0%
Our organisation does have a process for IS planning, but it is only partially used						15%
Our organisation does have a process for IS planning, which is fully utilised						19%
Non-respondents						47%
To what extent do you agree with each of the following with respect to your organisation?						
Formal and documented IS plans exist						
1	2	3	4	5	Mean	SD
50%	15%	8%	15%	12%	4.29	1.06
Our IS planning process is integrated with our organisational planning						
1	2	3	4	5	Mean	SD
38%	19%	12%	31%	0%	3.37	1.54
Our IS plans are aligned with organisational plans/objectives						
1	2	3	4	5	Mean	SD
40%	12%	16%	28%	4%	4.00	1.24
IS planning is necessary before we invest in IS						
1	2	3	4	5	Mean	SD
20%	4%	12%	28%	36%	3.30	1.41
IS planning is a regular activity in our organisation						
1	2	3	4	5	Mean	SD
35%	31%	19%	15%	0%	4.00	1.41
What are the outcomes of your IS planning?						
Budget for IS acquisitions						74%
IS policies and procedures						44%
Plan for IS development and implementation projects						44%
IS project or service outsourcing						41%
IS strategy/priorities (statements of demand)						41%
IS structure/ architecture						33%
IS application portfolio						30%
IS department restructuring						30%
Please rate the contribution of your IS to						
Overall success of organisation						
1	2	3	4	5	Mean	SD
9%	14%	27%	27%	23%	3.82	1.34
Efficiency of internal operations						
1	2	3	4	5	Mean	SD
13%	9%	30%	22%	26%	4.24	0.92
Enhancement of organisation's reputation						
1	2	3	4	5	Mean	SD
9%	14%	36%	27%	14%	3.76	1.28
Comparison of IS contribution between organisations doing and those not doing IS planning						
					Organisations doing IS planning Mean score	Organisations not doing IS planning Mean score

IS contribution to organisation's overall success	3.77	3.00
IS contribution to efficiency of internal operations	3.77	3.00
IS contribution to enhancement of organisation's reputation	3.27	3.18

Respondents were asked to provide their perceptions on the success level of their organisation's mission achievement. A five-point Likert-type scale was used, in which 1 was defined as *not very successful* and 5 was defined as *very successful*. All except one of the 27 (96 per cent) respondents indicated that their organisations were either successful or very successful at achieving their mission (see Table 6.4).

On IS helpfulness to their organisation's mission achievement, 15 out of 27 (56 per cent) respondents opined that IS was either helpful or very helpful in achieving their organisation's mission (see Table 6.4). The IS helpfulness to organisation's achievement results were then analysed together with the mission achievement results. Of those who indicated their organisation's mission achievement was very successful, 27 per cent also indicated that IS was very helpful in achieving their organisation's mission. Only 4 per cent indicated that IS was not helpful in achieving their organisation's mission.

A closed question was used to determine whether organisations were undertaking IS planning. More than half (16 out of 27, or 59 per cent) of the respondents indicated that their organisations were not undertaking IS planning (see Table 6.4).

The respondents were also asked to provide their opinions on the level of success of their organisation's IS planning. A five-point Likert-type scale question was used to collect their opinions with response values ranging from 1 (*not very successful*) to 5 (*very successful*). Of the 16 respondents who claimed that their organisations were doing IS planning, 10 (64 per cent) also indicated that their IS planning was either successful or very successful (see Table 6.4).

To determine whether IS planning has an effect on the organisations' mission achievement, the researcher compared the mean scores of mission achievement between the organisations that indicated they were undertaking IS planning and those that were not. The comparison revealed that mission achievement was rated higher by the organisations that were doing IS planning than by those that were not. The mean score for those doing IS planning was 4.32, whereas for those not doing IS planning, the score was 4.25.

Further, the IS planning results and the IS helpfulness in achieving the organisation's mission results show that, on average, IS helpfulness in achieving the

organisation's mission had a higher rating by those doing IS planning (3.91) than by those that were not doing IS planning (3.44).

In addition to the above comparisons, regression analysis was conducted between IS planning success and mission achievement. The intention was to determine if there was a correlation between the two variables, where IS planning success was the independent variable and mission achievement was the dependent variable. The results were correlation coefficient (r) = 0.14, coefficient of determination (r^2) = 0.02 and standard deviation (SD) = 0.50. The correlation was considered weak between the two variables (Wong & Hiew, 2005), and IS planning success accounted for only 2 per cent of the mission achievement.

Respondents were also asked questions regarding organisational strategic planning and IS planning. The results of their responses are included in Table 6.4. Two-thirds (18 out of 27, or 67 per cent) of the respondents indicated that their organisations had strategic plans, and less than one-third (seven out of 27, or 26 per cent) indicated that their organisations did not have strategic plans in place. However, when participants were asked if their organisations had IS plans, their responses were almost the opposite of what they had said about strategic planning. More than two-thirds (19 out of 27, or 70 per cent) of the respondents indicated that their organisations did not have IS plans. Less than one-third (seven out of 27, or 26 per cent) indicated that their organisations had IS plans.

To determine whether participating organisations utilised IS planning processes, respondents were given four statements and asked to select the statements that were applicable to their situations. The four statements and respondents' results are presented in Table 6.4. The fact that nearly half (13 out of 27) of the respondents did not select any statement was indicative of their organisations not having IS planning processes. Only nine out of 27 (34 per cent) respondents indicated that their organisations had a process for IS planning that was either partially or fully utilised.

Further, to assist in understanding IS planning and organisational planning, participants were asked about the existence of formal IS plans, regularity at which IS planning was conducted and the relationship between IS planning and organisational planning. Likert-type questions were used to gather their opinions, for which the responses were 1 (*strongly disagree*), 3 (*neither agree nor disagree*) and 5 (*strongly agree*). The results for these questions are presented in Table 6.4.

Respondents were asked to provide their opinions on the existence of formal IS plans in their organisations. Just under two-thirds (17 out of 26, or 65 per cent) of the respondents either disagreed or strongly disagreed that formal and documented IS plans exist in their organisations.

Regarding integration between IS planning and organisational planning, a majority (15 out of 26, or 57 per cent) of the respondents indicated that there was no integration between IS planning and organisational planning. None of the respondents strongly agreed to having integration between IS planning process and organisational planning. Of those that indicated that IS planning process and organisational planning were not integrated, 14 out of 15 (93 per cent) were not doing IS planning. This indicates that the reason for the lack of integration between organisational planning and IS planning was that those organisations were not doing IS planning.

In addition to the integration question, respondents were asked about the alignment between IS plans and organisational plans. Not surprisingly, the responses to this question followed a similar pattern to that of the responses to the integration question: a majority (13 out of 25, or 52 per cent) of the respondents indicated that there was no alignment between IS plans and organisational plans (see Table 6.4). Of those that indicated that there was no alignment, 79 per cent were not doing IS planning. Similarly to integration, the real issue here seems to be that organisations are not doing IS planning.

With respect to their organisations, respondents were asked whether it was necessary to conduct IS planning before investing in IS. A majority (16 out of 25, or 64 per cent) of the respondents indicated that their organisations either agreed or strongly agreed that it is necessary to conduct IS planning before investing in IS (see Table 6.4). However, surprisingly, most of them do not undertake IS planning or have formal documented plans, as noted in the previous questions.

Another aspect to be identified was the use of IS planning circles in NFPOs. To determine this, respondents were asked to agree or disagree with the statement ‘IS planning is a regular activity in our organisation’. Two-thirds (17 out of 26, or 66 per cent) of the respondents either disagreed or strongly disagreed that IS planning was a regular activity in their organisations. This result was not unexpected considering that many of the organisations were not doing IS planning.

To understand the status of IS planning, it was necessary to identify the methodologies (if any) used for IS planning in NFPOs. To achieve this, an open question was presented to respondents: 'What methodologies and techniques have you or your organisation used in conjunction with your chosen approaches for IS planning?'

The analysis of the responses suggests that respondents were not familiar with IS planning methodologies (such as BSP, CSF or IE) or that these methodologies were not utilised by the respondents' organisations. Further, responses to this open question revealed the following information: (1) whether organisations were doing IS planning, (2) how IS planning was being conducted, and (3) IS planning constraints.

On whether organisations were doing IS planning, a number of respondents stated that they were not, through the comments '*we don't do IS planning*' or '*no IS planning*'. According to the respondents' comments, in some of these organisations, IS investment is done on an *ad hoc* basis. For this reason, their IS investment tends to be reactive rather than planned, and this was affirmed by the following comments from respondents: our IS investment is '*needs based, more responsive and reactive than planned*' and '*when the equipment dies or is giving major problems, we pursue financial assistance to replace it*'.

On how IS planning was being conducted, respondents' responses revealed the following:

- The use of external consultants for IS activities including planning appears to be a common practice in a number (seven out of 27, or 26 per cent) of respondents' organisations. Organisations either contract external consultants or seek professional advice from IS experts, as evidenced by respondent comments such as '*external consultation with [IS] expert*' and '*have used consultants to assist at various points*'. However, the analysis also revealed that the use of external experts or consultants does not always yield the best outcomes for the organisations, as evidenced by a comment from one of the respondents that they '*utilise consultants, [but have experienced] totally unacceptable outcomes for our organisation*'.
- One respondent mentioned that in their organisation they use a hybrid of brainstorming techniques (i.e. internal consultation), consultation with external IS experts and research or learning from organisations with similar IS needs.

- One participant explained that their organisation relies on volunteers for IS investment decisions, through the response '*voluntary assistance and advice in preparing submissions to Lotterywest to upgrade IT equipment*'.

On IS planning constraints, analysis of the responses suggests that some respondents found funding or lack of funds a constraint to IS planning. This finding is exemplified by comments such as that they invest in IS '*as needed moving towards a more planned approach if funding allows*', and IS planning depends on '*what funds we have*' and '*contracted external consultant to evaluate [IS] plan (note financial constraints)*'.

Understanding IS planning in NFPOs requires identification of the outcomes of IS planning. Thus, respondents were asked to select the outcomes of their IS planning from a list of possible outcomes in the questionnaire. The results are presented in Table 6.4, starting with the most selected outcome. Almost three-quarters (20 out of 27, or 74 per cent) of the respondents perceived budgeting for IS acquisition as the main outcome of IS planning.

In addition to the IS planning outcome question, respondents were asked an open question about the benefits of their organisation's IS planning. Their responses included cost saving, smooth ICT upgrades, appropriate technology for the organisation, improving efficiency and ability to apply for funds. Below are some of the respondents' comments:

1. Cost saving/budgeting:
    - '*being able to ensure funding available for important developments*',
    - '*budgets and keeping our IT as updated as possible so we don't get left behind*',
    - '*good technology suited to purpose within budget available*'.

2. Smooth IS upgrades/appropriate technology for organisations:
    - '*replacement of computer network, software and hardware*',
    - '*has enabled us to plan for future IT requirements*',
    - '*smooth ICT upgrades of all equipment/hardware/software*',
    - '*good technology suited to purpose within budget available*',
    - '*a purpose-programmed database; an informative and user-friendly website*'.

3. Improving efficiency:
    - '*more efficient time management*',
    - '*efficient use of resources and minimal downtime*',
    - '*different areas within the organisation (e.g. finance) have progressively increased productivity, better reporting and increased capacity*',
    - '*improved efficiency, customer service and overall outputs*',
    - '*we have been better able to capture and use data*'.

4. Ability to apply for grants (or ability to secure funds):
    - '*being able to ensure funding available for important development*',
    - '*allowed us to apply for ICT grant*',
    - '*we have been able to plan for development and gain funds to implement them*'.

5. Improved communication:
    - '*answer email within 24 hours*',
    - '*increased volume of information inwards/outward*s'.

6. Other comments include:
    - '*more uniformity, informed management, improved reliability*',
    - '*working out what our needs are, costs involved and [identifying] the right people to make it happen*',
    - '*staff members are happier with improved systems and work more productively*'.

Additionally, respondents were asked to indicate their perceptions on the contribution of IS to the efficiency of internal operations, enhancement of the organisation's reputation and the organisation's overall success. A five-point Likert-type scale was used, in which 1 was defined as *not much* and 5 as *extensively*. The results are presented in Table 6.4. Based on the results, it appears that the respondents believe that IS contributes more to their organisation's overall success and internal operations than to the enhancement of the organisation's reputation.

Closer inspection of the ratings shows that there were differences between those organisations that were doing IS planning and those that were not. The ratings of organisations that were doing IS planning were higher than those of organisations that were not (see Table 6.4). This finding suggests that those doing IS planning are more likely to benefit from or realise IS's contribution.

6.4.1 Summary Highlights of Questionnaire B Results

In summary, Questionnaire B, which addressed IS planning in NFPOs, provided the following results:

- More than half (65 per cent) of the respondents had five or fewer full-time staff.
- All but one (96 per cent) of the respondents indicated that their organisations were either successful or very successful at achieving their mission.
- More than half (56 per cent) of the respondents indicated that IS was either helpful or very helpful in achieving their mission.
- More than half (59 per cent) of the participating organisations said they were not doing IS planning.
- Of those doing IS planning, 64 per cent indicated that their IS planning was either successful or very successful.
- Mission achievement had a slightly higher rating by organisations doing IS planning (4.32) in comparison with organisations that were not doing IS planning (4.25).
- IS helpfulness in achieving the organisation's mission had a higher rating by organisations that were doing IS planning (3.91) than by organisations that were not doing IS planning (3.44).
- The relationship between IS planning success and the organisation's mission achievement is extremely weak with $r = 0.14$ and $r^2 = 0.02$.
- Two-thirds (67 per cent) of the respondents advised that their organisations had organisational strategic plans.
- A majority (70 per cent) of the organisations indicated that they did not have IS plans.
- The respondents did not appear to be familiar with the IS planning methodologies listed in the literature.
- The use of external experts for IS planning appeared to be a common practice for a number of organisations (26 per cent).
- Funding (or lack funds) was considered a constraint to IS planning by some respondents.
- About three-quarters (74 per cent) of the respondents indicated that budgeting was/is the main outcome of their IS planning process.

6.5 Questionnaire C Results

This section presents the results of Questionnaire C. The main purpose of Questionnaire C was to explore the reasons for not doing IS planning (or the problems faced by NFPOs in launching or starting IS planning). As shown in Table 6.1, 37 responses were received for Questionnaire C. Each response was from a separate organisation. More than half (55 per cent) of the participating organisations had five or fewer full-time staff and more than three-quarters (82 per cent) of participating organisations had 15 or fewer full-time staff (see Figure 6.4). More than half (61 per cent) of the participating organisations had 10 or fewer part-time staff. More than half (57 per cent) of the participating organisations had 10 or fewer volunteers.

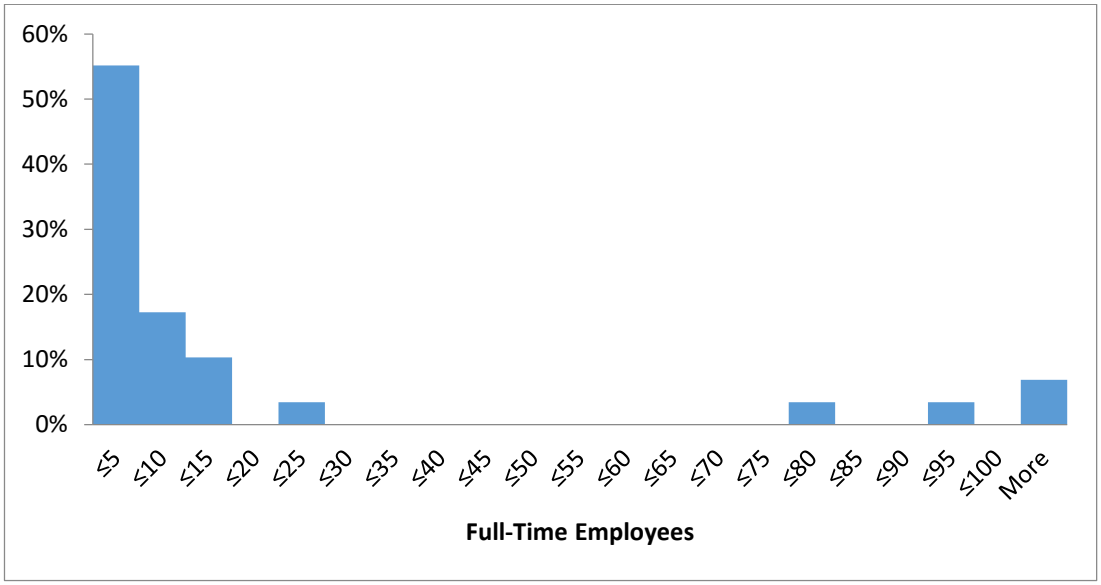

Figure 6.4: Questionnaire C—Full-time staff

Among other results, Table 6.5 displays the results of Questionnaire C on the mission achievement of the respondents' organisations and whether IS is helpful in achieving the mission. In addition, it presents the results on reasons for not doing IS planning (or problems in launching IS planning).

Table 6.5: Questionnaire C results

In your opinion, how successful is your organisation at achieving its mission/goals?						
1	2	3	4	5	Mean	SD
0%	3%	11%	62%	24%	4.08	0.68
In your opinion, how helpful is IS for your organisation in achieving its mission/goals?						
1	2	3	4	5	Mean	SD
6%	6%	25%	42%	22%	3.69	1.06
Organisations undertaking IS planning						
					Yes	No
Does your organisation do IS planning?					49%	51%
In your opinion, how successful has IS planning been in your organisation? (Answers only from those who claimed to do IS planning)						
1	2	3	4	5	Mean	SD
0%	11%	56%	28%	6%	3.28	0.75
Reasons for not doing IS planning (failure to initiate)						
Our budget is too small to support IS planning						
1	2	3	4	5	Mean	SD
11%	11%	37%	26%	15%	3.22	1.19
We do not have anyone with sufficient expertise in IS planning						
1	2	3	4	5	Mean	SD
17%	17%	7%	49%	11%	3.17	1.34
An IS planning process takes too long						
1	2	3	4	5	Mean	SD
21%	7%	54%	14%	4%	2.71	1.08
We are unable to obtain sufficiently qualified personnel to do a proper job of IS planning						
1	2	3	4	5	Mean	SD
31%	23%	8%	27%	12%	2.65	1.47
We do not have enough time to do IS planning						
1	2	3	4	5	Mean	SD
27%	23%	20%	20%	10%	2.63	1.35
An IS planning exercise is too expensive						
1	2	3	4	5	Mean	SD
19%	33%	33%	11%	4%	2.48	1.05
Our emphasis is more focused on buying IS than planning						
1	2	3	4	5	Mean	SD
35%	35%	23%	0%	8%	2.12	1.14
IS in our organisation is too insignificant to require planning						
1	2	3	4	5	Mean	SD
45%	28%	10%	70%	10%	2.10	1.35

Respondents were asked to provide their opinions on the success level of their organisation's mission achievement. A five-point Likert-type scale was used, where 1 was defined as *not very successful* and 5 was defined as *very successful*. The responses indicated that 32 of the 37 organisations (86 per cent) were either successful or very successful at achieving their mission (see Table 6.5).

On IS helpfulness to the organisation's mission achievement, 23 out of 36 (64 per cent) respondents opined that IS is either helpful or very helpful in achieving their organisation's mission (see Table 6.5). The IS helpfulness to organisation's achievement results were then analysed together with the mission achievement results. Of those who said their organisation's mission achievement was very successful, 33 per cent also indicated that IS was very helpful in achieving their organisation's mission. IS was not helpful in achieving their organisation's mission for 11 per cent of the respondents.

A closed question was used to determine whether organisations were undertaking IS planning. More than half (19 out of 37, or 51 per cent) of the respondents indicated that their organisations were undertaking IS planning (see Table 6.5).

In addition, respondents were asked to provide their opinions on the level of success of their organisation's IS planning. A five-point Likert-type scale question was used to collect their opinions, with response values ranging from 1 (*not very successful*) to 5 (*very successful*). Of the 18 respondents who claimed that their organisations were doing IS planning, only one (6 per cent) respondent also indicated that their IS planning was very successful (see Table 6.5).

