

An Evaluation of Health Information Technology Outsourcing Success

by

Shannon Malovec
BSc, University of Victoria, 2004

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

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in the School of Health Information Science

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Supervisory Committee

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Abstract

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Outsourcing involves contracting out a function, or functions, performed by an organization to another organization available in the market. It involves transferring the services, performed by internal staff, as well as the staff themselves, to an external service provider under a contractual agreement. Today in healthcare, many organizations are exploring outsourcing as a way to address demands for health information technology (HIT). This thesis researches the success of outsourcing in the health informatics industry in Canada. The study is designed to help understand whether outsourcing HIT functions, such as development, implementation, operations, and maintenance, can prove successful and result in benefits for an organization. The study finds that outsourcing all four functions of HIT development, implementation, operations, and maintenance occurs in Canada; however, the research from the semi-structured interviews finds that operations and maintenance may be more commonly outsourced in Canada, over development and implementation functions. Despite this, the research from the semi-structured interviews finds that outsourcing development and implementation may actually offer more benefits and fewer challenges than outsourcing operations and maintenance. The research also finds that there can be many benefits of outsourcing for organizations, such as gaining access to expertise and improving service levels, as well as many weaknesses of outsourcing, such as losing internal knowledge and having to manage the change required from outsourcing. The findings from this thesis were used to

develop a conceptual model that can be used when an organization is looking at outsourcing. The model considers the inputs and the outputs to outsourcing as an organizational strategy, including the factors that influence an organization's decision to outsource, the risk and challenges associated with outsourcing, and the expected outcomes and benefits that can result from outsourcing. The study proposes that there are many things that need to be considered when outsourcing to ensure it is successful.

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Dedication

I would like to dedicate this thesis to my family. To my parents, who have always supported my goals and aspirations, including my Master's degree. Your love, support, and encouragement are endless and have made my achievements possible

Chapter 1: Introduction

1.1 Background

The healthcare industry is undergoing significant change. Patients are expecting better care and access to improved services. In 2007, the Health Care in Canada (HCIC) survey found that only 57% of Canadians felt that they were receiving quality healthcare services and only 48% felt that access to timely, quality healthcare services would improve over the next five years (HCIC, 2007). This is leading to increased demand from consumers. To meet this increased demand and provide access to quality healthcare services, information needs to be accessible across the continuum of care by clinicians at the point of care. This can be enabled through the support of technology. New information technology (IT) and information systems (IS) are constantly being developed to enable improved care and efficiency in the healthcare system. However, many healthcare organizations are being asked to reduce costs and save where they can while still maintaining quality care (Roberts, 2001). At the same time, organizations are facing an aging workforce and having difficulty retaining skilled resources. This puts great pressure on healthcare executives to deliver these new technologies at a rapid pace to meet the demands and the challenges placed on them. To address these demands in a timely manner, while also being conscious of spending, many healthcare organizations are turning to outsourcing, specifically for their health information technology (HIT) needs. This thesis explores the success of HIT outsourcing in the healthcare industry in Canada.

1.2 Outsourcing

Outsourcing involves contracting out a business function, or functions, performed by an organization to another organization available in the market. It involves transferring the services performed by internal staff to a partner organization, also referred to as an external service provider, through a contractual arrangement [Allen & Chandrashekar, 2000; Moschuris & Kondylis, 2006]. Outsourcing can create growth in the market by promoting knowledge sharing and expertise in many areas. Initially, research showed that outsourcing was seen as a mechanism to reduce costs and executives thought they could save 10-50% off their IT expenditures (Diana, 2009; Lacity & Hirschheim, 1993). In recent years, outsourcing is seen as a way to adapt to ever changing environments, improve quality and performance, and conserve the most effective resources (Piachaud, 2005; Roberts, 2001). Evidence shows that in the United States nearly 30% of healthcare organizations outsource their information management/information technology (IMIT) functions (Hensley, 1997). Additionally, the amount of outsourcing is growing (Ngeo, 1998) and the perception it presents to organizations and employees is frequently evolving. It has been found by Gartner, a popular international research company, that outsourcing will grow from \$160 billion in 2007 to \$235 billion in 2011 worldwide (Elmuti, Grunewald, & Abebe, 2010). Outsourcing started with a trend in the manufacturing and IT industries (Foxy, Bunn, & McCay, 2009; Guimaraes & Crespo de Carvalho, 2010]. Healthcare outsourcing was slow to evolve; however, today the healthcare sector, along with Finance and Legal, is considered to be in the top three sectors with the highest outsourcing growth rate (Guimaraes & Crespo de Carvalho, 2010). In healthcare, a broad range of services have been transferred through outsourcing

deals, including catering, cleaning, and security. These are often considered “non-core”, or non-clinical, functions, meaning that these functions are not “core”, or critical, to the organization’s business (Guimaraes & Crespo de Carvalho, 2010). However, there has also been an increase in the number of organizations outsourcing what can be considered “core” functions in healthcare, including corporate strategy, human resources, finances, and IMIT (Elmuti et al., 2010; Taplin, 2008). Additionally, we are seeing a growing trend to outsource IMIT more frequently in healthcare organizations (Institute of Public Administration of Canada, 2007; Wilkins, 2003).

1.3 Outsourcing in the Health Informatics Industry

The health informatics industry, defined by Canada’s Health Informatics Association (COACH), is “the intersection of clinical, IM/IT and management practices to achieve better health” (2012, p. 8). It is within this area that we are seeing outsourcing more frequently occur. In a 2003 survey by Healthcare Information Management and Systems Society (HIMSS), it was found that 71% of the respondents had looked at HIT outsourcing and only 32% said they would not consider IT outsourcing which was down from 43% in 2002 (Roth & Fisher, 2003). The view in the healthcare industry is that IMIT outsourcing can reduce costs of delivering IMIT services and if executed correctly, can improve the quality of service delivery (Roth & Fisher, 2003). Recently, Canada has seen outsourcing occur in the health informatics industry. It has also been found that organizations may outsource different HIT functions, such as HIT development, implementation, and operations and maintenance (Wholey, Padman, Hamer, & Schwartz 2001; Aubert, Beaurivage, Croteau, & Rivard, 2008). HIT, or IS, development,

implementation, and operations and maintenance are considered major functions, as defined in the system development phases of the system development life cycle (Langer, 2008; McDowall, 1991). IS development can be described as converting the design and requirements taken by stakeholders into a complete system (Langer, 2008). This includes creating databases and building in the appropriate data and information for the system to function. IS implementation can be described as putting the developed system into a live production environment (McDowall, 1991). This includes preparing for the implementation, such as ensuring system and user readiness, and executing and supporting the activation of the system. IS operations can be described as operating the live system once it is in a production environment and being actively used (Langer, 2008). This may involve handling user change requests and issues that arise. IS maintenance is considered to be a more daily routine function to ensure the system is working as it should (Aubert et al., 2008). Today, it has been found that healthcare organizations across Canada are outsourcing one or more of these four HIT functions (Institute of Public Administration of Canada, 2007; Wilkins, 2003).

1.4 Statement of the Problem

Many healthcare organizations are turning to outsourcing as a mechanism to deliver HIT services in a more efficient and effective manner. Yes, there is a need to determine if organizations that have outsourced HIT have realized financial and quality of care performance improvements. How does the improvement compare to delivering HIT services with internal staff? Review of available literature illustrates limited findings on whether or not outsourcing initiatives can improve financial and quality performance for

organizations. The literature tends to demonstrate results in countries outside of Canada and in the industries other than healthcare. Additionally, today organizations are outsourcing different HIT functions of development, implementation, operations, and maintenance. There is a need to understand the performance benefits outsourcing different HIT functions can have on healthcare organizations, particularly in Canada.

1.5 Significance and Purpose of the Study

In healthcare specifically, there is a lack of evidence on whether outsourcing HIT functions actually proves successful and results in benefits for the organization. This has been a gap in the literature and is important for organizations to understand prior to embarking on such a large initiative. Outsourcing requires a huge culture change and investment by every individual within the organization, from the senior executive to the junior analyst. It requires changing the skill set of the management team to focus on strategic thinking, relationship management, negotiation and change management (Roberts, 2001), as opposed to being focused on developing and supporting the IS and IT. It is important to understand the desired benefits of the outsourcing initiative, prior to initiating the outsourcing engagement with a partner organization. These desired benefits must be measured throughout the outsourcing agreement to determine if there have been improvements. For HIT administrators, it is critical to understand the success of using outsourcing to deliver new technology and meet consumer operational demands in the health informatics industry. Such knowledge will support healthcare administrators when making decisions about HIT outsourcing. The findings from this study can inform organizations of the benefits that other organizations may have experienced when

outsourcing services or keeping services internal to the organization. Another outcome of this study is that it provides a conceptual model that organizations can employ when considering the outsourcing of certain HIT functions or services. Overall, this study provides health informatics researchers and professionals with a better understanding of whether outsourcing is beneficial to healthcare organizations.

1.6 Research Objectives

The objectives of this research were to:

- Evaluate the success of outsourcing HIT and the different functions;
- Explore how outsourcing HIT functions compares to organizations that have kept these functions internal to the organization;
- Describe how organizations are measuring the success of outsourcing HIT; and
- Describe health informatics professionals' perceptions about the success of outsourcing HIT.

1.7 Research Questions

The specific research questions developed to achieve the research objectives include:

1. What are Managers perceptions of the benefits and negative impacts of outsourcing (in terms of quality benefit measures and in terms of financial benefit measures)?

2. What type of functions (development, implementation, operations, maintenance) are outsourced in Canadian HIT organizations and why? What is the underlining rationale for outsourcing these functions?
3. What functions (development, implementation, operations, maintenance) are perceived as providing the most benefit from outsourcing?
4. What are the perceived strengths and weaknesses of outsourcing, compared to internally delivering HIT services?

By answering these questions, the health informatics industry will gain an understanding of the types of functions that are most often outsourced in Canada, and which functions may provide the largest benefit to an organization. Answers to the research questions posed above are important to understand as healthcare organizations are increasingly looking at outsourcing as a mechanism to deliver HIT functions differently.

1.8 Benefits of this Research

The benefits of conducting this research include the following:

- The research serves as a ground for collaboration to discuss the outcomes and consequences of outsourcing that can significantly impact healthcare organizations in Canada.
- The research has the potential change how health technologies are delivered and managed in the health informatics industry.

- Based on a review of the research literature, there is limited research on the outcomes and consequences of outsourcing HIT. Thus, this research aims to fill this literature gap in the area of HIT outsourcing outcomes and consequences in Canada.