To determine whether IS planning has an effect on the organisations' mission achievement, the researcher compared the mean scores of mission achievement between the organisations that were doing IS planning and those that were not. The comparison revealed that mission achievement was rated slightly higher by the organisations that were doing IS planning than by those that were not. The mean score for those doing IS planning was 4.11, whereas for those not doing IS planning, the score was 4.05.

Further, the IS planning results and the IS helpfulness in achieving the organisation's mission results show that, on average, IS helpfulness in achieving the organisation's mission had a higher rating (4.11) by those doing IS planning than by organisations that were not (3.28).

In addition to the above comparisons, regression analysis was conducted between IS planning success and mission achievement. The intention was to determine if there was a correlation between the two variables, where IS planning success was the independent variable and mission achievement was the dependent variable. The results were correlation coefficient (r) = 0.02, coefficient of determination (r^2) = 0.00

and standard deviation (SD) = 0.60. The correlation was considered extremely weak between the two variables (Wong & Hiew, 2005).

To identify the reasons behind not undertaking (or failure to initiate) IS planning, respondents were presented with eight statements of possible reasons for not doing IS planning, and asked to indicate their perceptions on a five-point scale. The results, which are presented in Table 6.5, were calculated by ordering the mean scores computed from a five-point scale. The statement 'our budget is too small to support IS planning' was rated the most significant reason for not doing IS planning. The second-highest-rated reason was 'we do not have anyone with sufficient expertise in IS planning'.

6.5.1 Summary Highlights of Questionnaire C Results

In summary, Questionnaire C, which addressed reasons for NFPOs not doing IS planning, provided the following findings:

- Most (82 per cent) of the participating organisations had 15 or fewer full-time staff.
- Most (86 per cent) of the participants indicated that their organisations were either successful or very successful at achieving their mission.
- About two-thirds (64 per cent) of the participating organisations found IS either helpful or very helpful in achieving their mission.
- More than half (51 per cent) of the participating organisations were not doing IS planning.
- Of those doing IS planning, only 6 per cent indicated that their IS planning was very successful.
- On average, the mission achievement rating was higher for those doing IS planning (4.11) than for those not doing IS planning (4.05).
- IS helpfulness in achieving the organisation's mission had a higher rating by those doing IS planning (4.11) than by those not doing IS planning (3.28).
- The relationship between IS planning success and the organisation's mission achievement was extremely weak with a correlation coefficient of 0.02.
- The two most highly rated significant reasons for not doing IS planning were the budget is too small (3.22) and lack of expertise (3.17).

6.6 Questionnaire D Results

This section presents the results of Questionnaire D. The main aim of Questionnaire D was to explore the NFPOs' IS planning problems in developing IS plans and in using (implementing) IS plans.

As shown in Table 6.1, 22 responses were received for Questionnaire D. Each response was from a separate organisation. As indicated in Figure 6.5, more than half (53 per cent) of the participating organisations had five or fewer full-time staff, and more than three-quarters (77 per cent) of participating organisations had 15 or fewer full-time staff. More than half (59 per cent) of the participating organisations had 10 or fewer part-time staff. More than half (58 per cent) of the participating organisations had 10 or fewer volunteers.

Figure 6.5: Questionnaire D—Full-time staff

Among other results, Table 6.6 displays the results of Questionnaire D on the mission achievement of the respondents' organisations and whether IS is helpful in achieving the mission. In addition, it presents the results on the NFPOs' problems in developing IS plans and in using (implementing) IS plans.

Table 6.6: Questionnaire D results

In your opinion, how successful is your organisation at achieving its mission/goals?						
1	2	3	4	5	Mean	SD
0%	0%	27%	41%	32%	4.05	0.79
In your opinion, how helpful is IS for your organisation in achieving its mission/goals?						
1	2	3	4	5	Mean	SD

0%	25%	25%	40%	10%	3.35	0.99
Organisations undertaking IS planning						
					Yes	No
Does your organisation do IS planning?					36%	64%
In your opinion, how successful has IS planning been in your organisation? (Answers only from those who claimed to do IS planning)						
1	2	3	4	5	Mean	SD
0%	25%	25%	25%	25%	3.50	1.20
IS planning problems (development phase)						
We do not realistically assess internal weaknesses of an IS in determining capabilities to carry out the recommended plan						
1	2	3	4	5	Mean	SD
10%	20%	20%	30%	20%	3.45	1.37
We do not consider and explicitly evaluate alternative IS plans in order to give top management a meaningful choice						
1	2	3	4	5	Mean	SD
10%	20%	30%	20%	20%	3.36	1.36
Our IS planning process is poorly coordinated or we lack coordination						
1	2	3	4	5	Mean	SD
11%	22%	22%	33%	11%	3.30	1.34
We do not perform analysis to identify critical functional areas that our IS plan has to support						
1	2	3	4	5	Mean	SD
18%	18%	28%	9%	28%	3.25	1.54
Top management are not sufficiently involved in IS planning						
1	2	3	4	5	Mean	SD
0%	27%	27%	36%	9%	3.17	1.03
We rely exclusively on user 'wish lists' for application ideas						
1	2	3	4	5	Mean	SD
0%	40%	40%	10%	10%	3.09	1.14
Users are not sufficiently involved in developing our IS plan						
1	2	3	4	5	Mean	SD
8%	33%	25%	25%	8%	3.00	1.15
Our IS planning process requires too much formality, which restrains creativity on the part of the planners and users in defining information requirements						
1	2	3	4	5	Mean	SD
0%	50%	13%	25%	13%	2.78	1.30
We do not review our IS plan with managers so as to obtain their support and cooperation for its implementation						
1	2	3	4	5	Mean	SD
22%	22%	44%	11%	0%	2.60	1.07
We ignore our organisation goals when developing our IS plan						
1	2	3	4	5	Mean	SD
25%	50%	13%	13%	0%	2.11	0.93
We do not translate our organisation's goals and strategies into action plans						
1	2	3	4	5	Mean	SD
33%	42%	17%	8%	0%	2.00	0.91

Possible problems in using an IS plan (implementation phase)						
The IS plan we developed is not comprehensive						
1	2	3	4	5	Mean	SD
20%	0%	20%	40%	20%	3.67	1.51
We do not adjust the IS plan to reflect major environmental changes						
1	2	3	4	5	Mean	SD
9%	9%	46%	18%	18%	3.33	1.15
It is difficult to secure management commitment for implementing IS plans						
1	2	3	4	5	Mean	SD
11%	11%	11%	56%	11%	3.20	1.40
We consistently make intuitive decisions that conflict with the approved plan						
1	2	3	4	5	Mean	SD
0%	33%	17%	33%	17%	3.00	1.41
We do not use our IS plan as a standard for measuring managerial performance						
1	2	3	4	5	Mean	SD
0%	38%	38%	0%	25%	2.89	1.36
We ignore the IS plan once it has been developed						
1	2	3	4	5	Mean	SD
0%	50%	17%	33%	0%	2.57	1.13
Substantial post-analysis is required prior to implementation of IS plans						
1	2	3	4	5	Mean	SD
0%	50%	33%	0%	17%	2.57	1.27
Organisational needs are ignored or not identified						
1	2	3	4	5	Mean	SD
29%	14%	43%	14%	0%	2.25	1.16

Respondents were asked to provide their perceptions on the success level of their organisation's mission achievement. A five-point Likert-type scale was used, in which 1 was defined as *not very successful* and 5 was defined as *very successful*. The results are presented in Table 6.6. The responses indicated that 16 of the 22 organisations (73 per cent) were either successful or very successful at achieving their mission (see Table 6.6).

On IS helpfulness to the organisation's mission achievement, 10 respondents out of 20 (50 per cent) opined that IS was either helpful or very helpful towards their organisation's mission achievement (see Table 6.6). IS helpfulness to the organisation's achievement results were then analysed together with the mission achievement results. Of those who said that their organisation's mission achievement was very successful, 14 per cent also indicated that IS was very helpful in achieving their organisation's mission. None of the respondents indicated that IS was not helpful in achieving their organisation's mission.

A closed question was used to determine whether organisations were undertaking IS planning. About two-thirds (14 out of 22, or 64 per cent) of the respondents indicated that their organisations were not undertaking IS planning (see Table 6.6).

In addition, respondents were asked to provide their opinions on the level of success of their organisation's IS planning. A five-point Likert-type scale question was used to collect their opinions, with response values ranging from 1 (*not very successful*) to 5 (*very successful*). Of the eight respondents who claimed that their organisations were doing IS planning, 25 per cent also indicated that their IS planning was very successful (see Table 6.6).

To determine whether IS planning has an effect on the organisations' mission achievement, the researcher compared the mean scores of mission achievement between the organisations that indicated they were doing IS planning and those that indicated they were not. The comparison revealed that mission achievement was rated higher by the organisations that were not doing IS planning than by those that were doing IS planning. The mean score for those not doing IS planning was 4.17, whereas for those doing IS planning, the score was 3.88. Further, the IS planning results and the IS helpfulness in achieving the organisation's mission results show that, on average, IS helpfulness in achieving the organisation's mission had a higher rating (4.00) by those doing IS planning than by those that were not (2.82).

In addition to the above comparisons, regression analysis was conducted between IS planning success and mission achievement. The intention was to determine if there was a correlation between the two variables, where IS planning success was the independent variable and mission achievement was the dependent variable. The results were correlation coefficient (r) = 0.08, coefficient of determination (r^2) = 0.01 and standard deviation (SD) = 0.89. The correlation was considered extremely weak (0.08) between the two variables (Wong & Hiew, 2005).

To identify problems encountered by NFPOs when conducting IS planning, respondents were presented with 11 statements outlining potential IS planning problems. They were asked to rate the statements on a five-point scale in order of significance, in which 1 was defined as *no impact* and 5 was defined as *caused severe difficulties*. The results are presented in Table 6.6. On average, the respondents agreed that the most significant problem was 'we do not realistically assess internal weaknesses of an IS in determining capabilities to carry out the recommended plan'. The second-highest-rated problem was 'we do not consider

and explicitly evaluate alternative IS plans in order to give top management a meaningful choice'. The third-highest-rated problem was 'our IS planning process is poorly coordinated or we lack coordination'.

1. Poor IT literacy

Poor IT literacy was also suggested as one of the problems in IS planning. As explained by one of the respondents:

> *Poor IT literacy among the staff, management and committee, coupled with only being able to fund IT upgrades in bits and pieces that often don't work well together is our main problem. This makes it rare or impossible to do any IS planning at all.*

2. Lack of education on the application of ICT

Lack of education on the application of ICT was reported as a problem by one respondent in IS planning. This respondent stated that, in their organisation, there is '*lack of education regarding application of ICT*' with regard to IS planning.

3. Funding

Funding was mentioned by two respondents as a problem in IS planning. One respondent stated that '*only being able to fund IT upgrades in bits and pieces that often don't work well together is our main problem. This makes it rare or impossible to do any IS planning at all*'. Another stated, '*Our organisation simply does not have the funding to properly implement an IS plan. For us it is on an "as needed" basis*'.

4. IS planning awareness

Lack of awareness appears to be an issue in IS planning. For example, one respondent admitted that he or she did not know what an IS plan was, claiming to '*have never seen an IS plan*'. Another respondent said, '*In fact, I have no idea what an IS plan even looks like*'.

Additionally, it seems that not only did the participating organisations lack IS planning awareness, but also that some of their consultants were not aware of IS planning and IS plans. This is exemplified by this response from one of the respondents: '*Do not have IS plan and our IT consultants do not know about them*'. This came as a surprise because an IT consultant would be expected to be aware of IS planning and the importance of having an IS plan.

Following a question about IS planning development problems, the participants were presented with eight statements of potential problems related to the usage or implementation of IS plans and were asked to rate the statements on a five-point scale in order of significance, in which 1 was defined as *no impact* and 5 was defined as *caused severe difficulties*. The results for this question are presented in Table 6.6. On average, the most significant problem was found to be 'the IS plan we developed is not comprehensive'. The second-highest-rated significant problem was 'We do not adjust the IS plan to reflect major environmental changes'. The statement 'It is difficult to secure management commitment for implementing IS plans' was rated the third most significant problem.

6.6.1 Summary Highlights of Questionnaire D Results

In summary, Questionnaire D, which addressed problems in conducting IS planning in NFPOs, provided the following findings:

- More than three-quarters (77 per cent) of the participating organisations had 15 or fewer full-time staff.
- A majority (73 per cent) of the participating organisations perceived themselves as either successful or very successful at achieving their mission.
- Half (50 per cent) of the participating organisations found IS either helpful or very helpful in achieving their mission.
- About two-thirds (64 per cent) of the participating organisations were not doing IS planning.
- Of those doing IS planning, only a quarter (25 per cent) indicated that their IS planning was very successful.
- IS helpfulness in achieving the organisation's mission had a higher rating by those doing IS planning (4.00) than those not doing IS planning (2.82).
- The relationship between IS planning success and organisation mission achievement was extremely weak with a correlation coefficient of 0.08.
- The most highly rated significant problem in developing IS plans was 'we do not realistically assess internal weaknesses of an IS in determining capabilities to carry out the recommended plan'. This problem had an average score of 3.45 on a five-point scale.

- Organisational size, lack of skills, poor IT literacy, lack of education on the application of IS, funding and lack of IS planning awareness were also mentioned as problems in conducting IS planning.
- The most highly rated significant problem in implementing IS plans was 'the IS plan we developed is not comprehensive'. This problem had an average score of 3.67 on a five-point scale.

6.7 Combined Questionnaire Analysis

This section presents the key findings of the combined results of the questions that were identical in all four questionnaires. As stated earlier, the main objective of the identical questions was to explore the status of IS planning and examine whether IS planning enables NFPOs to better achieve their mission or goals. These objectives were achieved by analysing responses to the following questions/statements:

1. Do NFPOs conduct IS planning?
2. How successful has IS planning been in NFPOs?
3. Contribution of IS planning to mission or goals achievement.

6.7.1 Do NFPOs conduct IS planning?

As stated earlier, the question 'Does your organisation do IS planning?' was included in all four questionnaires. The participants' responses generally indicate that the majority of the participating organisations do not do IS planning with 54 per cent indicating that their organisations are not doing IS planning.

Several problems were suggested as reasons why some NFPOs do not do IS planning. These problems are discussed in Section 6.8. The interview sessions also confirmed some of the reasons found in the survey and uncover a few other reasons (see Sections 7.4 and 7.5).

6.7.2 IS planning success

Participants were asked to indicate on how successful has IS planning been in their organisations. The results indicate that the majority of those who claimed that their organisations were doing IS planning were not convinced that the planning was very successful with only 15 per cent indicating that it was very successful. This finding is in agreement with Falconer and Hodgett's (1996) findings that planning for IS in many organisations does not fulfil their objectives.

6.7.3 The contribution of IS planning to an organisation's mission achievement

A regression analysis using data pooled from all four questionnaire sets was used to determine if there was a correlation between the two variables (IS planning success and mission achievement). IS planning success was the independent variable and mission achievement was the dependent variable. The results were correlation coefficient (r) = 0.30, coefficient of determination (r^2) = 0.09, standard deviation (SD) = 0.73 and p = .005. The results interpretation was based on the guideline cited in Wong and Hiew (2005) explained in Chapter 5. These results are statistically significant. They (results) shows that there is a 99.5 per cent probability that IS planning success does influence mission achievement, however, the influence is not very strong i.e. IS planning success accounted for 9 per cent of the mission achievement.

6.8 Discussion of the Perceived IS Planning Problems in NFPOs

The discussion in this section is based on the findings presented in sections 6.5 and 6.6. IS planning problems can be divided into three themes, following Teo and Ang (2001): (1) reasons for not doing IS planning (failure to initiate or initiation), (2) IS planning problems (development), and (3) IS usage problems (implementation).

It is important to note that, even though the IS planning process was divided into three phases in this research, in reality, these phases are related. Failure in one phase could have a negative influence on another (Teo & Ang, 2001).

6.8.1 Initiation phase

The most significant problems relating to not conducting IS planning were:

1. Our budget is too small to support IS planning (mean = 3.22).
2. We do not have anyone with sufficient expertise in IS planning (mean = 3.17).
3. An IS planning process takes too long (mean = 2.71).

Because lack of funds has been viewed as a constraint for IS planning (see Sections 6.4 and 6.6), it came as no surprise that a small budget was rated as the most significant reason for not conducting IS planning. This point is consistent with interview findings (see Section 8.3.6).

The second most significant problem, lack of expertise, was also consistent with interview findings and several previous studies (see Section 8.3.6).

The third most significant problem is similar to that found by Earl (1993) and Flynn and Goleniewska (1993), who identified the length of the planning process as one of the top issues for IS planning. Moreover, with NFPOs, this problem could have a much bigger effect because of staff shortages, as pointed out by some participants in the interviews (see Section 7.4.5.11).

6.8.2 Development phase

The following were the three most significant problems in the development phase:

1. We do not realistically assess internal weaknesses of an IS in determining capabilities to carry out the recommended plan (mean = 3.45).
2. We do not consider and explicitly evaluate alternative IS plans in order to give top management a meaningful choice (mean = 3.36).
3. Our IS planning process is poorly coordinated or we lack coordination (mean = 3.30).

These findings contrasted with Teo and Ang's (2001) study, in which the first two problems above were rated as only moderately significant. One possible reason for this disparity could be the lack of expertise in the NFP sector for IS-related activities (Geller et al., 2010) or NFPOs' capacity deficit, as termed by Light (2004). Thus, it could be argued that NFPOs do not have the expertise to assess their internal IS weaknesses or to evaluate alternative IS plans.

6.8.3 Implementation phase

In the implementation phase, respondents rated the following statements as the three most significant problems:

1. The IS plan we developed is not comprehensive (mean = 3.67).
2. We do not adjust the IS plan to reflect major environmental changes (mean = 3.33).
3. It is difficult to secure management commitment for implementing IS plans (mean = 3.20).

The two most significant problems in the implementation phase could be associated with IS planning being conducted on an *ad hoc* basis i.e. only when a need arises (see Section 6.4), which may make it a very *ad hoc* process. This may limit

organisations from conducting comprehensive analyses and planning and give them no time to adjust and/or reflect on environmental changes.

The third problem is consistent with the findings of several other studies (Earl, 1993; Flynn & Goleniewska, 1993; Lederer & Sethi, 1992, Luftman et al., 1999; Pita et al., 2009). A possible cause for this problem is a lack of understanding of IS and its potential benefits, and in some instances, management's unwillingness to attempt to understand it (Galliers & Sutherland, 2003). Under such circumstances, it will always be difficult to secure management commitment to IS plans.

6.9 Chapter Summary

This chapter has presented the results of the questionnaires employed to collect data in Phase I of this research. As indicated in Chapter 4, four questionnaire sets were distributed to NFPOs in WA. The four sets had some common questions. Some overall key points of the chapter are:

- At least 50 per cent of the participating organisations on each questionnaire had 15 or fewer full-time staff.
- Many organisations were not doing IS planning.
- There is a significant relationship between IS planning and mission achievement, albeit not very strong.
- A small budget and lack of expertise were rated as the two most significant problems concerning organisations not doing IS.
- Failure to assess the organisational internal weaknesses with respect to IS in determining capabilities to carry out the recommended plan was rated the most significant problem in developing IS plans.
- Failure to develop a comprehensive IS plan was the most significant problem in the implementation of IS

The next chapter presents the interview findings, which will increase understanding of the status of IS planning in NFPOs and the problems associated with IS planning in NFPOs. Chapter 7 also presents potential solution(s) for the IS planning issues suggested by participants. The findings are then used to develop a model for understanding the IS planning factors in NFPOs. From a theory building and knowledge generation standpoint, the model will be used to address research question 4 in chapter 8. For practitioners, it is expected that the model will be beneficial to NFPOs, funding bodies and practitioners by helping them to understand

the IS planning factors. Hence, the model could be used to improve IS planning in NFPOs.