Chapter 2: Background and Theory on Outsourcing Health Information Technology

2.1 Introduction

A literature review on outsourcing was undertaken. Of the available literature on outsourcing, the review was narrowed to look at IT outsourcing in healthcare specifically. The majority of empirical studies on outsourcing were found to be from the United States and international sources, with some Canadian publications being found. The findings of the literature review have three main foci. They include the types of organizations found to outsource, the functions that tend to be outsourced, and how organizations prepare for outsourcing. The literature review was then expanded to look at the quality and financial outcomes of general outsourcing, and the intended and unintended consequences that may result from outsourcing. These outsourcing topics are explored below. First a definition of outsourcing is provided, as well as an overview of outsourcing in the public sector.

2.2 Outsourcing Definitions

A survey of the current literature on outsourcing illustrates that there are many definitions of outsourcing and it may be interpreted differently by different organizations and industries. To many businesses, outsourcing refers to “contracting or subcontracting of activities to free up cash, personnel, time, and facilities for activities in which a company holds competitive advantage” (Moskowitz, 2009). Hirschheim and Lacity (2000) refer specifically to IT outsourcing as the “practice of transferring IT assets,

leases, staff, and management responsibility for delivery of services from internal IT function to third-party vendors” (p.99). There are also other terms and definitions that may be associated with outsourcing, such as “contracting”, “off shoring”, “selective outsourcing” and “alternative service delivery”.

Outsourcing may often be referred to as “contracting” or “contracting out” as an organization is obtaining services from an external service provider. Typically contracting services to supplement the organization’s existing services or personnel is not considered true outsourcing, as functions are not transferred to the service provider. However, outsourcing does involve creating a “contract”, which binds the two organizations and forms the outsourcing agreement. Outsourcing has also been referred to as “off shoring”. Off shoring refers to obtaining services from outside the organization and also outside of the organization’s home country (Kolawa, 2004). This involves moving the functions of an organization to another company in another country to help reduce labour costs. “Selective outsourcing” is another type of outsourcing found in the literature. Willcocks and Lacity (2009) describe selective outsourcing as “the decision to source selected IT functions from external provider(s) while still providing between 20% to 80% of the IT budget internally” (p. 5). The researchers also suggested selective outsourcing may achieve greater cost savings (than not doing any outsourcing or doing full, or total, outsourcing) (Willcocks & Lacity, 2009). Furthermore, Gottschalk and Solli-Saether (2006) identified that selective outsourcing is generally a decision made by the IT department as they are responsible for the overall IT strategy (p. 6). More recently, outsourcing in the public sector specifically has been referred to as “alternative service delivery” (ASD). ASD models are primarily focused on providing cost effective

delivery of publically available services. ASDs involve the private sector in supporting the delivery of services to allow public organizations to focus on their core business (MacDonald, 2004). However, as this definition is still not widely adopted across Canada, the term “outsourcing” for public healthcare HIT is frequently used.

In contrast “in-house services” can be used to describe organizations that deliver IMIT functions internally. In-sourcing can be defined as “the decision to retain the management and provision of more than 80% of the IT budget internally after evaluating the IT service market” (Willcocks & Lacity, 2009, p. 5). Based on the researched definitions, for this study the researcher’s definition of outsourcing will be as follows: Outsourcing refers to the contracting out of services by transferring them to an external service provider in the private sector in order to deliver services or functions that are more efficient and cost effective than the host organization can provide.

2.3 Outsourcing in the Canadian Public Sector: Alternative Service Delivery

The literature review findings provide an overview of alternative service delivery (ASD) arrangements (also referred to as “alternative solution delivery”) and examples of ASD agreements in Canada. Some conclusions can be drawn from the literature on when organizations move to ASD arrangements and the types of different ASD arrangements that can be created.

2.3.1 Movement to Alternative Service Delivery

Over the years, the movement to ASD has been increasing. In 2003, a study by Erin Research, for the Institute for Citizen Centred Service and the Institute of Public

Administration of Canada (IPAC), found that citizens expect timely service, alternative delivery mechanisms, and satisfactory outcomes (Institute for Citizen Centred Service & Institute of Public Administration of Canada, 2003). Furthermore, research has found that two thirds of Canadian citizens are supportive of looking outside the public sector to deliver public services (Dean, 2011). Some researchers say ASD is tied to the New Public Management (NPM) movement which says that governments should focus on “steering” services and non-government organizations should do the delivery and execution (Office of the Auditor General of Canada, 2007; IPAC, 2007). Supporters of the NPM feel that government delivery of services is bureaucratic and often does not focus on citizen needs (Mutiangpili & Ravago, 2010). ASD attempts to hold citizen needs at the forefront of decision making. Government becomes the steward of services, versus the executer. Therefore, a partner is engaged to actually perform the service delivery (Armstrong, 1998). Other research states that ASD arrangements and partnerships are created to focus on improving service delivery and to change the way services are delivered to be more cost effective and efficient (Wilkins, 2003; Mutiangpili & Ravago, 2010). ASD arrangements can help governments improve the financial and quality performance measures they are accountable to meet (Fyfe, 2003). However, very few empirical studies have been published in the literature to validate whether financial and quality performance measures are improved by ASD arrangements.

The literature on the movement to ASD arrangements also discusses the Canada Public Interest Test. In Canada, in the mid 1990s, the government developed a public test of interest on ASD. The test involves asking six questions about whether certain services, or programs, would be better delivered under ASD arrangements (Fyfe, 2004; IPAC,

2007). A policy on ASD came into existence in 2002 to provide provincial jurisdictions across Canada with guidance when considering the move to ASD arrangements.

Other research looks at the business process of moving to ASD. ASD arrangements involve going through a process of competitive tendering, also known as procurement, to select the partner to support delivery of services (Dean, 2011). Governments may select one organization, or a consortium of organizations, to partner with to deliver services on behalf of the public sector. A procurement process is designed to make sure the public interest and needs are taken into account (Fyfe, 2004). Selecting a partner takes careful consideration as partners may affect the success or failure of the ASD arrangement.

2.3.2 Types of ASD Arrangements

The literature discusses the different types of ASD. Two common types of ASD arrangements are found in the literature – collaborative and delegated (Fyfe, 2003; Fyfe, 2004). Collaborative ASD arrangements involve a cooperative arrangement between a government organization and one or more parties. Collaborative ASD arrangements may be enterprise-based, where partnerships are formed to achieve a specific objective in a set time period, or virtual, where partnerships focus on sharing information on an on-going basis. An example of a collaborative time-bound ASD arrangement is a public-private-partnership (P3) model, which the private sector and the public sector work together to deliver a service (Fyfe, 2004). Delegated ASD arrangements can involve contracting services to private sector organizations. An example is delegating the service of computer equipment management and maintenance, such as desktop management, to a private organization. Delegated ASD arrangements are also commonly referred to as

outsourcing, contracting out, or privatization. It is these ASD arrangements that are the most debated in the literature.

When looking at outsourcing, some literature suggests that the services that are the easiest to cost out and measure are the best candidates for contracting out from the public sector to the private sector (Dean, 2011). However other literature suggests that the public sector is increasingly contracting services that would typically remain in-house to private sector organizations and outsourcing providers (Elmuti et al., 2010). Examples of such services include strategy, information management, and business and quality initiatives. According to the research literature, there has been an increase in the amount of delegated ASD arrangements worldwide (Musico, 2008).

2.3.3 Examples of ASD Arrangements

ASD arrangements are growing in Canada. There are many examples of ASD arrangements across the provinces. Three provinces to look at specifically include British Columbia, Alberta, and Ontario. British Columbia (BC) has many examples of ASD arrangements. The BC Ministry of Labour, Citizens' Services and Open Government explains that ASD arrangements can support BC to meet its objectives of enhancing service levels, reducing costs, supporting economic development and growth, and increasing private sector involvement in service delivery thereby allowing the government to focus on core business (Province of British Columbia, 2011). In 2004, the Ministry of Health Services created an ASD for Health Insurance BC to modernize and improve the administration of the Medical Service Plan (MSP) and PharmaCare (Province of British Columbia, 2004). Maximus BC was selected as the partner organization to provide management over the program as well as IT services. In 2006,

the pan-Canadian Public Health Communicable Disease Surveillance and Management Project was initiated to collect and analyze health information to support with the management of public health outbreaks (Province of British Columbia, 2011). The development of the system, named Panorama, was outsourced to IBM Canada Limited. In 2007, the BC Ministry of Health engaged Sun Microsystems Inc. and subcontractors to design, develop and operate the Provincial Laboratory Information Solution (PLIS) and the Interoperable Electronic Health Record (iEHR) (Province of British Columbia, 2007). The objective of the PLIS and iEHR projects is to consolidate laboratory test results and to facilitate the sharing of health information across the province. Today, with the movement to Lower Mainland Consolidation (LMC) in BC¹, many more ASD arrangements are being created. For example, the province is currently looking at an ASD, or outsource, agreement, for transcription services in healthcare. The President of Providence Health Care in BC, explains that “all LMC initiatives have their unique challenges and opportunities, requiring specific solutions. Using an alternate service provider has been identified as an excellent potential option for transcription services [in BC]...Despite significant funding increases from the provincial government over the last few years, demand for health care services continues to grow. In order to protect the quality and accessibility of direct patient care services, we must be vigilant in finding solutions, savings and efficiencies where possible without impacting patient care” (Providence Health Care, 2012).

¹ In 2009 the BC Ministry of Health Services initiated the Lower Mainland Consolidation project to consolidate all corporate, clinical support and back office functions. The project objective is to achieve a 10% saving target for Fraser Health Authority, Provincial Health Services Authority, and Vancouver Coastal Health Authority.

In Alberta the province has looked at delegated ASD arrangements. Alberta Labour created Delegated Administrative Organizations (DAOs) to operate at arms-length from the government. DAOs are supported by legislation, provide day-to-day services, and report the financial status and progress of their activities to the Minister (Government of Alberta, 2012). Some of these arrangements include the Petroleum Tank Management Association of Alberta which regulates the safe storage of petroleum, the Alberta Boilers Safety Association which regulates the production and use of boilers and pressure vessels, the Alberta Elevating Devices and Amusement Rides Association which regulates amusement rides, escalators, and elevators, and the Alberta Conservation Association which manages funds for fish and wildlife habitat (Government of Alberta, 2012; Ontario Public Service Restructuring Secretariat, 1999).