CHAPTER 7: INTERVIEW FINDINGS

7.1 Introduction

All the interviews were conducted in WA. As described in chapter 4, their main aim was to validate and further understand the questionnaire findings and identify participants' perceived solutions to the identified problems. Additionally, interview findings were used to develop a model that was then used to address research question 4 (see section 8.4).

This chapter presents the findings from the interviews that were conducted as part of Phase II of the research. In conducting the interviews, the researcher discovered 11 problems facing IS planning in NFPOs. This chapter also discusses IS planning practice and perceived means to overcome the problems in NFPOs.

There are six sections in this chapter. Section 7.1 provides an introduction. Section 7.2 describes the participating organisations. Section 7.3 provides details of the participants. Section 7.4 presents the interview findings on the obstacles to NFPO objectives, IS departments and personnel, IS usage, IS planning, IS plans, and IS planning problems and potential solutions. Section 7.5 presents a discussion of the interview findings. Section 7.6 ends the chapter with a summary of the important points of the interview findings.

7.2 Participating Organisations

Participants were interviewed from 10 organisations that also participated in Phase I of the research. All the organisations were directly dealing with clients in some manner, except for one that was a peak body. The primary function of this peak body organisation was to represent other NPOs.

In this discussion, the names of participating organisations have been replaced by the code name 'OX', in which 'O' represents the organisation and 'X' represents the number given to the organisation by the researcher. Thus, the names are O1, O2 … O10. This measure was taken for confidentiality reasons as part of research ethics standards, and it does not reduce the value of the results in addressing the research objectives.

The participating organisations were classified in accordance with ABS classification, as presented in Chapter 3. In general, there were three types of organisation: health based, social services based and philanthropic voluntarism based. Five organisations were health based, four organisations were social services and one organisation was a voluntarism organisation. This classification is presented in Table 7.1.

7.2.1 Organisations' Budgets

The participants were asked to provide estimates of their annual income and IS spending percentage. Most participating organisations had an IS budget that was no more than 10 per cent of their annual income. Table 7.1 shows both the organisations' total income and the IS percentage of their total budget.

7.2.2 Organisation Size

The size of the participating organisations was determined in accordance with the ACNC definition of NFPO sizes, which is based on annual income, as follows:

- small—less than $250,000,
- medium—between $250,000 and $1 million,
- large—more than $1 million.

In this research, the organisations' annual incomes were obtained from the organisations as discussed in Section 7.2.1 above. The estimated budgets are presented in Table 7.1, as provided by participants or cited from annual reports.

Table 7.1: Type and size of participating organisations

Organisation	Organisation type			Organisation size			Annual income	IS budget % of total budget
	Health	Social services	Philanthropic voluntarism	Large	Medium	Small	($000)	
O1	✓			✓			1,200	2.5
O2		✓				✓	20	12
O3	✓				✓		600	1
O4			✓			✓	30	1.3
O5	✓			✓			1,200	PE could not provide an estimate
O6	✓			✓			45,000	1.8
O7		✓		✓			2,000	10
O8		✓				✓	241	PH could not provide an estimate
O9		✓				✓	80	10
O10	✓			✓			6,500	9.5
Total	5	4	1	5	1	4		

7.3 Participant Details

The interviews were conducted in February 2013, and all participating organisations were based in Perth, WA. There was one participant from each of the 10 organisations. Table 7.2 presents the details of each participant. Five participants were in senior positions, three were in middle-level positions and the remaining two were in operational (low) level positions. The details of the participants are provided in Sections 7.3.1.1 to 7.3.1.10.

All 10 participants stated that they had been working in their respective organisations for at least two years. This suggested that they were knowledgeable enough to provide correct information about their organisations. Additionally, all 10 participants were involved directly or indirectly in one or all of the following: planning for IS, preparing applications for IS funds and acquiring IS devices (hardware and software). Therefore, they were well positioned (in comparison with other members of their organisations) to discuss IS and IS planning in their organisations.

The following sections present brief descriptions of the 10 participants (see also Table 7.2), including their titles/positions and responsibilities. Similarly to the organisation names, the participant names have been disguised for confidentiality. The names have been replaced by letters A, B … J as code names. Additionally, any other names mentioned by participants during the interviews have been disguised. These measures did not reduce the value of the results for addressing the research objectives.

7.3.1.1 Participant A

Participant A (PA) was a communication officer for Organisation 1 (O1). PA was the IS liaison person. Additionally, PA was responsible for ensuring that communication flowed smoothly within the organisation and between members.

7.3.1.2 Participant B

Participant B (PB) was a member of the coordinating committee for Organisation 2 (O2). PB's functions were to ensure the smooth running of the organisation and to handle the IT aspects of the centre. In addition to these roles, PB was one of the organisation's tutors.

7.3.1.3 Participant C

Participant C (PC) was the executive officer at Organisation 3 (O3). PC's functions were to look after the organisation's 63 branches spread across WA by setting policies and procedures for the branches, and ensuring all branches had the right devices and working tools, including computer hardware and software. PC was also responsible for supporting branches to implement project activities in their respective communities.

7.3.1.4 Participant D

Participant D (PD) was a secretary for Organisation 4 (O4), working alongside the president, treasury and other board members. PD's functions were to attend to any correspondence, screen requests for assistance before they were taken to the board for approval, and pay for medical assistance. Additionally, PD managed IS activities.

7.3.1.5 Participant E

Participant E (PE) was the executive assistant to the CEO of Organisation 5 (O5). PE's functions were to prepare IS plans and applications for funding IS, assist the CEO in any capacity, and assist with any social work required by the organisation. PE also attended to IT-related problems.

7.3.1.6 Participant F

Participant F (PF) was the information service manager for Organisation 6 (O6). PF's functions were to oversee the provision of IS services to the organisation and provide governance over the information management section.

7.3.1.7 Participant G

Participant G (PG) was the CEO of Organisation 7 (O7). PG's functions were to oversee the organisation, give direction, and be responsible for what and how work was undertaken at the organisation. PG was also responsible for updating (interacting with) the board of management. In addition to these functions, PG oversaw the organisation's IS and was a point of contact for any IS issues.

7.3.1.8 Participant H

Participant H (PH) was the executive manager of Organisation 9 (O9). PH's functions were to manage all the organisation's programmes and staff. Apart from this primary role, PH also provided service directly to clients when required. As an

executive manager, PH was also responsible for ensuring that all staff had the right facilities for their jobs, including technological tools.

7.3.1.9 Participant I

Participant I (PI) was the chairperson of Organisation 10 (O10). PI's functions were to lead the executive committee and manage the strategic planning of the organisation. PI was also involved in reviewing the organisation's IS.

7.3.1.10 Participant J

Participant J (PJ) was the general manager of business at Organisation 11 (O11). PJ's functions were to manage the organisation's funding and non-delivery (supporting) staff. PJ was also in charge of the organisation's facilities, including IS.

Table 7.2: Participant details

Participant	Area of assisting	Level			Position	Role
		Senior	Middle	Operational		
A	Health			✓	Communication officer	Organisation's IS liaison person
B	Social services	✓			Coordinator	Administered IS and acquired hardware and software
C	Health	✓			Executive officer	Ensured the availability of hardware and software to staff
D	Philanthropic and voluntarism		✓		Secretary	Administered IS
E	Health			✓	Executive assistant to the CEO	Responsible for IS planning in the organisation
F	Health		✓		Information services manager	Managed IS
G	Social services	✓			CEO	Attended to IS-related matters
H	Social services	✓			Executive manager	Ensured the availability of hardware and software for staff
I	Social services	✓			Chairperson	Reviewed organisation's IS
J	Health		✓		General manager of business	Managed facilities (including IS)
Total		5	3	2		

7.4 Interview Findings

This section presents the interview findings. The findings explored in this section include obstacles to achieving the organisations' objectives, the existence of IS/IT departments and/or personnel, IS usage, IS plans, IS planning, IS planning problems, and perceived solutions to these problems.

7.4.1 Obstacles to Achieving Organisations' Objectives

The participants were asked to state obstacles faced by their organisations in achieving their objectives. Table 7.3 presents the obstacles stated by the participants. Funding was the most common obstacle, mentioned by participants from four organisations (O1, O4, O6 and O9), while staffing was the second most common obstacle, mentioned by PA, PG and PJ.

Table 7.3: Obstacles to achieving organisations' objectives

Organisation	Obstacles
O1	Funding—'*There is huge demand for our services in WA, greater than it can be met by the services receiving the current funding*'. Staffing—'*Keeping up with people moving around in the sector*'. Staffing—'*We've had a lot of people come work for us for a little while and then discovered that they'd rather be working with clients*'.
O2	Space—'*The biggest problem at the moment is lack of space*'. Problem with succession—'*because just about everybody is a senior, they are fairly getting on in years*'. Unable to meet demand—'*We are so popular that we keep outgrowing ourselves and that's part of [the] problem*'.
O3	Communication—'*we are based in Perth and we have branches across WA. We have branches that take us three days to drive to; if the phones don't work and the computers aren't really good, then we struggle*'. Internet connection—'*huge issue in some of our more remote areas. We've got a branch situated in Midwest region and our chairperson is the local officer in charge of the police station and, half the time, she doesn't have email*'. Best practice inconsistency—'*communication and consistence of best practices is probably what we struggle with the most*'.
O4	Funding—the main '*obstacle really is having enough money to help people*'. Awareness—'*being able to raise awareness out in the community, but also via the internet, is a bit of an obstacle for us*'.
O5	Community attitudes and cultural limitations Reaching out—'*reaching the right people would be probably the biggest difficulty that we have … so many of our clients are either non-English speaking or non-English reading and they simply can't cope with anything that's written in Englis*h'.
O6	Funding—'*finding money to carry out those services*'.
O7	Power supply—'*[in] this building here, power outages and run outs are very regular occurrence … if the power goes off, we send staff home*'. Staffing—'*find it extremely difficult to attract people with a lot of qualifications and experiences, but very competitive*'.
O8	Limited time—'*we are all part-time staff as well, so if we had more funding, people can increase their hours and do full-time sort of stuff*'. Limited resources Clients' capacity to learn Funding—'*lack of funding to properly fund what we do … lack of funding from government departments to fund the things we do. They are happy to refer to us, but they don't give us the money to back it up, which is the same across any community service sector. That'll be our main obstacles*'. Lack of access to services—'*a lot of services have a long wait list, so for us to achieve things sometimes it takes a fair bit of time before that can happen for our clients*'.
O9	Staffing—'*obstacles is keep maintaining and recruiting volunteers to run the centre*'.

7.4.2 IS Departments and Personnel

The participants were asked whether their organisations had IS departments or personnel. Only one participant (PF) claimed that their organisation had an IS department; the rest stated that their organisations did not have IS departments or personnel. One participant (PC) stated that they did not have an IS department or personnel, but that their local IS infrastructure was looked after by their host, which happened to be one of the government departments. Therefore, by default, the IS department of a government agency was managing their local IS; however, PC said they did not have IS personnel. PB stated that they outsourced IS services from local firms that were experts in that area.

Six participants (PB, PD, PE, PG, PH and PJ) commented that the task of looking after IS in their organisations was left to a person with interest in IS, or a person who appeared to be more knowledgeable than other members of the organisation. Additionally, it was noted that most of the people in charge of IS in these organisations did not have IS formal qualifications. Table 7.4 presents the participants' responses regarding the existence of an IS department or personnel.

Table 7.4: Participants' responses to existence of IS department and personnel

Interviewee	Response
PA	'*No, no we did have a guy working here for a little while—worked on some of that stuff. Certainly, my role includes some information communication technology. Obviously, [I] need to liaise with the website developers using Twitter and content management system through their email, but, no, we don't have anyone specifically employed for that purpose*.'
PB	'*No … Yeah, that's my area of interest … Although if we had problems, there has been occasions where we have used a local firm who has come and done some work. Generally what happens is they set it up for their requirements, not for our requirements, so we set it up for us and only use them if we have to, which has not been very often*.'
PC	'*By default, we have one, but we don't have one as an organisation*.'
PD	'*Not really—I have some knowledge about toward that sort of thing more than general person. So I manage that*.'
PE	'*Probably that's me. I probably have the most skills in that area, but I'm self-taught. It's just what I have learnt from my previous employment and from my own interest. It's one of the things that we are attempting to rectify is that all of us are probably have qualifications in social science probably don't have qualification in IT. So most of the people here can sit down and use a computer and use Word—that sort of thing—but much beyond that and they are stuck. I can go a little bit further than that, but even I get stuck very quickly*.'
PF	'*Yes, there's myself and I oversee the activities of four people. I have an ICT coordinator who sort of looks after the ICT program within the ICT section. We have*

	ICT network administrator, I have an ICT telecommunication officer [who] looks after all our mobile equipment, and an ICT support officer, which is basically the help desk. Then I also have an information management coordinator who looks after the information management branch. Underneath the information management coordinator, there's senior information management officer. Then I have information service officer who provide administrative support across ICT and then I have the receptionist who is out at the counter.'
PG	'*No … Mainly myself and my offsider. We have a company that looks after all of our equipment for us. We had a situation where anybody, if something went wrong, they'd pick up the phone and ring the IT department and then someone else would have a problem, they'd ring up the IT department, so we have had to sort of narrow down. If there is a problem, tell me or Josh, my offsider—we will contact the IT people. But, no, it's not really big enough to have someone permanent here … we are at that stage where we wanting more and more of the expertise we need to have [but] we haven't got, and [we're] not big enough to have a full-time IT person on staff*'.
PH	'*No, we are not big enough to do that. We've got a person in our staff who is very good with computers and if she can't sort it, then we'll get on the phone and get professional help, but that isn't what she's employed to do, it's just she is very computer savvy. So she'll set everything up, will do the software component—that's just because she is really good at it. But in saying that, if we are not sure, we'll always call, you know, [someone] from outside who is supposedly knows what they are doing, which isn't always the case. We've had some people come in and say all the right things and they go away and it's no different, and we're [thinking] "bloody hell, what did they actually do?" And because it's IT, you see them fiddling around, you just sometimes you don't know what it is they are doing.*'
PI	'*No … No, I'm it … I'm probably the person who knows more about IT, so if I can't fix it, we get this guy in who charges about 100 dollars an hour to come. And in fact he charges about 150 dollars a visit and he'll come and he'll fix things up for us … I mean, basically we do very well with our IT because there is not a lot … we are very low key as far as IT is concerned.*'
PJ	'*No, we have a facility officer whose role is to literally look after set of facilities, so whether it could be fixing air condition, today we have got air condition problem or liaison between the IT our IT service provider and the staff member... now we are having functions put in so she is one who is right before and between the officers helping to set it up liaison with the staff. But she does things like minor repair maintenance against the new purchase—that kind of stuff, so not directly ITC [IS], but she does liaise with our external provider.*'

7.4.3 IS Usage

The participants' responses indicated that IS was used extensively in these NFPOs. The main uses were communication within the organisations and with clients; information storage; and opening, viewing and modifying office documents for daily operations by employing office productivity tools, such as Microsoft Office. The most common technology-based means of communication mentioned was email. Nine out of 10 participants said their organisations used email to communicate with clients.

Below are some of the participants' comments regarding the use of email as a medium of communication with clients:

> PE: *We are starting to accumulate an email address system that we can send some stuff out by.*
>
> PH: *Majority of them [clients] have internet access, so it's easier to email something, as opposed to posting it, now. Sometimes we can send information, say, to 100 families. If I send that through the post, it's going to cost, you know, quite a bit of money, whereas if I email it and I can send to 100 people in an email, it's a lot more time effective. It means I don't have to go to the post office to post 100 letters.*
>
> PI: *Halfway through last year, we set up an email database and so we contact people through emails as well.*

All participants named email as the main means of communication within their organisations. Below are some of the interviewees' comments on the use of email for communication within their organisations:

> PG: *Email is probably the number one, as, you know, we use a number of volunteers and the jobs to the volunteers go out via email up early in the morning, and they've got a protocol where they email back to say 'yes, I have received [and] yes, I can do it' [or] 'no, I can't do it—find somebody else'.*
>
> PH: *Now we do a lot more by email because it doesn't cost us, rather than making a phone call. It cost you every time you make a phone call, so we do a lot of stuff by email during the day and because we've emails on our phones, in our iPads, we access them at any time.*
>
> PJ: *We don't have intranet, so we use emails predominantly … now we all have smart phones so, you know, it's more through the emails.*

Another common (8/10) usage of IS was for storing, opening, viewing and modifying various types of information. Databases were the preferred (6/10) means of storing information in several organisations. In most organisations, the information kept was about members' details, staff details and events management. The databases used to keep the information were of different types, such as simple spreadsheet files and access databases. One organisation (O10) was in the process of implementing Microsoft Dynamics customer relationship management (CRM), which uses the

Microsoft Structured Query Language (SQL) Server database (http://msdn.microsoft.com). Table 7.5 presents some of the participants' responses concerning information storage.

Table 7.5: Participants' comments on information kept and databases used to keep that information

Participant	Comment
PA	'*All of our membership information is kept at the moment in a spreadsheet. All of my contacts for my newsletter are kept in an access database and every week, whenever I send out a new newsletter, I will export the information and then import into the content management system*.'
PC	'*We have a database of volunteer members that constantly changes*.'
PG	'*Our staff [and] our admin staff live on the computers—if the power goes off, we send staff home. [On a] day-to-day basis, all our staff live on the database … everything happens in around [the database]. So, [for example] taking a phone call from a client saying, 'Mary is sick and has gone to hospital for a week', they [staff] are on the database quick again putting notes straight away, and then change the roster and making sure that the worker doesn't go because Mary is in hospital … Our main database it's called carer-system, built on access database. It's been pushed to its maximum, but it's very diversified*.'
PI	'*We are always looking backwards in order to look forward, and we have a database of members—past and current members … Well, we use Excel, we use Microsoft Access, where there is database of the members and information.*'
PJ	'*We have a database of people who go to our events, buy tables, who donate things to us, who donate items to us for us to then sell. We have a lot of networking kind of information, if you like, or network information. We are just in a process of putting a Microsoft Dynamics CRM system … we never really had CRM system, so that will help on the big side of the business. In terms of counselling, it's around case notes and general kind of client information. On the business side of things, it's around, you know, traditional database stuff—stakeholders' contact details, contributions, donations—whatever it might be, plus possibly staff*.'

In addition to the above two usages of IS, another common (6/10) usage of IS was for accounting or financial purposes. MYOB appeared to be the most commonly used software in a number of organisations. Some of the comments made by the participants are presented in Table 7.6.

Table 7.6: Participants' comments on IS usage for accounting purposes

Participants	Comments
PA	'*The finance person uses MYOB to keep information and to make report in some of the projects*.'
PD	'*There is your accounting side of thing just that's filed away, and we use very simple accounting program to track our income and expenses … It's called QuickBooks*.'
PE	'*Up until about two years ago … we had a person came in once a week to do payrolls, invoices and all of the incoming and outgoing payments. She was using MYOB and the funding body then started asking for much more detailed reporting and she couldn't manage it. She was only a bookkeeper—she wasn't an accountant. The decision was made to move our accounting systems across to external firm*.'
PG	'*Wages are done through MYOB*.'
PI	'*We use MYOB for taking charge of accounting.*'

The participants were asked whether their organisations had IS plans. Eight participants (PA, PB, PC, PD, PG, PH, PI and PJ) stated that they did not have a plan. One interviewee (PA) of these eight stated that their organisation (O1) did not currently have a plan, but used to employ one. Two participants (PE and PF) stated that their organisations did have IS plans; however, the follow-up question clarified that O5's (PE organisation's) IS plan was for the sole purpose of applying for funds. This was illustrated in the following responses from PE:

> PE: *Usually the information technology and so on—computers, all that sort of thing—I would write a specific application to Lottery commission to fund all of our IT and I'm actually in the process of doing it.*
>
> Follow-up question: *I get the impression that your IS plan is mainly prepared for the application of funds.*
>
> PE: *Yeah.*

7.4.4 IS Planning

7.4.4.1 How IS planning is conducted

The participants were asked how IS planning was conducted. This section reports on the responses from the participants whose organisations claimed to be undertaking or to have undertaken IS planning. The responses can be broadly placed into three categories: (1) regular meetings, (2) one person's discretion, and (3) brainstorming.