In Ontario, the province has created various types of ASD arrangements, ranging from partnerships with agencies to full outsource and privatization agreements. The Ministry of Finance outsourced IT support services for desktop computers, servers and local area networks to meet increased demand for quality services (Ontario Public Service Restructuring Secretariat, 1999). The Ministry of Health has created an ASD arrangement for the processing of applications for drugs used by senior citizens (Ontario Public Service Restructuring Secretariat, 1999). These are just a couple examples of the many ASD arrangements in Ontario.

2.4 Findings on Outsourcing Health Information Technology

Review of available literature illustrates varied findings on whether or not outsourcing initiatives can improve financial and quality performance for healthcare organizations.

The review describes (a) the types of organizations that outsource, (b) the functions that are outsourced, and (c) the steps that organizations take when outsourcing.

2.4.1 Types of Organizations Found to Outsource

The literature on the types, or characteristics, of organizations that outsource shows varied results. At the organization level, factors such as IT costs, size, capability, and complexity of the organization all have been found to be associated with outsourcing. Initial research on outsourcing was based on findings that suggest that when economies of scale exist, the market, or external service providers, can produce goods and services at a lower cost than organizations can with internal resources (Williamson, 1981). This suggests that organizations turn to outsourcing as a way of delivering expensive IT services in a more cost effective manner. This has been found predominantly in industries other than healthcare. For example, the literature identifies that the banking industry has outsourced its IT to reduce production costs (Diane, 2009). Therefore, if organizations expect the production costs for IT to be higher when delivered internally, they may turn to outsourcing as an option to reduce costs (Wholey et al., 2001).

The size and capability of the organization are two other characteristics that can be associated with outsourcing. A study by Menachemi, Burke, Diana, and Brooks (2005) suggested that small and/or rural hospitals are likely to outsource IS. Research findings suggest that when there is a shortage of skilled personnel there is an increased likelihood of outsourcing and when organizations have skilled resources there is a tendency to leverage these resources by keeping their IS or IT functions internal (Wholey et al., 2001). These two findings may be related to the size of the organization (i.e. smaller and/or rural hospitals have a more difficult time attracting skilled resources). However,

other findings suggest that organizations with complex environments, which are often found in larger organizations, are also likely to outsource. In 2008, Aubert, Beaurivage, Croteau, and Rivard (2008) reported that organizations that support multiple technologies concurrently require diverse skill sets that are often more widely available in the marketplace, leading the organization to turn to outsourcing. Additionally, large healthcare organizations can be found to have a higher degree of bargaining power, or 'clout', than smaller hospitals, enabling them to demand more from the market (Diana, 2009). Therefore, large healthcare organizations may be just as likely to outsource as smaller and/or rural organizations.

The degree of asset specificity in an organization may also affect an organization's decision to outsource or not. Asset specificity is the degree of complexity or customization of an asset and refers to how useful it is to an organization, such as the ability of the asset to be redeployed for alternate use (Wholey et al., 2001; Williamson, 1981). Research has found that organizations with high asset specificity, that is assets that are complex, comprehensive and highly customized, are more likely to maintain and support assets internally (Diana, 2009). These assets may be legacy technologies that have been supported for many years by internal resources with the required, specialized skill set. This may make transitioning to an outsourcing partner more difficult and not cost effective. Gottschalk and Solli-Seather (2006) explain that a high degree of asset specificity can lead to difficult outsourcing agreements. As asset specificity decreases, organizations are more likely to outsource. It may be that organizations that are investing in newer technologies that have not been supported by internal staff before are more likely to turn to outsourcing. Interestingly, Lorence and Spink (2004), find that

organizations with a highly electronic environment are more likely to outsource IT functions. It could be said that organizations with a higher level of automated IS (i.e. a more electronic environment) would be more complex with greater asset specificity, and therefore this would contradict the findings that organizations with higher asset specificity do not outsource. In addition, literature has also found that organizations that are in financial difficulties or are in a poor state of IT (i.e. more paper-based) tend to outsource more than organizations that keep services in-house. (Gottschalk & Hans Solli-Saether, 2006).

2.4.2 Functions that Tend to be Outsourced

Another area of the literature on HIT outsourcing has centered on the IS functions that are outsourced. IS development, implementation, and operations and maintenance are considered major functions as described in the introduction above. IS development can be described as the design and build of a system; IS implementation can be considered as the installation of the developed system into a production environment for use; IS operations can be described as the regular up-keep and operations of the system in the production environment; and IS maintenance can be considered as performing the daily routine functions to keep the system running (Aubert et al., 2008; Langer, 2008; McDowall, 1991).

Generally, IS development and implementation can be considered more complex functions while IS operations and maintenance are generally more routine functions (Wholey et al., 2001). Research suggests that outsourcing IS development and implementation is greater than outsourcing operations (Wholey et al., 2001) and much greater than outsourcing maintenance (Aubert et al., 2008). IS development requires

skilled staff to design and implement new solutions. Some researchers believe that when these functions are executed internally, and without the appropriate skill set, initiatives can be completed over time and over budget, compared to those executed by a private partner organization (Dean, 2011). Outsourcing the complex development and implementation function of IS to external providers takes the responsibility away from the organization and puts it in the hands of experienced solution providers (Moschuris & Kondylis, 2006). IS operations and IS maintenance have been considered functions that are core to healthcare IT departments (Wholey et al., 2001). Operations and even more so, routine maintenance, can have major impacts on an organization if not executed properly (Wholey et al., 2001). For example, if routine maintenance is not completed on a system, this may result in a loss of clinical data which may have an impact on patient care. Healthcare organizations are strictly accountable for these core operations and maintenance functions and execute them on a regular and ongoing basis. Research suggests that this may be why organizations tend to keep these core functions internally, versus outsourcing them (Aubert et al., 2008; Wholey et al., 2001). However, these findings differ from the literature that states routine and well-defined functions, such as operations and maintenance, are easier to outsource than complex functions, such as development and implementation (Aubert et al., 2008; Gottschalk & Hans Solli-Saether, 2006; Wholey et al., 2001). A limitation of this research (on the functions that are outsourced) is that empirical studies in the literature are limited. This research does not consider why certain functions are chosen for outsourcing over others. Furthermore, the success that results from outsourcing the different functions has not been evaluated in the

literature. It has not been determined if outsourcing one function over another provides greater quality and financial benefits.

2.4.3 How Organizations Prepare for Outsourcing

Determining the functions that an organization will internalize or outsource is critical prior to moving forward with an outsourcing initiative. Once the functions that are to be outsourced have been determined, the literature outlines that there are a number of important steps an organization should consider. These steps should be taken when preparing for the outsource initiative, entering into the outsource deal, and executing the outsource partnership once it is in place. When preparing for the outsource initiative, organizations need to evaluate their internal strategies, culture and requirements. The organization should develop an outsourcing strategy that defines the objectives and end goals for moving to an external service provider (Piachaud, 2005). To do this, research outlines that the organization must understand the functionality and business processes of its current operations environment (Klein, 2006). The culture and the resources required to make an outsourcing initiative successful should also be evaluated. Outsourcing requires executive champions. It is a top-to-middle management issue and requires the right management team to make it successful. Research suggests that managers must have skills that include strategic thinking, partnership and relationship management, negotiation and change management (Roberts, 2001). For many organizations this may be a shift in the skill set for a number of managers who are more focused on developing and supporting IS and IT, managing internal staff, and ensuring completion of routine maintenance. The outsourcing strategy should also include clinicians. Clinicians are the

customers of HIT departments and findings show that their perspectives need to be considered when developing an outsourcing strategy (Klein, 2006).

When entering into an outsource initiative, the contract is a critical item that influences the overall outsource success. The contract can help reduce the amount of risk with outsourcing (Cox, Roberts, & Walton, 2012). The contract serves as the legal basis for the outsourcing agreement and is designed to be equal for both parties. The contract can also influence the quality of the relationship between the organization and the service provider (Blumenberg, 2008). The contract needs to be flexible enough to adapt to the changes in technology and the market that occur over the life of the contract. Experience shows that legal and technical expertise should be consulted during this process (Lacity & Hirschheim, 1993). Legal expertise is needed to ensure penalties for non-performance, including financial penalties, are incorporated. Technical expertise can assist in ensuring service levels, accountability measures, and escalation procedures when services that are not met are put in place. Research outlines that it is critical to clearly define performance expectations and measures and ensure these are reported on after the contract is signed (Lacity & Hirschheim, 1993). The partner chosen must be able to meet all of the service levels and have the technical capabilities beyond that of the organization. Researchers have found that the chosen partner needs to provide the HIT functions agreed to in the contract, allowing the organization to focus on their core strategic competencies (Lacity & Hirschheim, 1993).

Once the contract is agreed to by both parties, the most challenging work begins. The contract must be thoroughly executed in a planned and coordinated fashion. Experience shows that the organization should strongly consider developing transition plans to move

forward with a carefully negotiated contract (Klein, 2006) and ensure the security of the employees is not threatened. Managers may need to be trained on how to govern the new relationship with their partner and ensure proper exchange of information to bridge the culture. Research suggests that feedback systems are needed for knowledge sharing in both directions from the organization and its new partner (Roberts, 2001). Further findings suggest that the organizational focus needs to shift to managing the partner and the contract (King, 2009). Problems can occur when performance is not being monitored and the partner is not being fully managed. Findings also suggest that organizations can become overly dependent on the partner and risk losing control and flexibility to focus on their own organizational strategies and core competencies (as they become too focused on the outsource and forget about their core services that are not outsourced) (Roberts, 2001). The strength of this research is that organizations can look to this as a guide to ensure they execute the appropriate steps to help realize organizational success when outsourcing. However, a limitation is that this research does not discuss the level of organizational success that results when these steps are executed.

2.5 Outcomes and Consequences of Outsourcing

When the organization strategically determines which functions to outsource and thoroughly executes the steps to outsourcing, the outsource initiative can prove successful. Outsourcing success has been found to be measured by performance objectives, satisfaction from stakeholders and staff, and the realization of expectations and outcomes (Dibbern, Goles, Hirschheim, & Jayatilaka, 2004). Many Chief Information Officers (CIO) from the CIO Forum, facilitated by CIO magazine, report

successful outsourcing partnerships (Overby, 2005). Lacity and Willcocks (1998), in their research found that organizations that outsourced over 80% of their IT functions reported an outsourcing success rate of 29%, and that organizations that outsourced less than 80% of their IT functions reported an outsourcing success rate at 85% (compared to a 67% success rate reported with in-sourcing). Despite this, the literature demonstrates varying intended and unintended consequences of outsourcing. Furthermore, the financial and quality performance benefits of outsourcing also vary, and have yet to be proven in the literature, especially for healthcare organizations.