7.4.4.1.1 Regular meetings and managers' initiative

In O6, IS planning was a result of initiatives by the manager of information services, who took it upon himself to engage with the stakeholders. IS requirements were gathered through a series of intra-departmental meetings. However, the manager was of the opinion that the organisation, as a whole, had not grasped the concept of planning:

> PF: *I have had to engage with stakeholders and sit down in a consultative and collaborative manner … So it's basically just a whole series of ongoing meetings to discuss and uncover requirements … I believe there's no concept of any sort of planning.*

7.4.4.1.2 One person's discretion

In O5, IS planning was done for the purpose of acquiring funds, with the process of identifying, acquiring and implementing IS (that is, planning) resting on one individual. Whatever this person believed would be useful to the organisation would be acquired and implemented:

> PE: *It usually comes down to what do I know about it, which is not the best way for us to be going, but, like I said, it happens that way because I happen to be the only one who knows anything about it.*

7.4.4.1.3 Brainstorming

In the case of O1, which, according to a participant, used to have an IS plan when they undertook planning, their process revolved around brainstorming for ideas. According to the PA, every member of the organisation was involved. The participant believed that the small size of their organisation made it possible for them to involve everyone in the process of identifying their organisation's needs:

> PA: *We asked everyone about their needs—basically, what do we think our organisation needs, what are we having trouble with, what might we need in the future … I guess one of the advantages of the small team is that we are all talking to each other all the time*.

7.4.4.2 How IS is identified, acquired and implemented

The participants who stated that their organisations did not have IS plans, were not undertaking IS planning, and had never employed an IS plan were asked to explain how their organisations identified, acquired and implemented IS. Their responses

can be broadly placed into two categories: (1) *ad hoc* (needs basis) and (2) learning from other organisations.

7.4.4.2.1 Ad hoc (Needs basis)

Six participants (PB, PC, PD, PG, PI and PJ) stated that their organisations had no formal process for IS planning. Their organisations identified, acquired and implemented IS on a needs basis—as required. Some of their responses were as follows:

> PB: *It is purely on the needs basis—we want something, we go and get it now. That may lead to very hazard[ous] sort of arrangement.*
>
> PG: *In a very ad hoc way, like putting out fires. [Laughs*.]
>
> PJ: *So [it] is very much, kind of, 'if something breaks, fix it' kind of mentality, and I think that is pretty much about it.*
>
> PD: *Yeah, there is no formal plan for IS. It's more we use what we currently have and we will progress or investigate something as we need it.*

7.4.4.2.2 Learn from other organisations

Three participants (PC, PD and PH) stated that their organisations' IS investments were initiated after seeing an IS in action by another similar organisation. They would then make inquiries and build a case for acquiring the technology, and their case would be presented before the board for approval. If approved, the technology would be acquired. This process was illustrated by the following responses:

> PC: *Usually it's because we've seen somebody else produce something really awesome and we go, 'how do we do that?'. So we [think] 'maybe we need that piece of equipment to be able to produce that'. [Then] we source it*.
>
> PH: *We might go to a networking meeting and there might be five agencies, they've got iPads and they are busy, you know, recording stuff, networking or flicking off emails. We are like, 'we really need to be where they are at' because [it] is so much more time effective. Then we'll take it to the staff meeting—what does everyone think? It will go to the management meeting. Management will either approve or not approve it. Nine times out of 10, they'll approve everything because they see the benefits for the staff [and], in*

turn, the benefit for the families. And then we sort of look … ok can we afford it? If not, how we going to fund this? And then we'll find a way of funding it.

PD: *I went to a conference in regards to not-for-profits and what sort of facilities or programs or information technology stuff is being used by other organisations … [The conference] was helpful to find out about some things that we didn't know about and then to acquire … mainly software.*

7.4.5 IS Planning Problems

The analysis of the interview transcripts identified the following factors as problems to IS planning in NFPOs.

7.4.5.1 Lack of funds

Lack of funds for IS activities was mentioned by six participants as one of the main problems. The participants' responses indicated that lack of funds for IS activities made it difficult for the NFPOs to conduct IS planning. Several participants said they did not receive funds for IS activities as part of their core funding because IS is not recognised as their core business activity by their main funding body. Thus, they usually do not have any money, or enough money, for IS activities. Table 7.7 displays some of the responses provided by the participants regarding lack of funds as a problem for IS planning.

Table 7.7: Participants' comments on lack of funds for IS activities

Interviewee	Comment
PA	**'***One of the reasons for that is that we do get core funding from the government, but there isn't any funding for IT, as it is not part of our core business, so that's that … We can't really forward plan with IS because we don't know when we are getting the money*.'
PC	**'***Because we are always so poor*.'
PD	'*If there was enough money coming in and dedicated position [had] been created that a person could then concentrate on those sort of things*.'
PE	'*It is more a matter of not being able to afford the cost of getting somebody in here to help us to develop a plan … Most of all things like IT, it comes down to funding … The little organisations—we are still quite a small organisation—there just isn't the capacity to be able to get the funding and everything else that is required to be able to improve both our understanding and our use of technology*.'
PF	'*Obviously the biggest issue for us is a lack of fund to be able to progress that*.'
PH	'*We plan for service delivery, we strategically plan how we are going to grow as an organisation. IT is just attached on it—it's not built in because we don't have the funding to do it … I mean, if I was bigger organisation, I had the money, I would have somebody employed to be able to manage our IT side of things, but because the way the department look at us is, "You are about service delivery to family—IT is just a component of that. You can still deliver that without IT". That's how they see it, whereas we are like, "without this, you know, we are really restricted in what we can deliver".*'

In contrast to the above participants, two participants (PB and PG) stated that funding was not an issue for them regarding IS/ITC activities. This raises the question of whether lack of funds is really an obstacle to IS planning:

> PB: *We don't have any real issue with funds [or] expenditure of funds, so [if] somebody wants something generally, if they can establish a case, we will buy it.*
>
> PG: *So overall quality of our agency would improve out of all sites if we had an organised technology plan. And it's not for the lack of money to implement it, it is just merely the agency has not seen it as a priority. But if our server goes down, that is huge mega top priority. You know we want good IT, [but] we really need a plan and a look at that area will be greatly appreciated.*

Additionally, several participants (PA, PD, PE, PF, PH and PJ) mentioned that there is a funding body that provides funds to NFPOs specifically for IS projects. Although the participants stated that these funds take a while to receive, this suggests that fund are available for IS activities for NFPOs, as evidenced by some of the participants' comments in Table 7.8.

Table 7.8: Availability of funds for IS activities

Interviewee	Comment
PA	'*I think in WA, we are very lucky because we are able to apply for Lotterywest grants so, particularly around [IS], that is a possibility, although it can take a little while … Usually if we needed an upgrade, we would go to Lotterywest [if] it was a bigger upgrade*.'
PD	'*From having the plan, they can apply to Lotterywest for funding to assist with implementing the suggested changes*.'
PE	'*Usually the information technology and so on—computers, all that sort of thing—I would write a specific application to Lottery commission to fund all of our IT and I'm actually in the process of doing it. We can request a grant from Lottery every three years for computers and all of the hardware, software and so on, and we do … Again we can always apply to Lotteries for training packages and that sort of thing, or for funding for training … if we want to substantially improve or increase our IT capacity, it would be done through an application to Lottery for the funding to do it*.'
PF	'*In 2007, the organisation received a grant from Lotterywest to upgrade the ICT configuration … in December last year [2012], I was successful on behalf of the organisation acquiring another grant from Lotterywest to do a major upgrade of our configuration under the project banner to what is referred to as the "next generation" environment*.'
PH	'*We often have to apply for Lottery grant for our IT, like we got all new computer systems in which was built into a new budget 'cause we got the funding for a new program … We'll apply to Lottery's commission for an equipment grant and that's what I did to be able to get our new computers because, within our budget, they just don't allocate*.'
PJ	'*[We] implement a business plan to actually develop those strategies, so that was set in 2010, then from that again, part of it was to engage Lotterywest to help fund the plan*.'

In addition to the availability of funds for IS activities, the interview transcripts indicated the existence of an organisation that sells IS products at cheaper rates to NFPOs, in comparison with commercial counterparts. For example, at least three participants (PA, PG and PH) mentioned DonorTec as an organisation that had provided them with cheaper IS products. Below are some comments from these participants:

> PA: *We are lucky there is also DonorTec, [who] have grants, I think they [the grants] are available every three years … Yeah, so not-for-profit agencies can apply for software through DonorTec. They have had agreement with Microsoft about that in the past; I think they now have Cisco on board as well, maybe some others. So when it comes time to upgrade, say, Microsoft Office, we are really lucky. Microsoft Office 2007 came out and we were able*

to get that, and then, three years later, with Office 2010, we were able to upgrade to 2010.

PG: *We can actually attract a lot of hardware and software at excellent prices, like at DonorTec services … and there is a couple of other ones now who give a very, very reduced prices hardware products for networking and things.*

PH: *DonorTec is one of the leading ones that deals with not-for-profits and they always send out one lot to services and then one lot just for not-for-profit, and same with ConnectingUp. So [for example] they will have a software package and if you are a not-for-profit organisation, instead of being 180 dollars, it might be 60 dollars, so just they'll give to us at a cheaper rate.*

7.4.5.2 Lack of expertise

Lack of expertise was another of the most commonly mentioned problems regarding IS planning. Eight participants stated that they did not have the skills or expertise to develop an IS plan. The participants explained that IS planning was not their area of expertise and that their specialty lay in providing services. Thus, they found it difficult to conduct IS planning. This is exemplified by the responses from participants displayed in Table 7.9.

Table 7.9: Lack of expertise

Interviewee	Comment
PA	'*I don't think we have anyone with expertise and time at the moment, but we do have people who are, you know, trying to find ways to rectify that situation or to do what we can in time and the money that we have … the other challenge is having expertise. I mean, our expertise is in [the services we provide], it's not in IT, so you find there is a lot of people are very good at working with people—supporting them with quality improvement.*'
PC	'*I think because it's such a specialised area—like, you know, we all come from community development social science hairy fairy lovely—[but] this is like technical. So if you don't have the skills to do that, I think it's just one of those areas that you go, "if we ever need help, we'll call in an external expert" … so, no, we have no [IS] plan*.'
PD	'*Yes, even in the larger organisations, there is lack of expertise in IS knowledge.*'
PE	'*I suppose it's one of the issues for any organisation of this size which can't afford to employ somebody purely and simply to manage IT or to know all about the IT aspect and so on. That's really the story*.'
PF	'*No, I don't believe they've got sufficient expertise at all*.'
PG	'*But we don't have the expertise; we don't really know anyone who has the expertise.*'
PG	'*We will probably get a consultant who knows their stuff to come in and help us develop a plan and timeframes, and we are at that stage where we wanting more and more of the expertise we need to have [but] we haven't got.*'
PH	'*For us is having the knowledge of what actually we are talking about, having the skills to implement that stuff*.'

PJ pointed out another example of lack of expertise. PJ stated that IS is becoming a sophisticated market, and that they do not have the expertise to know whether they are being given the right advice by consultants:

> PJ: *It is becoming a kind of very sophisticated market now, so we don't have that expertise to know who gives us the right advice. Is our current kind of service advice giving us the right advice … are they giving us that kind of advice? Or do we find ourselves spend all this money and then someone else says, 'Well, you know what? You could have done half this price, this function better and this system is better'. So do we know enough to make the right decisions about who should we getting advice from? I think that's a challenge.*

Further, PB mentioned that, because of lack of expertise, some organisations purchased items they should not have because they lacked the ability to identify their needs. The following comment illustrated PB's thoughts regarding a relationship between lack of expertise and unnecessary expenditure:

With the limited funding, [for] some of the smaller organisations, buying equipment is a big step. They don't have the expertise to know what they need and therefore you can waste money on equipment purely because the salesman said, 'this will be good for you'.

7.4.5.3 Staff turnover

Staff turnover also emerged as one of the problems hindering IS planning, as stated by three participants. The analysis indicated that this occurred as a cascading effect from lack of funds, causing staff to leave (staff turnover), which affected the organisations' continuity. PC explained how staff turnover is a problem to NFPOs:

[Staff turnover is] very high in the not-for-profit sector and that's reliant on the no job security. So that's what we were talking about before, competitive funding—those short circles of funding. You know, not knowing whether you're going to have funding after next year. So people will always—if they need the security of an income—will always move on and, when I look at the last turnover of staff, it was that very transition. It was eight to six months leading up to the end of a funding circle, not knowing whether their employment will still be there. They needed the security of an income. You lose really good staff because of that cyclic funding.

The following are responses from two participants who explained how staff turnover caused lack of continuity, which subsequently affected progress on certain activities, such as IS activities (including IS planning), particularly if none of the organisations' remaining members had learnt the skills:

PA: *We did have an IS plan and, as I said, we did have that dedicated worker for a short amount of time. He came here on a project that was funded through WACOSS jobs to communities. He was great—we really liked having him around—but, of course, that funding ran out … Other staff members we've had come and gone, and clearly, you know, part of that is the funding … a lot of people left around June—that's because we didn't have the funding any more for those projects. So that is definitely a difficulty and is hard for continuity for things like IS because you might have someone responsible for something.*

PJ: *Because we have a lot of turnovers by nature, I'm sure you'll find this in every charity or non-profit. So you just have to train people on using the*

system and then they go, so you start to train again. [For example] we had a system here, CRM system that went over a period from being used quite well, although it wasn't great system, [but] because of a change of staff within two years, no one really knew how to use it. So it kind of sat there for another two years. So was kind of really problematic. So staff turnover is an issue.

7.4.5.4 The changing landscape of technology

Two participants (PF and PI) found the changing technology (IS) landscape a problem to IS planning. It appeared that not knowing what is happening or what is about to happen in terms of technology hindered the ability to plan for IS. PF said he could not determine the future because the technology landscape was changing, which he found to be a problem because it is difficult to prepare IS plan under such conditions:

> PF: *I don't have a crystal ball, I can't see into the future. One of the biggest hurdles we have generally in IT is the technology landscape is changing.*

PI noted that, with regard to IS planning, keeping up with what is happening with technology is a problem. PI particularly suggested that it is difficult to know how to manage new technology:

> PI: *I would say the challenge is to keep abreast of what is happening and, for instance, once the national broadband goes … how are we going to manage that? I know one particular organisation that I'm on the board for, we are looking at upgrading all our IT equipment and we have actually got somebody to come and do all the IT audit [and] to tell us what we might be needing to replace next year, that will last us, you know, for the next two, three or five years.*

7.4.5.5 Lack of priority

The analysis of the interview transcripts suggested that IS planning is not considered a priority. Seven participants commented in some manner that IS activities (including planning) were not given the highest priority in their organisations. For example, two participants made the following statements:

> PF: *[IS] is not core business, so they don't really consider it a high priority. I think their thought is, well, they have hired a sort of a manager of information*

service—which is me—'he's got some people working for him, he can sort it out'.

PB: *We have a priority need which you deal with and everything else becomes secondary. The others become as required sort of options. IT, in this particular case, become as required because we can function perfectly well without it.*

Additionally, the following four quotations demonstrate that IS was not a priority in these NFPOs. The following comments were made by PG, PJ, PE and PC:

PG: *It is just merely the agency has not ... has not seen it as a priority. But if our server goes down, that is huge mega top priority*.

PJ: *IT for us will be kind of a tiny—historically, is seen as a tiny part of our operational theme. [It] is not seen as a true facilitator of a business, when it should be.*

PE: *We are not necessarily needing the level of IT that we may or would possibly be required in other circumstances. I think it's just the nature of our work that makes IT not quite as necessary as it would otherwise.*

PC: *I think one of the biggest challenges for the not-for-profit sector is getting the thinking around that it is an essential part of business planning.*

7.4.5.6 Lack of appreciation

The notion of lack of appreciation derived from one participant who was a manager of information services (PF). PF considered lack of appreciation a problem for IS planning. PF stated that IS people do not have a public image and that, when things are running smoothly, other members of the organisation do not remember them. PF explained that the only time other members of the organisation remember them is when there is a problem:

We don't really have a very [good] public image—we never hear from people when everything are running fine, but we get swamped when they are not running fine.

7.4.5.7 Lack of commitment

Lack of commitment was mentioned by two participants (PE and PF) as one of the problems facing IS planning. This was exemplified by the following comments:

PE: *As much as I have tried to involve other staff members, most of the time it's been left to me, only because I seem to know most about what I'm doing and, like I said, really, I'm not an expert.*

PE: *[It is] included in our strategic plan that we do plan for development and so on, but how much is actually committed to it, really, it's not great deal … we do acknowledge the necessity, but how much goes into it is another matter.*

PF: *I think the biggest hurdle for me in putting it [IS plan] together was the lack of engagement by the organisation … There is a general lack of engagement by the business—we have to sort of pursue people relentlessly.*

7.4.5.8 Lack of time

Lack of time was also a commonly (six out of 10 participants) mentioned problem regarding IS planning. Of the six participants (PA, PD, PE, PF, PG and PH) who stated this, each mentioned at least one of the following as a cause of lack of time in NFPOs: a small organisation (staff number), the majority (if not all) of the staff being part-time, a lack of money and the absence of dedicated IS personnel. This was exemplified by the following three quotations:

PA: *One of the disadvantages [of a small team] is you are constantly, you know, working on what we are paid to do and you don't have a lot of time to look around and go, 'We need to upgrade our computers next year. How are we going to [do] that?' … Because there is no one dedicated to think about that and, in a team this small, you wouldn't expect there would be necessarily … I guess that is the biggest challenge—having the time and being able to step back and plan forward.*

PD: *The challenge for us is having time because I work full-time in another job and I work for another charity as well, and then our fundraising activities … and then there are required documentation. All of that takes away time for us to go exploring further in IS … it would change if there was enough money coming in and dedicated position [had] been created that a person could then concentrate on those sort of things.*

PH: *For us, because we are all part-time and we [are] all just so busy with what we do, it's often a second thought, to be honest with you.*

7.4.5.9 Lack of IS planning framework or guideline for small NFPOs

Only one participant (PB) stated that there was no framework or step-by-step guideline for small NFPOs about how to plan for IS. PB stated:

> *What's needed is a system of an IT plan that will suit small volunteer organisations. I don't think that exists at the moment—this is what we should have, this is the way it should be set up. I mean, that doesn't need to be a rigid specification. It can be very flexible, but you need to say, you know, three computers, plus server, plus printer and so on. All those sort of things need to be defined, rather than have a situation where people will buy equipment to find it is not what they want.*

7.4.5.10 No concept of planning

Lacking a concept of planning was another factor raised by one participant (PF). PF stated that the organisation had no concept of planning and explained that they employed a series of meetings to identify requirements:

> *What's missing from the organisation, if I think about places where I worked before, is there is no concept of business analyst or no concept of key application owners. So it's basically just a whole series of ongoing meetings to discuss and uncover requirements … I mean, there's a whole range of issues, but … I believe, there's no concept of any sort of planning or like regular governance here doesn't exist.*

7.4.5.11 Shortage of staff

A few participants indicated that shortage of staff was also one of the problems in their organisations in relation to IS activities. PF stated:

> *We have no additional staff to assist us with that process [IS planning]. There is an expectation that we will continue to service operational needs while we address these other issues. So we just have this sort of fine art group of resources.*

PA explained that one of the problems was that '*there is no one dedicated to think about that [IS]*'. PC explained that the organisation did not have full-time dedicated IS personnel:

We could have a full-time staff member just dedicated to our website. Just making sure that is updated, that our volunteers are getting what they need. You know, we could have one person in this office just doing that constantly. So that is an add-on job for us, that's like when somebody gets time and they sit there and do that. You know, we could have a person sitting in this office full-time just writing [IS] funding applications.

7.4.6 Perceived Solutions to the IS Planning Problems

During the interviews, the participants suggested various possible means to overcome the problems and improve the IS planning situation in their organisations. Table 7.10 displays the suggested solutions in the participants' own words. The researcher placed the suggested solutions into the following categories: IS expert, guideline or framework, training, work with newly trained people, funding, department participation in IS planning and tailor-made IS reports for WA NFPOs.

Table 7.10: Perceived solutions to the IS planning problems

Participant	Suggested solution	Category
PA	'*I think a solution will be if we had a member or someone from outside who could voluntarily work on the IS grant, for a start, and upgrade everything*.'	IS expert
PB	'*What is needed is a system of an IT plan that will suit small volunteer organisations. I don't think that exists at the moment—this is what we should have, this is the way it should be set up. I mean, that doesn't need to be a rigid specification. It can be very flexible, but you need to say, you know, three computers, plus server, plus printer and so on. All those sort of things need to be defined, rather than have a situation where people will buy equipment to find it is not what they want*.'	Guideline or framework
PC	'*Training—training for staff and volunteers. I think it's—once again—it shouldn't be just something we add on. It should be something we manage and we manage effectively. I think training will be the big thing for me*.' '*When we talk about information and technology budget allocations, I think every not-for-profit should have to proportion part of their budget to board training. That good corporate governance is what strengthens organisation. If you've got a strong board, you'll have a strong organisation, and people need to allocate some resources in ensuring that the foundations are really strong*.' '*We need to make the sector stronger. How do we make the sector stronger? We empower, we educate and we upskill the*	Training (especially for board members)

	people running the sector, and that starts at the board level. It has to start at the board level.'	
PD	'*Probably have to approach newer organisations, as well as people who have been recently trained [who] may actually know more than the people that had been around for a while—that's sometimes how things work out*.'	Work with newly trained people
PE	'*One is training, the other is finding the time to do the training and … the other, of course, is finding the money to afford the training … one of the real issues around IT is, yes, you do a degree in social science or whatever, but it doesn't include computer training*.'	Training Funding
PF	'*I would like to see a meeting between each of the divisions, and for the divisions to actually identify what their IT requirements were, and actually to build up plan … So I would like to see that committee—whatever name it's given—actually sit down and basically put all their cards on the table a year in advance … We've only got so many funds, we've only so many resources. How are we going to divide up the pie so we create a structured plan, so we are all singing, if you like, from the same songbook? … So I guess in terms of what I would like to get out of my plan, I would like to go through that process to be able to formulate that plan, so it provides this road map perhaps 12 [or] 18 months in advance … the idea is if there is not that engagement within an organisation, in terms of providing inputs into the plan, then it's quite simply me or someone else promoting their own agenda*.'	Department participation in IS planning
PG	'*A system or a method that we could adopt—that would be wonderful*.'	Method or guideline
PH	'*I just would like to have somebody on board that knew more about computer systems and databases*.' '*So I think it's just … demystify the thing about IT that it's big scary thing. You know, even offering training to organisations on that level—how to plan for IT 'cause we plan for service delivery, we strategically plan how we are going to grow as an organisation. IT is just attached on it—it's not built in because we don't have the funding to do it*.'	IS expert Training
PI	'*Comparisons of cost, comparisons of products, maybe some supportive evidence to say which was best [and] more frequently used in those [firms], best rate of products [that] we might need to buy and what the updates are, whether support was included in when new equipment was bought, and know how much was going to cost us. Whether we need any training in new equipment, you know, or new process and, I guess, perhaps for most organisations—especially not-for-profit ones—price plays a big part in it*.' '*Because it's not good buying something cheap because that is*	Tailor-made IS reports for WA NFPOs

	all you can afford—in two years' time deformed, or you don't get any training, rather, or no support. I guess support is the main thing. I find in the years that I have been in business that you can buy anything you like, but a lot of the stuff is not based in WA and therefore support when things go wrong is not there—becomes very, very expensive.'	

7.5 Discussion of the Interview Findings

This section presents a discussion of the interview findings. It is divided into three parts: (1) key interview findings, 2) themes identified from the interviews, and (3) a model of relationships among these themes.

7.5.1 Key Interview Findings

7.5.1.1 Budgeting

Participants were asked to provide estimates of their annual income and IS spending percentage. Most of the organisations that participated in the interviews had an IS budget that was not more than 10 per cent of their annual income. This finding is in agreement with that of Hackler and Saxton (2007), who noted that, in NFPOs, only a very small proportion of the budget is allocated to IS. This finding is also similar to findings in studies conducted in FPOs that the majority of the organisations have budgets of no more than 10 per cent of their total budgets (Cerpa & Verner, 1998; Kannabiran, Sharda, Gupta & Wilson, 2009; Premkumar & King, 1991; Teo & Ang, 2001).

7.5.1.2 IS usage

Interview findings show that only one of the 10 organisations that participated had an IS department and IS staff members. However, the findings also indicate that IS is used extensively in NFPOs even if they do not have an IS department and/or personnel. According to the interview data, the main uses of IS were for communication (9/10), office administration activities such as document or report preparation, storage of various types of information (8/10) and accounting/financial purposes (6/10).

7.5.1.3 IS planning

Eight out of 10 participants in the interviews said that their organisations did not have IS plans. Similarly, most of the organisations that participated were not conducting IS planning—only two of them appeared to be doing so.

Additionally, none of the organisations that participated in the interviews was using any of the recognised IS planning methodologies discussed in the literature review in Chapter 2. The two organisations that claimed to have IS plans and one organisation that used to have a plan appear to use (or have used) regular meetings, a brainstorming-type technique, and/or one person's discretion for IS planning. Those that did not have IS plans said that they identify, acquire and implement IS on a needs basis without any formal planning process.

7.5.1.4 IS planning problems

The interview findings show that the most significantly perceived problems for IS planning in the NFPOs are to do with expertise, priority, funding and time (see Section 7.5.2).

7.5.1.5 Perceived solution to IS planning problems

Training was the most commonly mentioned by participants as a solution to IS planning problems. This perception is in line with suggestions by Evans and Saxton (2004), Hackler and Saxton (2007), and Merkel et al. (2005). These researchers are of the opinion that, for NFPOs to have better success with IS projects, more emphasis should be put on training.

7.5.2 Themes Identified from the Interviews

The interview findings were presented in Section 7.4 and discussed in Section 7.5.1. Five themes that emerged from the data were lack of expertise, priority, funding (or restrictive funding criteria), time and planning (or informal planning) for IS. Although the lack of IS planning was selected as the main theme, all five themes are discussed here together with illustrative models.

7.5.2.1 Lack of expertise

Lack of expertise or capacity deficit (Light, 2004), was the most common type of IS planning problem reported by the majority of participants (8/10), as noted in Chapter 7.

One of the recurring reasons (given during interviews) for not having expertise in IS was that the NFPOs' area of specialisation is provision of service and not IS. Another reason was their educational backgrounds, because most NFPO staff have a social science background and IS was not covered in their courses, as pointed out by one of the participants (PC):

we all come from community development social science hairy fairy lovely this is like technical....

PC went on to say that, at the time of the interview, she was undertaking a masters of business administration, which had an IS management unit. PC said she had never studied an IS unit in her undergraduate social science course, so this was her first time studying an IS unit.

Therefore, it can be argued that it is difficult to conduct IS planning if one does not have the relevant know-how/expertise. Moreover, IS is not the NFPOs' area of specialisation, and most of the staff do not have an IS background. Owing to this lack of expertise, they do not conduct IS planning, which results in their organisations not having IS plans. This relationship is depicted in Figure 7.1.

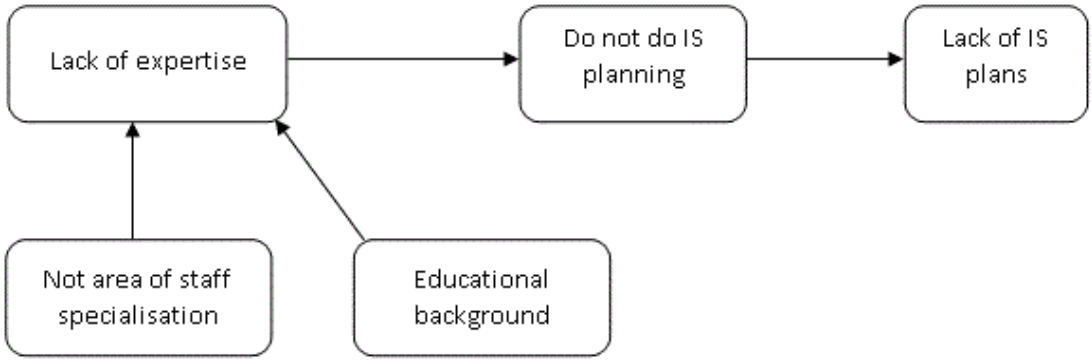

Figure 7.1: Relationship between the lack of IS plans and lack of expertise

7.5.2.2 Lack of priority

Analysis of the interview transcripts indicates that IS activities are not considered a priority in NFPO staff's list of activities. This theme is similar to the findings by Merkel et al. (2005) and Saidel and Cour (2003) discussed in Chapter 3. The majority of the participants (7/10) said that IS activities are not rated as high priority by either their organisations in general or some members in their organisations.

It can be argued that IS planning is difficult because it is not easy for NFPOs (or their members) to motivate themselves to devote their time and energy to something that is not a high priority to them (see Figure 7.2).

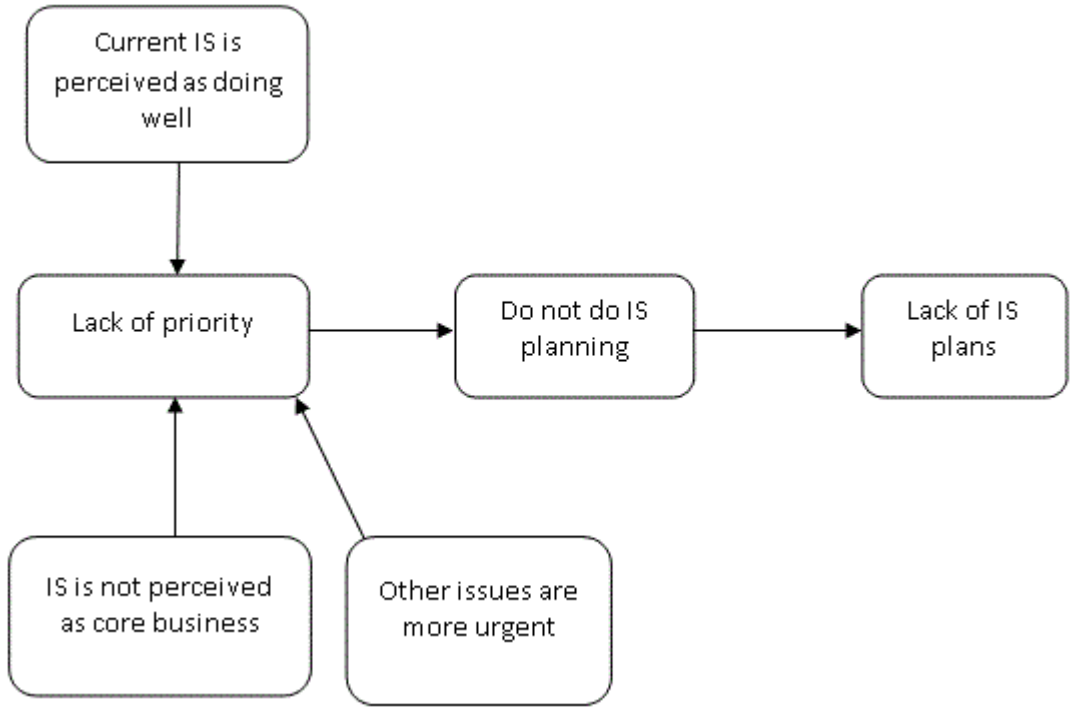

Figure 7.2: Relationship between the lack of IS plans and lack of priority

IS is a low priority for NFPOs because it is not one of their core activities. As discussed in the literature review, according to Merkel et al. (2007), NFPOs often struggle to achieve their technology goals because technology planning is often not an explicit part of their practice. Additionally, one interviewee (PG) pointed out that IS planning is not seen as an urgent matter (in comparison with other activities). Another participant stated that, on the rare occasions when IS is perceived to be doing well, organisations appeared not to see the need for IS planning.

7.5.2.3 Lack of funds (or restrictive funding criteria)

Lack of funds was also one of the commonly mentioned problems by the majority of the participants (6/10), particularly for IS activities such as training and planning. The researcher's interpretation of this theme is presented in Figure 7.3.

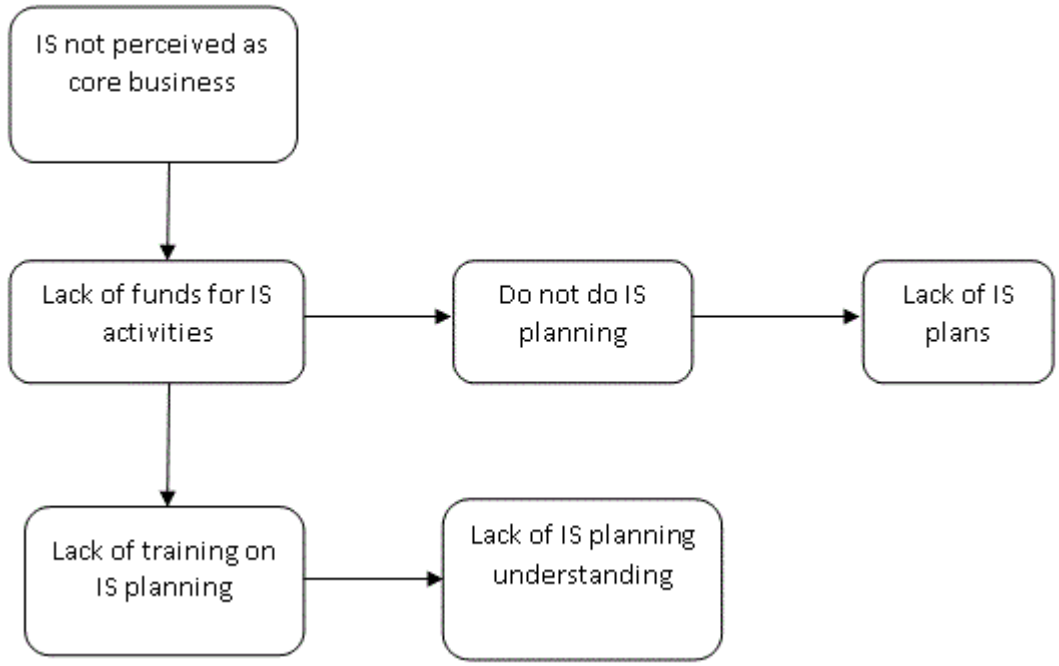

Figure 7.3: Relationship between the lack of IS plans and lack of funds

In summary:

- NFPOs do not receive any or enough funds for IS activities (including planning) because they are not core activities.
- Consequently, NFPOs cannot finance IS planning exercises.
- Because of lack of funds for IS activities, NFPOs do not see the point of conducting IS planning.
- Lack of funds for IS training means that NFPO members with little or no IS background may not have the opportunity to learn IS skills (including planning) and improve their understanding.

7.5.2.4 Lack of time

Lack of time was reported by six out of 10 participants as one of the problems for IS activities such as IS planning. Geller et al.'s (2010) study reported similar findings.

One possible explanation is that NFPOs are often very busy with their primary activities, usually for the good cause of providing services. Thus, it is very difficult to fit in IS activities in their already tight schedules (Burt & Taylor, 2000).

Some participants also pointed out that some NFPOs are short of staff. Consequently, existing staff not only work very hard to accomplish their own objectives but also, in some cases, fill more than one role, which is time consuming.

This is in line with Otting's (2007) observation that one of the disadvantages of working in NFPOs is that '*employees are asked to do more work with fewer resources, create miracles on a daily basis, and satisfy competing interests*' (p. 10).

Other stated contributing reasons for not having enough time to do IS planning (i.e. lack of time) were that time was wasted trying to be politically correct and IS personnel are often too busy helping other staff to resolve IS-related issues.

In general, it is very difficult if not impossible to conduct IS planning successfully if an organisation does not invest the time and resources for it. Figure 7.4 presents the relationship between the lack of IS planning and lack of time.

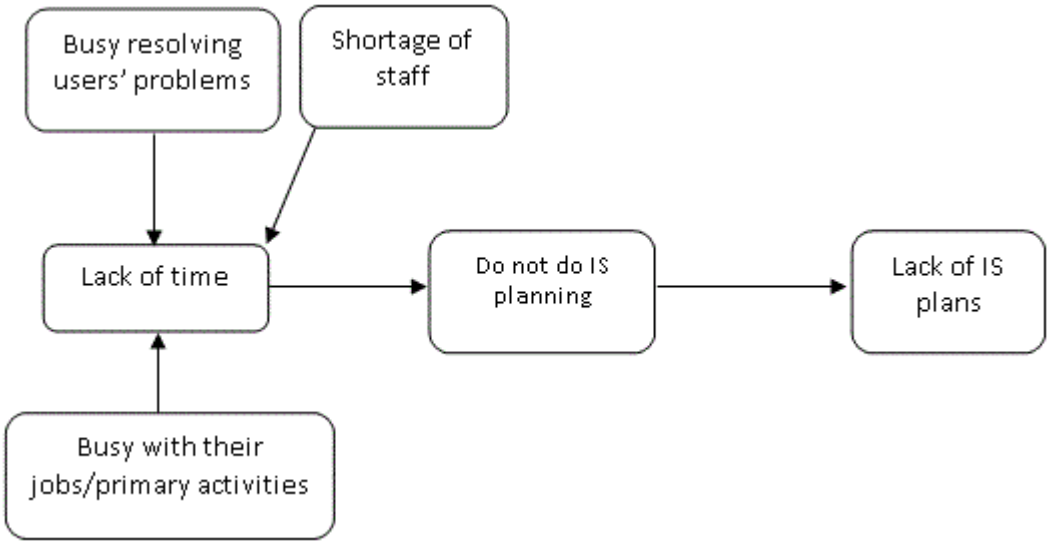

Figure 7.4: Relationship between the lack of IS plans and lack of time

7.5.2.5 Lack of planning

Lack of IS planning was an issue identified in the majority of the organisations that participated in the interviews, because they acquire IS only when a need arises and/or by copying/learning from other organisations. Such organisations tend to be more reactive than proactive. This theme appears to be an outcome of the four themes discussed above (see Section 7.5.3).

7.5.3 Integrated Model of problems in NFPOs IS Planning

This section presents a model of problems in NFPOs IS planning based on the five identified themes, which were discussed individually in Section 7.5.2 but are interrelated in reality (see Figure 7.5).