2.5.1. Financial and Quality Measures of Outsourcing

The majority of research on the benefits and outcomes of outsourcing has focused on financial measures as opposed to quality measures. Financial measures may include organizational expenses, cash flow ratio, operating margin, return on investment, or total margin. A major driver for outsourcing is to save costs and increase efficiency, thereby improving the financial benefits for the organization. There is much discussion in the literature about the alignment of outsourcing and costs. Initial research on outsourcing was based on findings that suggest that when economies of scale exist, external service providers, can produce goods and services at a lower cost than organizations can with internal resources (Williamson, 1981). Furthermore, it has been found that the greater the IT costs for an organization, the more likely that organization is to outsource (Wholey et al., 2001). This suggests that organizations turn to outsourcing as a way to deliver expensive IT services in a more cost effective manner. However, there have been a few empirical studies that have demonstrated that outsourcing can lead to increased financial benefits for an organization. Claims have been made that outsourcing can save 10-15%

in costs for an IT organization (Diana, 2009; Lacity & Hirschheim, 1993); however, this is yet to be empirically proven in the literature. Some studies have found that little to no financial benefits result from outsourcing (Menachemi, Burkhardt, Shewchuk, Burke, & Brooks, 2007). One study on hospitals in the Florida area found that hospitals that outsource IT functions do not differ in their financial performance as compared to hospitals who keep their IT functions internal (Menachemi et al., 2007). Other findings have also shown that outsourcing can lead to higher costs (Lacity & Hirschheim, 1993). For example, organizations may incur charges by cancelling contracts with their current vendors prematurely to move to the outsourced partner. Organizations may also find they are still supported by their original staff and additional expertise from their partner are an added cost and are often at a higher rate. Therefore, outsourcing has been commonly referred to as a cost-neutral strategy (Menachemi et al., 2007).

The association between outsourcing and quality measures has been infrequently written about in the literature. Quality refers to the effectiveness of delivering services or functions. Quality can be defined as a measure of excellence and includes the ability to consistently deliver services or activities with no errors and achieve satisfactory customer satisfaction (Business Dictionary, 2012). Quality measures associated with outsourcing IT may include the ability to deliver on time and budget, meet customer satisfaction, and improve human resource characteristics at the organization, such as increased productivity and employee satisfaction. The literature demonstrates the need to monitor performance to ensure quality is being achieved when it comes to outsourcing (Dean & Kiu, 2002); however the outcomes of outsourcing on quality benefits have not been fully evaluated in the literature. Some IT executives (more so in industries other than

healthcare) have reported satisfaction from outsourcing. In a study by the Massachusetts Institute of Technology's Center for Information Systems Research (CISR), findings showed that 90% of IT executives report satisfaction with their outsourcing, when the outsource itself was for well defined services (Ross & Beath, 2005). These findings are primarily related to industries other than healthcare. Healthcare organizations may have similar findings; however, further studies are needed to understand the outcomes of outsourcing IMIT functions in healthcare.

2.5.2. Intended and Unintended Consequences of Outsourcing

Although the literature does not provide specific empirical assessments on the quality and financial outcomes of outsourcing, the positive and negative consequences of outsourcing have been reviewed. The research demonstrates that there can be many positive consequences associated with outsourcing in general. However, negative consequences can also result in many situations.

1. Positive Consequences of Outsourcing

Outsourcing initiatives are said to help streamline the organization and the delivery of services, specifically when outsourcing is performed in the public sector, such as healthcare organizations. A key driver is often the need to reduce costs and deliver services in a more cost effective manner. Studies have found that outsourcing in the public sector can allow the public organizations to be more agile and flexible when responding to customer needs (Armstrong, 1998). This in turn should result in improved service delivery; thereby improving financial and quality performance measures for the public organization; however, there has been limited evidence on this in the research.

Some literature finds that by holding a private sector organization accountable, services can be more easily delivered on time and within budget as compared to being delivered in a bureaucratic public sector organization (Dean, 2011). This literature finds that often services are delivered by both public and private sector employees (Fyfe, 2004) and can lead to increased capacity, performance and productivity (Elmuti et al., 2010). Furthermore, as the literature explains, employees can focus on doing the work, rather than managing the government system (Dean, 2011).

Other studies have found that employees may find expanded career opportunities with outsourcing (Pryma, 2002; Taplin, 2008) and be able to increase their knowledge and specialized skills by broadening their experiences with another organization (Perkins, 2003). This may cause employees to get more involved and endorse the outsourcing strategy and gain a deeper sense of professional worth (Pryma, 2002). Overall, these positive consequences can result in improved service delivery; thereby improving financial and quality performance measures for the public organization; however, there has been limited published evidence documented in the research literature.

2. Negative Consequences of Outsourcing

Negative unintended consequences can also occur with outsourcing agreements. Outsourcing can have many different negative implications if not handled carefully or executed properly. As discussed above, non-financial consequences are infrequently discussed in the literature; however, the impacts on the organization and its employees can be one of the greatest negative consequences for outsourcing. Some studies have found that after an organization transfers its services to the private sector, organizational knowledge, skill sets and competencies can decrease (Agndal & Nordin, 2009).