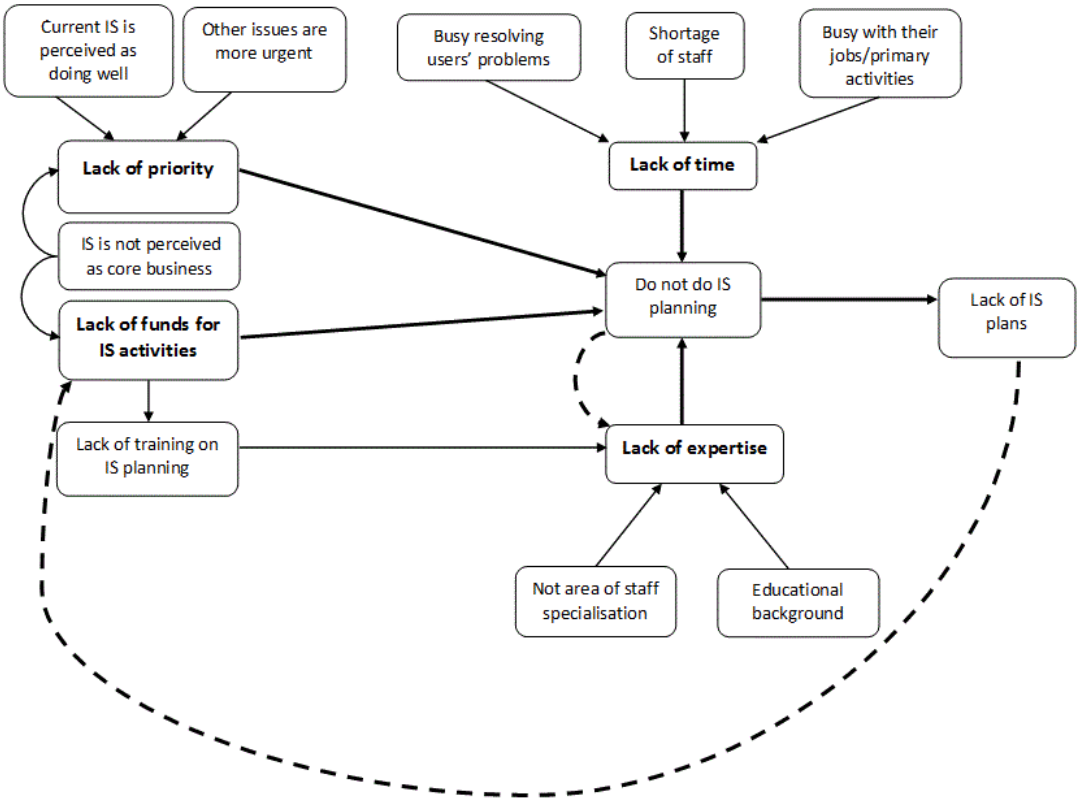

Figure 7.5: Integrated model of problems in NFPOs IS planning

First, Figure 7.5 shows that the four themes (lack of time, priority, funds and expertise) all lead to the lack of an IS plan, which was identified as the main theme because it appears to be the focal point of the other themes. Thus, in the model, the four themes' outcomes point towards this main theme.

Figure 7.5 shows that the lack of funds for IS, in addition to having an influence on the main theme, could also have an effect on lack of expertise. This is because, if an organisation does not have money to fund IS planning training, its members will not be able to acquire the relevant skills or expertise. This will then have a negative effect on the IS planning process and/or may cause the organisation not to conduct IS planning at all.

Figure 7.5 also shows that the relationship between lack of expertise and lack of IS planning is a two-way relationship, because the former could prevent an organisation from undertaking IS planning and the latter could prevent an organisation from gaining experience and/or more expertise, hence causing a vicious cycle. Thus, as noted by Huysman et al. (1994), there is so much that people and/or an organisation could learn through IS planning activities because '*the process of formulating a plan for information systems applications and implementing*

the plan is considered a process of learning for the organisation' (p. 165). Therefore, it could be argued that, by not doing any IS planning, NFPOs are missing out on the learning part that would/could have otherwise improved their know-how or expertise.

The figure also illustrates that two themes—lack of priority and lack of funds—are potentially influenced by the same factor (i.e. IS is not the core business). In terms of lack of funds, as discussed in the literature review and explained by one participant, IS is not considered the core business by their main funding body (i.e. the government) and is therefore not included as part of their core funding (Maiers et al., 2005). In terms of priority, as pointed out by some participants (see Section 7.4.5), IS planning is not given high priority because IS is not considered the core business by NFPO members and/or NFPOs in general.

Moreover, the figure shows that there may be a vicious cycle between lack of funds for IS activities and lack of IS plans. That is, on one hand, lack of funds for IS activities is causing organisations not to do IS planning and hence they (organisations) end up not having plans for IS. On the other hand, it is also possible that organisations that are not doing IS planning are missing funds for IS because of the lack of plans. The argument here is that it is difficult if not impossible to apply for funds if one does not know why and/or for what one needs the funds.

7.6 Chapter Summary

This chapter has presented the findings of the interviews conducted in Phase II of this research. The key findings were as follows:

- Funding or lack of funds was the most common obstacle to achieving the organisations' objectives.
- All participating organisations, except one, did not have IS departments or personnel.
- The most common use of IS was communication.
- All except two participants stated that their organisations did not have IS plans.
- All except two organisations were not undertaking IS planning. In those organisations with IS plans, the IS planning process was conducted by employing either one or a combination of the following: regular meetings, one person's discretion and brainstorming.

- Organisations without IS plans, identified, acquired, and implemented IS on an *ad hoc* basis and/or by copying from other organisations.
- The most commonly mentioned problems to IS planning were a lack of expertise (8/10), lack of priority (7/10), a lack of funds (6/10) and a lack of time (6/10).
- Training was the most commonly mentioned possible solution to the IS planning problems (3/10).
- The chapter also identified themes of IS planning in NFPOs, and then presented a model of relationship between those themes.

The next chapter presents the cross analysis of the questionnaire and interview findings, addresses the research questions, states contributions and limitations of this research, and provides recommendations for future research.

CHAPTER 8: DISCUSSION, LIMITATIONS AND RECOMMENDATIONS

8.1 Introduction

This chapter summarises the research findings, addresses the research questions, states the contributions and limitations of this research, and proposes possible avenues for future research.

The chapter is organised as follows. Section 8.2 summarises the findings of the questionnaires and the interviews. Section 8.3 presents a cross analysis of questionnaire and interview findings. Sections 8.4 addresses the research questions. Sections 8.5 and 8.6 state the contributions and limitations of this research, respectively. The chapter concludes with proposals for future research in Section 8.7.

8.2 Summary of Research Findings

This section summarises the key findings of the questionnaires and interviews, which were discussed in detail in Chapters 6 and 7, respectively.

From the analysis of the questionnaire responses, key findings were:

- Many NFPOs do not undertake IS planning.
- A significant correlation between IS planning and mission achievement was found, albeit not very strong.
- Finance and lack of expertise were the most significant problems or reasons for NFPOs not undertaking IS planning.
- Failure to assess the organisational internal weaknesses with respect to IS was the most significant problem in developing IS planning.
- Failure to develop a comprehensive IS plan was the most significant problem in the implementation of IS.

The interviews examined these points further and found:

- Most NFPOs do not undertake IS planning.
- NFPOs identify, acquire and implement IS on an *ad hoc* basis.

- Lack of expertise, lack of priority, lack of funds and lack of time were found to be the most commonly reported problems regarding IS planning.

The next section presents a cross analysis of the questionnaire and interview findings.

8.3 Cross Analysis of Questionnaire and Interview Findings

This section compares the questionnaire and interview findings and reports key findings that were found (or perceived) to be similar on both sides.

8.3.1 IS Usage

The findings of both the questionnaires and the interviews indicate that the most common uses of IS by NFPOs are for communication, office administration (e.g., information storage, or opening, viewing and modifying office documents) and accounting/financial activities. Most participants mentioned email as the most used means of communication. Similarly, several studies have found that NFPOs principally use IS for communication purposes (e.g., Berlinger & Te'eni, 1999; Hackler & Saxton, 2007; McNutt & Boland, 1999), with email being the most used application (Fink & Disterer, 2006).

Moreover, the use of IS for office administration activities is in line with Berlinger and Te'eni's (1999) and Mutschler and Hoefer's (1990) studies, which reported the use of IS for office administrative activities (in NFPOs) such as word processing, information storage (e.g., storing membership and financial information of pledges, donations) and budget preparation.

Further, similar to the FPOs, the use of IS for accounting/financial purposes (found in this study) conforms to Hunton's (2002) comments that IS have transformed the accounting practices in the FPOs.

8.3.2 NFPOs do not do IS Planning

Results from three questionnaire indicate that the majority of the organisations that responded to the questionnaires were not doing IS planning. Similar results were found in the interviews, in which all but two participants said their organisations were not doing IS planning (see Table 8.1). These findings are similar to those of Hackler

and Saxton (2007) but differ from those of Klemz et al. (2004), who found that the majority of NFPOs are doing IS planning.

In comparison to FPOs, these results are in agreement with Falcorner and Hodgett (1996), who concluded that many Australian organisations do not undertake IS planning. An interesting point regarding the similarity with Falcorner and Hodgett (1996) is that it appears that IS planning is an issue not only for NFPOs, but also for FPOs.

8.3.3 NFPOs do not have IS Plans

The majority (19 out of 27, or 70 per cent) of those who responded to the IS plans question in the questionnaires indicated that their organisations did not have IS plans. The interviews confirmed this finding, because eight out of 10 participants said that their organisations did not have IS plans (see Table 8.1). This is similar to that of Merkel et al.'s (2005) finding that NFPOs often lack plans for their IS activities.

8.3.4 IS Planning Methodologies in NFPOs

A methodology question was included in Questionnaire B, but none of the respondents mentioned any of the formal, recognised IS planning methodologies as part of their IS planning process. This was also reflected in the interview data (see Table 8.1). Thus, even the few NFPOs that claimed to be doing IS planning were/are not using any of the formal, recognised IS planning methodologies.

In comparison to the FPOs, this is similar to Earl's (1993) findings, but appears to differ from prior research suggestions (Lederer & Sethi, 1988, 1991) that formal methods are/were used and, in principle, are appropriate for IS planning in the FPOs.

8.3.5 IS Planning Maturity Level

The IS maturity level was determined using the IS maturity models of Grover and Segars (2005), King and Teo (1997), Pita et al. (2009) and Synnott (1987) discussed in Chapter 2. Analysis of both questionnaire and interview results indicates that the majority of the NFPOs in this research were in the early or initial stages of IS maturity. For example, the lack of IS planning or existence of informal planning, the lack of planning experience/expertise, their *ad hoc* responses or reacting to day-to-day needs, and their use of financial plans just to acquire

hardware and software suggest that these organisations were in the first stage of Pita et al.'s (2009) model (i.e., the rudimentary planning stage), Grover and Segars's (2005) model (i.e., the preliminary stage) and Synnott's (1987) model (i.e., the no planning stage). This finding suggests that NFPOs still have a long way to go to reach IS planning maturity.

8.3.6 IS Planning Problems

Results from both the questionnaires and interviews show that the only two IS planning problems rated highly on both sides were lack of funds and lack of expertise.

The finding that lack of funds was a problem for IS planning conforms to Geller et al.'s (2010) study, which also found that it was rated as the greatest problem facing IS in NFPOs.

In comparison to FPO studies, these results were found to be in line with Pita et al.'s (2009) study, which reported lack of funds as the second most significant problem for the formulation phase of IS planning. This suggests that the money issue concerns not only NFPOs but also FPOs. However, Cerpa and Verner (1998) and Luftman et al. (1999) reported the problem to be of little concern, which may be an indication that this is more of a problem for NFPOs than it is for FPOs.

Similarly, the finding that lack of expertise is a problem for IS planning in NFPOs is consistent with that of Geller et al. (2010).

In comparison to FPOs, lack of expertise with regards to IS planning in NFPOs is also in line with several past FPO studies (Byrd et al., 1995; Earl, 1993; Lederer & Sethi, 1992; Teo & Ang, 2001; Wilson, 1989). This problem was third in significance in the studies of Teo and Ang (2001) and Wilson (1989), and fourth in that of Lederer and Sethi (1992). However, Pita et al. (2009) did not rate lack of expertise as one of the top significant problems. Pita et al. (2009) suggest that there are/were more qualified people in IS professions including planning, but this appeared not to be the case for NFPOs.

Table 8.1: Comparison of key findings from questionnaires and interviews

Questionnaire Findings	Interview Findings
51 per cent of the organisations did not have an IS department or personnel (Questionnaire A only).	All but one organisation did not have an IS department or personnel.
Many of the organisations were not doing IS planning.	All but two organisations said they were not doing IS planning.
There is a significant correlation between IS planning and organisation mission achievement albeit not strong.	
Communication was the highest rated use of IS.	IS is mostly used for communication.
The majority of NFPOs did not have formal, documented IS plans.	All but two participants stated that their organisations did not have IS plans.
No known formal IS planning methodologies are in use.	No known formal IS planning methodologies are in use. In organisations with IS plans, the planning process is/was conducted by employing one or a combination of regular meetings, one person's discretion, and brainstorming.
IS planning is conducted on an *ad hoc*/as needed basis. A number of organisations use external consultants.	Organisations without IS plans identify, acquire and implement IS on an *ad hoc*/ as needed basis and/or by learning from other organisations.
Failure to assess the organisational internal weaknesses with respect to IS in determining capabilities to carry out the recommended plan was rated as the most significant problem in developing IS plans.	
The most significant problem in implementing IS plans was that the plan is not comprehensive.	
A small budget was rated one of the two most significant problems for organisations not doing IS planning.	Lack of funds (6/10).
Lack of expertise was rated one of the two most significant problems concerning organisations not doing IS planning.	Lack of expertise (8/10).
	Lack of priority (7/10).
	Lack of time (6/10).
	Training was the most commonly mentioned possible solution to IS planning problems (3/10).

8.3.7 Integrated Model of Problems in NFPOs IS Planning Revisited

The model of the problems in NFPOs IS planning was revised following the cross analysis of the results from questionnaires and interviews. Only themes that appeared in both results were included in the revised model (see Figure 8.1). Thus, the revised model has three themes: lack of funds, lack of expertise and lack of IS planning. The lack of IS planning remains the main theme while lack of expertise and lack of funds are the main problems that prevent IS planning.

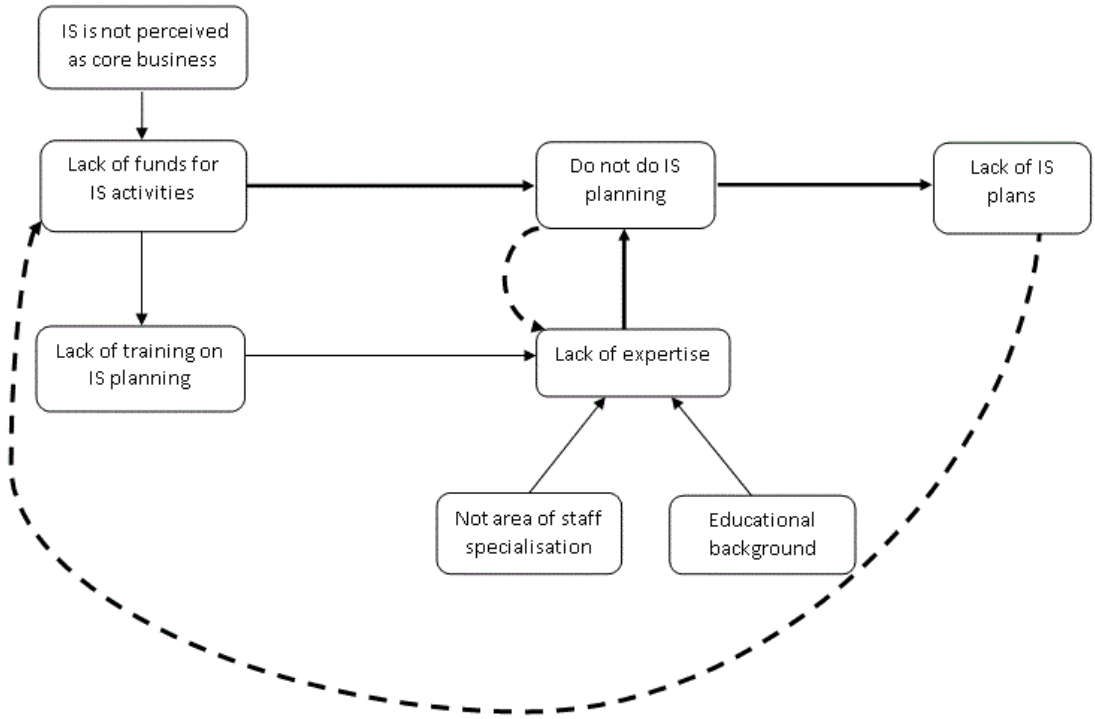

Figure 8.1: Revised integrated model of problems in NFPOs IS planning

According to the analysis, it appears that NFPOs lack expertise in IS (including planning) because:

- For the majority of staff (in participated organisations), it is not their area of specialisation.
- Many NFPO staff members do not have an educational background in IS and IS was/is either not covered or not covered extensively in their studies.
- Staff lack IS training while on the job due to lack of funds.
- Staff lack the experience that could be gained as a result of conducting IS planning. Simply put, one cannot improve one's planning skills if one does not conduct planning.

Lack of funds appears to be caused by two main factors:

- IS activities are not regarded as core business activities; thus, funders are unwilling to support them.
- As noted earlier, it could be argued that organisations not doing IS planning are missing funds for IS because of the lack of plans. It is difficult, if not impossible, to apply for funds if one does not know why and/or for what one needs the funds.

8.4 Addressing the Research Questions

The research presented in this thesis was initially undertaken to answer four research questions regarding IS planning in NFPOs. However, following the analysis of the questionnaire and interview data, it became clear that many NFPOs were not conducting IS planning. To understand and explain this, a new research question was formulated and added to the four initial research questions. The new question became research question 4, and the initial question 4 was moved to question 5. Formulation of new research questions during data analysis is considered good practice in qualitative research (Forrester, 2010). Thus, the research questions addressed by this research were:

1. How is IS planning conducted by NFPOs in Western Australia (WA)?
2. What is the relationship between IS planning and NFPOs' goal or mission achievement?
3. What problems and/or dilemmas, if any, are faced by NFPOs with regard to IS planning and its implementation?
4. What model or theory would explain the lack of IS planning in NFPOs?
5. How can IS planning be improved in NFPOs?

As shall be demonstrated, the findings have enabled the researcher to address the five research questions stated in Chapter 1 and restated in this section (see previous sentence). Hence, it may be concluded that this research has managed to bridge at least some of the gap in knowledge about IS planning in NFPOs, particularly in Australia, by reporting on:

1. the status of IS planning in NFPOs
2. the relationship between IS planning and NFPOs' mission achievement
3. the main problems for IS planning
4. a theory or model to explain the lack of IS planning in NFPOs

5. possible solutions to the identified problems in order to improve IS planning and its use for the betterment of performance.

Research Question 1: How is IS planning conducted by NFPOs in WA?

The research findings show, first, that many WA NFPOs do not have IS plans and, second, that many NFPOs in WA do not conduct formal IS planning. The majority of WA NFPOs invest in IS on an *ad hoc* basis and/or by learning/copying from other similar organisations. The few organisations that do conduct IS planning use one or more of the following: regular meetings, external experts and/or a brainstorming-type technique. Finally, although the research was conducted in WA, the findings are in agreement with the Hackler and Saxton (2007) study conducted in the USA. This suggests that not only American but also Australian NFPOs do not adequately engage in IS planning.

Research question 2: *What is the relationship between IS* planning *and NFPOs' goals or mission achievement?*

As pointed out in Section 6.7.3, the regression results ($r = 0.30$, $r^2 = 0.09$, $SD = 0.73$ and $p = .005$) suggest that there is a significant relationship between IS planning success and mission achievement, albeit not very strong. This finding (IS planning not having a big influence on mission achievement) is explicable considering that it is likely that mission achievement also depends on a number of other factors (in addition to IS planning) such as employee skills, an organisation's management and resources. These other factors were not investigated (in relation to mission achievement) in this research, thus they have not been discussed in this report.

Research question 3: *What problems and/or dilemmas (if any) are faced by NFPOs with regard to IS planning and its implementation?*

Based on results obtained from both the questionnaires and the interviews, the two main IS planning problems appear to be lack of funds and lack of expertise.

As discussed in the literature review and earlier in this chapter, lack of funds as a problem for NFPOs' IS has been reported in previous studies (i.e., Geller et al., 2010; Hackler & Saxton, 2007; Saidel & Cour, 2003). Similar findings have also been reported on FPOs (Pita et al., 2009). This suggests that, with regard to IS, finance issues are not confined to NFPOs alone.

Moreover, based on the findings presented in Chapters 6 and 7, NFPOs seem to struggle for expertise on IS-related matters. This problem for NFPOs has also been well documented by several authors (Fasano & Shapiro, 1991; Geller et al., 2010; Le Dantec & Edwards, 2008; Saidel & Cour, 2003; Schneider, 2003; Te'eni, 1999).

In addition to the two key problems discussed above, there are four more problems that are linked to the key problems, hence affecting IS planning indirectly. The four problems are (see Section 8.3.7 for discussion):

- IS is not perceived as core business by NFPOs and their funders.
- Lack of training on IS planning for NFPOs staff.
- IS is not area of NFPO's staff specialisation.
- NFPO staff do not have educational background in IS.

Further, the interview environment enabled interviewees to raise things (problems) that they would not mention in an open-ended question on a questionnaire. These problems were categorised as of lesser priority because only a few interviewees mentioned them and/or they were not supported by the questionnaire findings. As discussed in Chapter 7, these problems include:

- staff turnover
- the changing landscape of technology
- lack of priority for IS planning
- lack of appreciation for IS staff
- lack of commitment to IS activities
- lack of time (i.e., due to small number of staff, there is no enough time to deal with core activities and IS planning)
- lack of IS planning framework or guidelines for small NFPOs
- lack of concept of planning
- shortage of IS staff.

Research question 4: *What model or theory would explain the lack of IS planning in NFPOs?*

To address this question, the researcher revisited the modified Integrated Model of Problems in NFPOs IS planning in Figure 8.1. The model indicates that lack of IS planning is mainly caused by:

- lack of funds for IS activities

- lack of expertise.

Lack of funds for IS activities appears to have both direct and indirect negative impacts on IS planning. According to the findings, NFPOs are not able to conduct IS planning because they do not have funds for such activities. This is viewed as a direct negative impact to IS planning. Further, the model shows that the lack of funds for IS, in addition to having a direct negative impact on IS planning, could also have an effect on lack of expertise. This is because, if an organisation does not have money to fund IS planning training, its members will not be able to acquire the relevant skills or expertise that are supposed to be funded by NFPOs. This will then have a negative effect on the IS planning process and/or may cause the organisation not to conduct IS planning at all.

The model also shows that the relationship between lack of expertise and lack of IS planning is a two-way relationship, because the former could prevent an organisation from undertaking IS planning and the latter could prevent an organisation from gaining experience and/or more expertise, hence causing a vicious cycle. As noted by Huysman et al. (1994), there is so much that people and/or organisations could learn through IS planning activities because '*the process of formulating a plan for information systems applications and implementing the plan is considered a process of learning for the organisation*' (p. 165). Therefore, it could be argued that, by not doing any IS planning, NFPOs are missing the learning experience that would/could have otherwise improved their knowledge or expertise.

The model also illustrates that lack of funds is potentially influenced by the factor IS is not perceived as core business. As discussed in the literature review and explained in the interview findings, IS is not considered as a core business by NFPOs' main funding body (i.e. the government); as a result, it is not included as part of their core funding (Maiers et al., 2005).

Moreover, the model shows that there may be a vicious cycle between lack of funds for IS activities and lack of IS plans. That is, on one hand, lack of funds for IS activities is causing NFPOs not to do IS planning and hence they (NFPOs) end up not having plans for IS. On the other hand, it is also possible that, organisations that do not do IS planning miss out on funds for IS because of the lack of plans. The argument here is that it is difficult, if not impossible, to apply for funds if one does not know why and/or for what one needs the funds.

Research question 5: *How can IS planning be improved in NFPOs?*

The aim of this question was to make practical recommendations. That is, after determining the status of IS planning in NFPOs, how IS planning relates to mission achievement and ascertaining the problems facing IS planning, this question asks what could/should be done to improve IS planning in NFPOs (i.e., minimise or eliminate the identified problems).

Clearly, NFPOs need support from other entities, which could come in different forms. However, as discussed in Sections 7.4.6 and 8.3.7, it was found that NFPOs need the most support in the following areas:

- training/capacity building
- funding (Evans & Saxton, 2004; Gennery & Mansory, 2008; Hackler & Saxton, 2007; Merkel et al., 2005).

To explain this, once again, we revisit the modified model in Figure 8.1. It is argued that an increase in funding—particularly targeted funding for IS activities—would ensure that funds could be allocated for IS planning. Additionally, availability of funds for IS activities would enable NFPOs to plan for and undertake IS training, which would help them to build their capacity and improve their expertise. Increase in IS expertise would put NFPOs in a better position to conduct IS planning effectively. As they undertook IS planning, they would stand to gain more experience and hence improve their IS planning expertise. Keeping in mind the questions posed earlier—how can NFPOs request funds if they do not know why or for what they need the funds, and who will be willing to provide funds for unplanned activities—it is also argued that the IS plans they developed could be used to convince funders/donors that funds are needed for IS. Additionally, training/capacity building could be used to change NFPOs and their funders' perceptions of IS with regard to their mission and/or core activities. NFPOs and their funders could be educated (during IS training/capacity building) on the importance of IS for their mission accomplishment/achievement for example, on potential means to do better at things like efficiency (i.e., all new services that they may not be able to do otherwise or they may be able to do them differently/efficiently). This could help to create and/or improve awareness on the importance of IS and make NFPOs and their funders understand that even though (they perceive) IS as outside of their core business, it is/could be a very important part of what they do.

Another recommendation is that WA NFPOs work closely with tertiary education institutions to tailor training courses that would enable NFPO staff members to gain expertise and build capacity, particularly in IS matters (including planning). Additionally, NFPOs should examine the possibility of engaging educational institutions as consultants, because most institutions that are engaged in IS research and training would have the relevant expertise.

8.5 Conclusion

First, this thesis has successfully conducted research in an important but under-researched area. As discussed in Chapter 2, the majority of IS planning studies were conducted between the 1980s and early 2000s, which is a very long time for a very fast-changing field. Thus, there was a need to conduct new studies.

Second, Chapter 2 demonstrated that most IS planning studies were conducted on FPOs. Little is known of IS planning in NFPOs. This research has reported on the current IS planning practice, its relationship with mission achievement, IS planning problems in NFPOs and developed a model (theory) to explain the lack of IS planning in NFPOs in WA context. This work while focused on NFPOs the finding 'lack of funds for IS' is consistent with findings in the FPOs study by Pita et al. (2009). Also the finding 'lack of expertise in IS planning' is consistent with the findings in FPOs studies by Byrd et al. (1995), Earl (1993), Lederer and Sethi (1992), Teo and Ang (2001) and Wilson (1989). Conversely, the finding 'lack of funds for IS' is not consistent with findings in the FPOs studies by Cerpa and Verner (1998) and Luftman et al. (1999).

Third, this thesis has successfully reported empirical data and conducted an analysis of IS planning in WA NFPOs. Chapter 3 established that the few studies on IS planning in NFPOs were conducted in countries other than Australia or in states other than WA. To the best of the researcher's knowledge (prior to and during the study), no research on NFPOs' IS planning has been conducted in WA. This research, while focused on WA NFPOs, the findings that many WA NFPOs do not have IS plans and many NFPOs in WA do not conduct formal IS planning, are consistent with findings in the American study by Hackler and Saxton (2007); the finding 'lack of funds for IS' is consistent with American studies by Geller et al. (2010), Hackler and Saxton (2007), and Saidel and Cour (2003). The finding 'lack of expertise in IS' is consistent with findings in American studies by Fasano and Shapiro (1991), Geller et al., (2010), Le Dantec and Edwards (2008), Saidel and

Cour (2003), Schneider (2003) and Te'eni (1999). On the other hand, the finding 'many NFPOs in WA do not conduct formal IS planning' is not consistent with findings in the American study by Klemz et al. (2004).

The researcher acknowledges that this research has by no means completely filled the gap identified in the literature review. However, this research provides a starting point leading in the right direction by bringing to light the practices, contributions, problems and possible ways of improving IS planning in NFPOs.

8.6 Research Challenges/Limitations

The researcher faced a number of challenges in the course of this research, which are outlined below.

One of the main challenges/limitations in Phase I was the distribution of questionnaires. As explained in Chapter 5, NFPO peak bodies distributed approximately half of the questionnaires. For example, in Phase I, one peak body (with about 379 members) was unable to distribute the questionnaires. Its executive officer offered the following reasons:

1. '*[Our] member organisations are too small—they do not even have computers; therefore, this [IS] survey is not useful to them*.'
2. '*My babies [the member organisations] will not have time to do this [self-administered questionnaire] because they worry about what they do. IS is not what they do*.'
3. They had a busy schedule, as they were working on their largest event of the year.
4. They had a shortage of staff so they could not allocate/assign someone to deliver the questionnaires to their members.
5. They did not have a (well-organised) database for their member list. They had a large number of members in a disorganised database that made it difficult to perform simple tasks, such as printing mailing labels. Thus, they suggested that the researcher should send the questionnaires directly to their members from their member list.

As a result, the researcher did not have direct communication or interaction with half of the potential participating NFPOs. This made the follow-up process difficult because it had to be conducted via the peak bodies.

The following measures were applied to minimise the aforementioned challenges/limitations:

1. the use of reasonably short questionnaires to increase the response rate, especially because most NFPO staff are busy with their core organisational activities
2. the use of a list of NFPOs and their addresses (obtained from a website of a peak body that was not able to distribute questionnaires to its members) to print the mailing labels and mail the questionnaires directly to 374 NFPO members.

Another limitation, regarding the generalisation of the findings, is that this research involved WA NFPOs only. Thus, it is unknown whether participants from NFPOs in other states would have had different views (Burns, 2000). Further, these results may be indicative of issues faced by NFPOs in other states within Australia because some NFPOs in WA are branches of larger NFPOs in other states and many of the needs in WA are similar to the needs in other states, for example, services for aged people and community development organisations. However, caution is required because of the differences between WA and other states in various areas that may affect generalisation, such as population, labour force, land area and different states and territories' by-laws. For example, WA delivers services differently from other states, with about 70 per cent of people with disability services provided by the not-for-profit sector (Barnett, 2014). Another example is that WA has a labour force of 1,152,196, whereas New South Wales has 3,334,856 in its labour force and Victoria has 2,675,476 (ABS, 2011).

Similarly, these findings may be indicative of issues faced by NFPOs in other developed countries because of the similarities of some of their characteristics. For example, similarly to WA, Canadian NFPOs' '*revenue is dominated by government'* (Hall, Barr, Easwaramoorthy, Sokolowski & Salamon, 2005). Alternatively, it cannot be blindly assumed that all the findings of this study are applicable to all developed countries. This is because of the differences that may exist between Australian states (including WA) and other developed countries. For example, in Australia, NFPOs that are income tax exempt do not have to file income statements, but in the USA, the accounting and reporting procedures require tax-exempt NFPOs to prepare an Internal Revenue Service report (Dolnicar & Lazarevski, 2009).

The lack of experience of the researcher in conducting interviews and analysing the data was another challenge. Although the researcher invested considerable time in learning about the interview process and qualitative analysis, it could be argued that different findings and conclusions could have been made with more experience.

In addition, the sampling technique may be of concern for the findings of this research. As highlighted in Chapter 5, participants were drawn from a list of members of WA NFPO peak bodies affiliated with CSS at the time. Thus, conclusions advanced from this research are limited to NFPO members of peak bodies affiliated with CSS at the time of research. As noted in Chapters 6 and 7, some groups within the NFPO were not researched (see Tables 6.2 and 7.1). Most of the NFPOs that took part in this research were from social services, social and community development, and housing. The researcher recognises that other NFPOs in WA as well as in other states may appraise and communicate about IS planning differently. However, given that little (if anything) is known about IS planning in NFPOs, focusing on the subset of WA NFPOs provides insight into the IS planning and its issues in NFPOs.

Another limitation is the disadvantages of face-to-face interviews, as discussed in Section 4.4.2.2.

8.7 Future Research

As mentioned in Sections 4.3.4 and 8.5, this study can be considered a successful starting point in filling the research gap related to IS planning in NFPOs because it brings to light its practices, contributions and problems and suggests possible means for improvement. However, much remains to be done because, as highlighted in the literature review, this is one of the most under-researched areas in the field of IS. The following areas may be of interest for future research:

- A longitudinal study on the potential effect of IS planning training on IS planning in NFPOs may place researchers in a better position to understand NFPOs and hence improve the collection and analysis of qualitative data in particular.
- The influence of board members and/or their composition on IS planning in NFPOs could be examined, including factors such as members' educational backgrounds, areas of expertise and IS contribution awareness.

- There is a need to extend this research to include more diverse groups of NFPOs Australia-wide in order to examine, test and improve the model (see Figures 7.5 and 8.1) and make the results more generalisable. Therefore, it is suggested that future studies generate their samples using population data gathered from the ACNC, the independent national regulator of NFPOs and charities formulated by the government in 2012. The ACNC list comprises NFPOs from all the states and territories of Australia.
- In-depth research can be conducted to compare the performance of NFPOs that undertake IS planning with those that do not. This could be combined with a factor analysis study to determine the importance of IS planning to NFPOs. Again, a study of this type should involve a broad range of NFPOs across Australia and possibly in other countries.
- A study should be conducted on how to improve the funding system to positively influence IS planning and IS usage in general.
- The practice of sharing IS expertise services between NFPOs could be explored. Most organisations in this research were too small and did not have an IS department and/or personnel.
- The research did not actually explore the link between IS planning and mission achievement except to say there is a relationship. Future research should focus on how the relationship works and measure IS planning influence to mission achievement against other factors that also influence mission achievement.

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APPENDICES

Appendix A: Questionnaire A

Not-for-Profit Organisations Views on IS in Western Australia

Organisational Data

1. Organisation's name _____
(used to avoid sending you a follow-up survey)

2. How many staff does your organisation have?
Fulltime _____
Paid part time _____
Volunteers _____

3. What is/are your organisation's mission or goals?
_____
_____

4. In your opinion, how successful is your organisation at achieving its mission/goals?
(1=not very successful, 5= very successful) 1 2 3 4 5

5. In your opinion, how helpful is IS for your organisation in achieving its mission/ goals?
(1=not helpful, 5= very helpful) 1 2 3 4 5

6. Does your organisation do IS planning? Yes ☐ No ☐

7. In your opinion, how successful has IS planning been in your organisation?
(1=not successful, 5=very successful) N/A 1 2 3 4 5

Organisational IS

8. Does your organisation have IS/IT personnel?
Yes ☐ No ☐
If yes, how many? _____

9. Does your organisation ...
i) Have IS application programs that are of strategic importance to the organisation?
Yes ☐ No ☐
ii) have IS application programs that are playing a key role in day-to-day processes that are crucial to organisational activities?
Yes ☐ No ☐
iii) have IS application programs that are valuable but not critical to the success of the organisation?
Yes ☐ No ☐
iv) plan to acquire IS application programs that may be important in achieving future success?
Yes ☐ No ☐

1

How important is IS to your organisation's general activities?

10. How would you best describe your organisation's overall use of IS (Please tick one)

i) IS is integrated into all aspects of our organisation ☐

ii) IS is integrated into many, but not all aspects of our organisation

iii) IS is integrated into some aspects of our organisation

iv) Our use of IS is limited/ minimal ☐

v) We do not use IS ☐

11. Please rate how important IS is to the following activities in your organisation (1=unimportant, 5=critical)

External communications	N/A	1	2	3	4	5
E-Commerce	N/A	1	2	3	4	5
Finance	N/A	1	2	3	4	5
Fund raising	N/A	1	2	3	4	5
Internal communication	N/A	1	2	3	4	5
Networking with other organisations	N/A	1	2	3	4	5
Office administration	N/A	1	2	3	4	5
Publicity	N/A	1	2	3	4	5
Service delivery to our clients	N/A	1	2	3	4	5
Other _____	N/A	1	2	3	4	5

_____

12. Please rate overall, what is the contribution of your IS to ...
(1=not much, 5=Extensively)

improving the efficiency of internal operations?	N/A	1	2	3	4	5
enhancing your organisation's reputation?	N/A	1	2	3	4	5
making your organisation successful overall?	N/A	1	2	3	4	5

Follow Up

13. Would you like to receive a copy of a report summarising the results of this survey?
Yes ☐ No ☐

14. Would you be willing to be contacted for follow up (clarification) of your survey answers?
Yes ☐ No ☐

15. Would you be willing to be interviewed about your organisation's IS planning at a later date?
Yes ☐ No ☐

16. Would you be interested in having the researcher work with your organisation to better understand and improve your organisation's IS planning?
Yes ☐ No ☐

17. Please print your name if you have answered "Yes" to at least one of questions 13 to 16

above _____

18. Contact Information (Optional)

Tel:_____

Email: _____

19. What is the title of your position? _____

Appendix B: Questionnaire B

Understanding Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Organisational Data

1. Organisation's name _____
(used to avoid sending you a follow-up survey)

2. How many staff does your organisation have?
Fulltime _____
Paid part time _____
Volunteers _____

3. What is/are your organisation's mission or goals?
_____
_____

4. In your opinion, how successful is your organisation at achieving its mission/goals?
(1=not very successful, 5= very successful) 1 2 3 4 5

5. In your opinion, how helpful is IS for your organisation in achieving its mission/ goals?
(1=not very helpful, 5= very helpful) 1 2 3 4 5

6. Does your organisation do IS planning? Yes ☐ No ☐

7. In your opinion, how successful has IS planning been in your organisation?
(1=not very successful, 5=very successful) N/A 1 2 3 4 5

Organisational Strategic Planning

8. Please tick all that apply

☐ Our organisation doesn't have a strategic plan
☐ Our organisation does have a strategic plan
☐ Our organisation doesn't have a process for strategic planning
☐ Our organisation does have a process for strategic planning, but it is not utilized
☐ Our organisation does have a process for strategic planning, but it is only partially used
☐ Our organisation does have a process for strategic planning, which is fully utilized

Organisational IS Planning

9. Please tick all that apply

☐ Our organisation doesn't have an IS plan
☐ Our organisation does have an IS plan
☐ Our organisation doesn't have a process for IS planning
☐ Our organisation does have a process for IS planning, but it is not utilized
☐ Our organisation does have a process for IS planning, but it is only partially used
☐ Our organisation does have a process for IS planning, which is fully utilized

10. What methodologies and techniques have you or your organisation used in conjunction with your chosen approaches for IS planning?

_____

_____

_____

11. To what extent do you agree with each of the following with respect to your organisation
(1=strongly disagree, 3=neither agree nor disagree 5= strongly agree)

Formal and documented IS plans exist	1	2	3	4	5
Our IS planning process is integrated with our organisational planning	1	2	3	4	5
Our IS plans are aligned with organisational plans/objectives	1	2	3	4	5
IS planning is necessary before we invest in IS	1	2	3	4	5
IS planning is a regular activity in our organisation	1	2	3	4	5

IS Planning Outcomes

12. What are the outcomes of your IS planning? (Please tick all that apply)

- ☐ IS strategy/priorities (statements of demand)
- ☐ IS application portfolio
- ☐ Budget for IS acquisitions
- ☐ IS policies and procedures
- ☐ IS department restructuring
- ☐ IS structure/ architecture
- ☐ Plan for IS development and implementation projects
- ☐ IS project or service outsourcing
- ☐ Other (please describe)

_____

_____

13. Please rate overall, what is the contribution of your IS to ...
(1=not much, 5=extensively)

improving the efficiency of internal operations?	N/A	1	2	3	4	5
enhancing your organisation's reputation?	N/A	1	2	3	4	5
making your organisation successful overall?	N/A	1	2	3	4	5

14. What benefits have your organisation enjoyed as a result of IS planning?

_____

_____

_____

_____

_____

Follow Up

15. Would you like to receive a copy of a report summarising the results of this survey?
    Yes ☐ No ☐

16. Would you be willing to be contacted for follow up (clarification) of your survey answers?
    Yes ☐ No ☐

17. Would you be willing to be interviewed about your organisation's IS planning at a later date?
    Yes ☐ No ☐

18. Would you be interested in having the researcher work with your organisation to better understand and improve your organisation's IS planning?
    Yes ☐ No ☐

19. Please print your name if you have answered "Yes" to at least one of questions 15 to 18 above _____

20. Contact Information (Optional)
    Tel:_____
    Email: _____

21. What is the title of your position? _____

Appendix C: Questionnaire C

Reasons for not doing Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Organisational Data

1. Organisation's name _____
   (used to avoid sending you a follow-up survey)

2. How many staff does your organisation have?
   Fulltime _____
   Paid part time _____
   Volunteers _____

3. What is/are your organisation's mission or goals?
   _____
   _____

4. In your opinion, how successful is your organisation at achieving its mission/goals?
   (1=not very successful, 5= very successful) 1 2 3 4 5

5. In your opinion, how helpful is IS for your organisation in achieving its mission/ goals?
   (1=not very helpful, 5= very helpful) 1 2 3 4 5

6. Does your organisation do IS planning? Yes ☐ No ☐

7. In your opinion, how successful has IS planning been in your organisation?
   (1=not very successful, 5=very successful) N/A 1 2 3 4 5

IS Planning Issues

8. Please rate your agreement with the following statements regarding possible reasons for not doing IS planning. (N/A=does not apply, 1=strongly disagree, 5=strongly agree)

(whether you do IS planning or not, please rate these statements)

Our budget is too small to support IS planning	N/A 1 2 3 4 5
IS in our organisation is too insignificant to require planning	N/A 1 2 3 4 5
We do not have enough time to do IS planning	N/A 1 2 3 4 5
An IS planning process takes too long	N/A 1 2 3 4 5
Our emphasis is more focused on buying IS than planning	N/A 1 2 3 4 5
An IS planning exercise is too expensive	N/A 1 2 3 4 5
We do not have anyone with sufficient expertise in IS planning	N/A 1 2 3 4 5
We are unable to obtain sufficiently qualified personnel to do a proper job of IS planning	N/A 1 2 3 4 5
Other _____	N/A 1 2 3 4 5

9. Please rate the extent to which the following possible problems have hindered launching of your IS planning or reduced effectiveness/success in your organisation. *(0=not at all, 5=caused severe difficulties)*

(please rate these statements only if your organisation has attempted or currently does IS planning)

Top management did/does not support IS planning	0	1	2	3	4	5
We did/do not have free communication and commitment to change throughout the organisation	0	1	2	3	4	5
The individual delegated the responsibility for IS planning does not have sufficient experience, influence, or time to do a thorough job	0	1	2	3	4	5
We have not invested sufficient "front-end" time to ensure that all IS planning tasks and individual responsibilities are well understood	0	1	2	3	4	5
We did/do not have a highly committed IS steering committee	0	1	2	3	4	5
We do not have a clear-cut organisational strategic plan to guide an IS planning effort	0	1	2	3	4	5
We have not been able to anticipate new developments in IS that might affect the IS plan	0	1	2	3	4	5
We do not sufficiently address the people and politics side of IS planning	0	1	2	3	4	5
We have not been in sufficient control of IS development and computer operations performance to have credibility with users	0	1	2	3	4	5
We have underestimated the need for a clear, concise, formal planning procedure	0	1	2	3	4	5
We do not view planning as a learning process for users	0	1	2	3	4	5

Other _____
_____

Follow Up

10. Would you like to receive a copy of a report summarising the results of this survey?
Yes ☐ No ☐

11. Would you be willing to be contacted for follow up (clarification) of your survey answers?
Yes ☐ No ☐

12. Would you be willing to be interviewed about your organisation's IS planning at a later date?
Yes ☐ No ☐

13. Would you be interested in having the researcher work with your organisation to better understand and improve your organisation's IS planning?
Yes ☐ No ☐

14. Please print your name if you have answered "Yes" to at least one of questions 10 to 13 above _____

15. Contact Information (Optional)
Tel:_____
Email: _____

16. What is the title of your position? _____

Appendix D: Questionnaire D

Information Systems (IS) Planning Problems faced by Not-for-Profit Organisations in Western Australia

Organisational Data

1. Organisation's name _____
   (used to avoid sending you a follow-up survey)

2. How many staff does your organisation have?
   Fulltime _____
   Paid part time _____
   Volunteers _____

3. What is/are your organisation's mission or goals?
   _____
   _____

4. In your opinion, how successful is your organisation at achieving its mission/goals?
   (1=not very successful, 5= very successful) 1 2 3 4 5

5. In your opinion, how helpful is IS for your organisation in achieving its mission/ goals?
   (1=not very helpful, 5= very helpful) 1 2 3 4 5

6. Does your organisation do IS planning? Yes ☐ No ☐

7. In your opinion, how successful has IS planning been in your organisation?
   (1=not very successful, 5=very successful) N/A 1 2 3 4 5

IS Planning Issues

8. Please rate the extent to which the following possible problems have hindered your IS planning or reduced effectiveness/success in your organisation. *(N/A= didn't experience the problem, 1=no impact, 5=caused severe difficulties)*

Top management are not sufficiently involved in IS planning	N/A	1	2	3	4	5
We ignore our organisation goals when developing our IS plan	N/A	1	2	3	4	5
We do not translate our organisation's goals and strategies into action plans	N/A	1	2	3	4	5
Users are not sufficiently involved in developing our IS plan	N/A	1	2	3	4	5
We rely exclusively on user "wish lists" for application ideas	N/A	1	2	3	4	5
We do not realistically assess internal weaknesses of an IS in determining capabilities to carry out the recommended plan	N/A	1	2	3	4	5
We do not perform analysis to identify critical functional areas that our IS plan has to support	N/A	1	2	3	4	5
We do not consider and explicitly evaluate alternative IS in order to give top management a meaningful choice	N/A	1	2	3	4	5

We do not review our IS plan with managers so as to obtain their support and cooperation for its implementation	N/A	1	2	3	4	5
Our IS planning process requires too much formality, which restrains creativity on the part of the planners and users in defining information requirements	N/A	1	2	3	4	5
Our IS planning process is poorly coordinated or we lack coordination	N/A	1	2	3	4	5
Possible problems in using an IS plan						
It is difficult to secure management commitment for implementing IS plans	N/A	1	2	3	4	5
We do not adjust the IS plan to reflect major environmental changes	N/A	1	2	3	4	5
We ignore the IS plan once it has been developed	N/A	1	2	3	4	5
We consistently make intuitive decisions which conflict with the approved plan	N/A	1	2	3	4	5
We do not use our IS plan as a standard for measuring managerial performance	N/A	1	2	3	4	5
The IS plan we developed is not comprehensive	N/A	1	2	3	4	5
Substantial post analysis is required prior to implementation of IS plans	N/A	1	2	3	4	5
Organisational needs are ignored or not identified	N/A	1	2	3	4	5
Other _____ _____	N/A	1	2	3	4	5

Follow Up

9. Would you like to receive a copy of a report summarising the results of this survey?
   Yes ☐ No ☐

10. Would you be willing to be contacted for follow up (clarification) of your survey answers?
    Yes ☐ No ☐

11. Would you be willing to be interviewed about your organisation's IS planning at a later date?
    Yes ☐ No ☐

12. Would you be interested in having the researcher work with your organisation to better understand and improve your organisation's IS planning?
    Yes ☐ No ☐

13. Please print your name if you have answered "Yes" to at least one of questions 9 to 12

above _____

14. Contact Information (Optional)

Tel:_____

Email: _____

15. What is the title of your position? _____

Appendix E: Questionnaire Cover Letter

Dear Sir/Madam

RE: Survey on Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Curtin University in collaboration with Community Sector Services (CSS) is undertaking a research project to study Information Systems (IS) Planning in Not-for-Profit Organisations (NFPOs) in Western Australia. This letter is to invite you to participate in this research which will contribute to the understanding of IS planning in NFPOs and how it relates to the achievement of their mission or goals. Enclosed are an information sheet and a questionnaire. Please fill in the enclosed questionnaire and mail it back to the researcher using the included prepaid envelope. The questionnaire would take about 20 minutes to complete.

Once the research is completed, a report with recommendations for IS Planning in NFPOs will be made available.

Thank you in advance for your cooperation and participation in this survey.

Yours faithfully

Maka Siwale	John Venable	Lloyd Johnson
PhD Student	Associate Professor	CSS ICT Project Leader

Appendix F: Questionnaire Information Sheet

Information Sheet

Survey on Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Curtin University in collaboration with Community Sector Services (CSS) is conducting research on Information Systems (IS) Planning in Not-for-Profit Organisations (NFPOs) in Western Australia. This research aims to understand IS planning in NFPOs and how it relates to the achievement of their mission or goals. We therefore seek your participation in a survey. The survey would take approximately 20 minutes to complete.

Participation in this survey is voluntary and you can withdraw at any time without any prejudice or negative consequences. Data collected will be stored in a secure location at Curtin University. Access to data will be restricted to the researcher, supervisor(s) and the CSS ICT project leader. The data will be used to generate new knowledge on IS Planning in NFPOs which will help NFPOs to better understand and improve their IS Planning, utilise IS better and better realise their opportunities. Any personal/organisational information that you provide will not be revealed and your responses will not be identified with you personally or your organisation. Results of the research will be used in journal article(s), conference papers and/or PhD thesis and will be made available to Community Sector Services.

This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number IS_10_19). Verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or hrec@curtin.edu.au.

For further information please feel free to contact us:
Name: Maka Siwale (PhD Student)
Tel: 0401251485
Email: maka.siwale@postgrad.curtin.edu.au

Name: Associate Professor John Venable (Supervisor)
Tel: 9266 7054

Email: J.Venable@curtin.edu.au

Name: Lloyd Johnson (CSS - ICT Project Leader)
Tel: 0427 384 547
Email: lloyd@communitysectorservices.org.au

Thank you in advance for your cooperation and participation in this survey.

Yours faithfully

Maka Siwale

PhD Student

Appendix G: Interview Cover letter

Dear Sir/Madam

RE: Interview on Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Curtin University is undertaking a research project to study Information Systems (IS) Planning in Not-for-Profit Organisations (NFPOs) in Western Australia. This letter is to invite you to participate in the interview which will contribute to the understanding of IS planning issues/problems in NFPOs and provide recommendations on how to improve IS planning in NFPOs. Enclosed are an information sheet and a consent form. The interview is expected to take about 30 minutes.

Once the interview sessions (research) are completed a report with recommendations for IS Planning in NFPOs will be made available.

Thank you in advance for your cooperation and participation in this research.

Yours faithfully

Maka Siwale — PhD Student

John Venable — Associate Professor

Appendix H: Interview Information sheet

Information Sheet

Title: Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

Curtin University in collaboration with Community Sector Services (CSS) is conducting research on Information Systems Planning in Not-for-Profit Organisations (NFPOs) in Western Australia.

Aim/benefits: This research aims to understand Information Systems (IS) planning in NFPOs and how it relates to the achievement of NFPOs mission or goals and provide recommendations that will help NFPOs (like yours) to better utilise IS to better achieve their organisational mission. We therefore seek your participation in an interview.

What will be required of participants: The research will be carried out by interviewing you about your experience, opinions and thoughts about IS planning in NFPOs. Each interview will take between 30 to 60 minutes. We will tape the interviews and make transcriptions from the tapes. However, follow-up interviews may be requested if needed. The possibility of a follow-up interview will be discussed at the end of the first interview. The costs to participants are expected to be minimal (if any) and time based only. All interactions will be arranged around participants' existing commitments, hence disruption should be minimal.

Participation and risk involved: The risk involved in this research is negligible and participating members will suffer no harm. Participation in this interview is voluntary and you can withdraw at any time without any prejudice or negative consequences. Data/information collected will be stored in a secure location at Curtin University. Access to data/information will be restricted to the researcher and supervisor(s).

Confidentiality and security of information: The data/information will be used to generate new knowledge on IS Planning in NFPOs, which will help NFPOs to better understand and improve there IS Planning, utilise IS better and better realise their opportunities. The entire content (i.e. any transcripts, notes and/or summaries including personal/organisational information that you provide) from this interview will not be revealed and your responses will not be identified with you personally or your organisation, unless you desire that your identity be made known. If we use a

quotation from this interview, it will not be attributed and we will ask for your permission first. Research findings based on these interviews will be used in my PhD thesis, journal article(s), conference papers and/or and a report, which will be made available to Community Sector Services and other interested organisations.

Research ethics approval: This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number IS_12_35). Verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au.

Contact details: For further information, please feel free to contact us:
Name: Maka Siwale (PhD Student)
Tel: 0401251485
Email: maka.siwale@postgrad.curtin.edu.au

Name: Associate Professor John Venable (Supervisor)
Tel: 9266 7054
Email: J.Venable@curtin.edu.au

Appendix I: Interview Overview

Interview Overview

Introduction

Thank you for earlier completing our survey and for agreeing to speak with us today.

Curtin University, is conducting research on Information Systems (IS) Planning in Not-for-Profit Organisations (NFPOs) in Western Australia. This research aims to understand IS planning in NFPOs and how it relates to the achievement of NFPOs mission or goals and provide recommendations that will help NFPOs (like yours) to better utilise IS to better achieve their organisational mission. Particularly we are interested in understanding the problems of IS planning in NFPOs and how to improve IS planning for NFPOs. We asked to speak with you because you are likely to have knowledge valuable to our research about IS planning in your organisation. Any personal/organisational information/responses that you provide will not be identified with you personally or your organisation (refer to the information sheet for more details). Research findings based on this interview will be used in my PhD thesis, journal article(s), conference papers and/or a report, which will be made available to your organisation and other interested organisations.

Overview of the interview topics/sections

a) Interviewee background information
b) Organisational information
c) Role of IS
d) Perceptions about IS planning
e) IS planning process in your organisation
f) Post interview comments and/or observation
g) Discussion about a possible follow-up interview

Appendix J: Interview Participant Consent Form

Consent Form

Curtin University

Consent to Participation in Research

Project Title: Information Systems (IS) Planning in Not-for-Profit Organisations in Western Australia

I have been informed of and understand the purpose of this study. I have been given an opportunity to ask questions. I understand that I can withdraw from this research at any time without prejudice. Any information which might potentially identify me will not be used in published material.

I agree to participate in the study as outlined to me. I agree to be interviewed by Maka Siwale for the purpose of this research which is a requirement for his PhD degree and any resultant publications and conference publications.

Do you agree to have interview(s) audio recorded?

YES NO

Do you agree to be quoted anonymously?

YES NO

Name: _____

Title: _____

Signed: _____

Date: _____

Appendix K: Interview Guide

Interview Guide (for the interviewer)

Introduction

Thank you for earlier completing our survey and for agreeing to speak with me today.

Curtin University, is conducting research on Information Systems (IS) Planning in Not-for-Profit Organisations (NFPOs) in Western Australia. This research aims to understand IS planning in NFPOs and how it relates to the achievement of NFPOs mission or goals and provide recommendations that will help NFPOs to better utilise IS to better achieve their organisational mission. Particularly we are interested in understanding the problems of IS planning in NFPOs and how to improve IS planning for NFPOs. We asked to speak with you because you are likely to have knowledge valuable to our research about IS planning in your organisation. Any personal/organisational information/responses that you provide will not be identified with you personally or your organisation (refer to the information sheet for more details). Research findings based on this interview will be used in my PhD thesis, journal article(s), conference papers and/or a report, which will be made available to your organisation and other interested organisations.

- Do you have any questions?
- Can we proceed with the interview?

Overview of the interview topics/sections

a) Interviewee background information
b) Organisational information
c) Role of IS
d) Perceptions about IS planning
e) IS planning process in your organisation
f) Post interview comments and/or observation
g) Discussion about a possible follow-up interview

Interviewee background information

Date: _____

Starting Time: _____

Organisation Name: _____

Interviewee: _____

Interviewer: _____

1. How long have you been at this organisation?
2. I have read that your job title is _____. Is that right or is it something else?
    - What are the primary functions of your job?
3. How long have you been in your present position?

Organisation objectives, concerns and opportunities

1. According to your earlier survey response, your organisation's main purpose/objective/mission were to _____… is that still correct?
    a. Do you have any additions?
2. Based on your organisation's main purpose and objectives, what would you say are your organisation's main services/products?
3. What are the major obstacles/issues/difficulties/problems in achieving your organisation's objectives?
4. What opportunities do you see for your organisation?

Organisational Information

1. According to your earlier survey response, your organisation has _ fulltime, __ part-time and __ volunteer employees….is that still correct?
2. Approximately what is your organisations' yearly budget?
3. Approximately what % is allocated to IS (if known)? How certain are you? Even a guess?
4. Does your organisation have an IS department and/or personnel?

Role of IS

1. Who are your organisation's clients?
    - is IS used in any form or shape in delivering of your services?
    - How does your organisation deliver your services/products to your clients?
    - How does your organisation communicate with your clients?
2. What media are used for communication within your organisation?

- Landline phone
- Mobile phone
- Email
- Sms
- Social media
- Organisational tailor made application etc.

3. What kind of things does your organisation keep information about?
4. What kinds of information does your organisation keep/gather?
5. {You said you use____ to communicate what else does your…}What IS does your organisation use to gather, maintain and process information?

IS Planning

1. According to your survey response, your organisation does have an IS plan… is that still the case?
2. If the organisation does have IS plan…
    - What is good about your organisation's IS plan?
    - What are the benefits of your organisation's IS plan? What are the benefits of having IS plan? In what ways has, having an IS plan benefited your organisation? What are the benefits for your organisation of having an IS plan?
    - What is not so good about your organisation's IS plan?
3. How does your organisation conduct its IS planning
    - How much time does your organisation spend on IS planning?
    - When is it done (any specific time of the year or as needed)?
    - Who is involved in your organisation's IS planning process?
    - Does your organisation have sufficient expertise to conduct IS planning?
    - Does your organisation's IS planning have any linkage with your organisation's strategic plan?
4. How does your organisation identify, acquire and implement IS?
    - Is it working? Why or why not?
    - Who is involved?
5. What challenges/constraints/ obstacles/issues/difficulties/problems are there on IS planning and implementation in your organisation?

IS Planning Process

1. If there was going to be a good IS planning process, what would you like to get out of it (or what would you like to see come out of an IS plan)?
    - What kind of things should be in an IS plan?
2. What would you like to see improved in your IS planning process?
    - What kind of activities should be in IS planning process?
    - What would you like to see produced by the activities you have suggested?

Final Question

1. Is there anything else you wish to add that I did not ask you about?

Thank you for taking the time to talk with me today. I really appreciate it.

Post interview comments and/or observation

1. Would it be ok to arrange a follow-up interview in the near future should there be a need for one? Yes No
2. {It is a common practice in research to send a transcript of the interview back for the interviewee to confirm/identify and errors/clarify/to provide further comments etc.} May I send you notes/transcripts of this interview for your review? Yes No
3. Would you like to receive a copy of research report that we will write based on this and other interviews? Yes No
4. Would you like to receive a copy of the report that we will write based on the research? Yes No

Finishing Time: _____

Appendix L: Initial Coding Scheme

Code	Description
Organisation Description	Organisation type or details/explanation describing an organisation
Job Title	Position in an organisation held by subject
Job Description	Primary functions of subject's job title
Period at the organisation	Time/years subject has been at the organisation
Period at the present position	Time/year subject has been at his/her present position
Organisations objectives	Main aims/objectives of the organisation
Organisations Service/products	Services and/or products supplied/delivered by an organisation
Organisation clients	Things/people serviced by an organisation
Organisation obstacles	Problems or challenges experienced by an organisation in achieving its objectives
Organisation funding	Organisation's source of income or finance
Organisation opportunity	Possible new openings for the organisation
Organisation size/Staffing	Size of the organisation based on number of staff
Organisation budget	Organisation yearly financial plan
IS budget	Organisation IS financial plan
IS department	Organisation division/section/personnel that deals with IS issues
Communication	Flow of information between two or more parties
Information kept	Details of things of interest to the organisation gathered and stored by the organisation for future use
IS used to collect information	Application used to gather and store information
IS planning (IS planning process)	Process of developing an IS plan (Steps or activities involved in developing an IS plan)
IS planning challenges	Problems or obstacles experienced in IS planning and implementation
Competition	Competition among not for profit organisations
Collaboration	Organisation working together in tackling common problems
Outsource	Subcontracting organisations activities/tasks to external entities
Social media	Applications that enables two or more parties to share information
Ongoing tension	Collision between parties/staff in an organisation
Expertise	Know how or knowledge possessed by an individual or organisation
IS usage	How IS is utilised
Staff turnover	Rate of staff joining and leaving an organisation
Training	Process of acquiring knowledge or skills needed to accomplish something
Knowledge management	Expertise/know how developed and maintained by an organisation
Organisation growth (maturity)	Expansion over a period of time i.e. Increase in staff, clients, services/products etc.