Relationships with other organizations and third party companies can also be reduced as the organization is now working with one dedicated partner organization (Agndal & Nordin, 2009). Furthermore, if any cost savings are realized from the transfer of services, the dollars that are written off as savings are not reinvested in the organization for things such as training and staff development (Agndal & Nordin, 2009). This literature demonstrates that an unintended consequence may be that innovative and strategic thinking, as well as the organization's capabilities decrease (Agndal & Nordin, 2009).

Other literature suggests that outsourcing can have negative impacts on employees. Outsourcing is often considered a form of externalization of employment, where an external service provider takes over in-house staff (Taplin, 2008). Therefore, the human resource issues associated with outsourcing are important and need to be considered in the outsourcing process. People are considered an organization's most critical asset and they will help determine the success or failure of an outsourcing deal (Perkins, 2003). The negative human factors associated with outsourcing found in the literature have centered on stress, employee morale, performance, trust and loyalty, and the concept of survivor syndrome. One study on the consequences of outsourcing found that outsourcing had a negative impact on perceived quality of work-life by employees (Elmuti et al., 2010).

There is a general perception and recognition that outsourcing means laying off employees (Elmuti et al., 2010). Outsourcing can create little job security, thereby creating high anxiety and stress in employees (Elmuti et al., 2010). This can sometimes lead to dysfunctional behaviour in employees, as they are unsure of their environment and surroundings (Perkins, 2003). In studies focusing on human resources and

outsourcing, researchers have found that employees often feel the biggest challenge is the lack of control over the outsourcing events and their environment (Morgan, 2008), which can in turn cause great stress. Employees may feel insignificant in their organization and this feeling can lead to stress and fear over job security (Elmuti et al., 2010). This stress can affect employee morale. In the United States 2005 national IT survey by Information Week Research, 61% of the IT professionals that responded to the survey said that outsourcing causes lower employee morale (McGee, 2005). This can lead to increased absenteeism and turnover rates (Elmuti et al., 2010; Morgan, 2008).

In addition, outsourcing, including changing peoples' job functions and required skills, can have a large effect on the level of employee performance. Human errors and failures in the work environment may result. These failures can come from a misunderstanding of the tasks at hand, inadequate training if an employee is moved to a new role, and uncertainty about new policies and procedures. The loss of trust and loyalty from employees is another potential negative consequence. When employees are transitioned to another organization the organizational mission and vision they had been working for gets altered and organizations may see a decrease in the trust and loyalty of their employees. One study found that this "loss of trust" led employees to feel the need to place the blame on someone within the organization – mostly aimed at very senior managers (Morgan, 2008). Furthermore, this altered the employee's view of their employer and made rebuilding trusted relationships a huge challenge (Morgan, 2008). With outsourcing, employees are forced to relinquish existing relationships and create new ones which can have an impact on employees' level of trust and loyalty.

Lastly, when outsourcing takes place, some employees may feel a “survivor syndrome”, where they are left to have to deal with the change. Survivor syndrome refers to “a marked decrease in motivation, engagement, and productivity of employees that remain at the company as a result of downsizing and workforce reductions” (Elmuti et al., 2010, p. 181). Often survivor syndrome can lead to declines in performance as the employee is preoccupied with thinking about personal factors at work.

3. Mitigation Tactics to the Consequences

Cost saving and quality improvements are not guaranteed when outsourcing. Many different factors can affect the outcome of the new agreement, such as the quality of the relationship with the partner, the complexity of the services being delivered, the culture of the organization, and the support from leadership for its employees. Findings from the literature demonstrate that organizations need to be prepared to understand some of the intended and unintended consequences and put mitigation strategies in place to reduce the negative consequences that may arise. Research suggests it is important for the organization to take human factors into consideration when outsourcing. If the human side of outsourcing is not considered, the negative consequences described above can lead an organization to lose important competencies, knowledge and skills among their staff and break the trust, loyalty, and relationships that exist with employees. Some mitigation strategies include thoroughly planning the arrangement, ensuring constant communication with employees, encouraging staff participation in decision making, developing a human resource strategy, and establishing and measuring performance (Lacity & Hirschheim, 1993).

2.6 Discussion

The literature review provided insight into the status, developments, and conclusions of outsourcing research, in the public sector in Canada, and in the area of HIT. There are varied findings on when organizations should outsource, the functions they outsource, and how they approach the outsourcing agreements. Researchers have found that the organizations tend to outsource when doing so is less expensive than delivering service internally, when skilled resources are required, and when services are well-defined no matter the size of the organization, small or large. Researchers have also found that the functions that tend to be outsourced are development and implementation functions, versus operations and maintenance activities. When preparing for an outsourcing initiative, organizations should be diligent and focused when entering into an outsource deal, preparing the outsourcing agreement and finally executing the outsource partnership.

In addition to this, the literature found varying financial and quality performance benefits from outsourcing. Outsourcing has the potential to leverage financial gains and improve quality performance for healthcare organizations, especially when the organization strategically determines the functions to outsource and thoroughly executes the outsourcing initiative. Yet, empirical assessments of outsourcing have been limited and the performance benefits associated with this organizational activity have yet to be fully evaluated in the literature. Though a key driver of outsourcing has been found to be a cost savings performance target, the literature suggests that outsourcing may lead to higher costs and may be a cost neutral investment. In addition to this, organizations can do a number of things internally to improve performance and do not always have to turn

to outsourcing. However, often the public sector culture of an organization and its bureaucratic customs can hinder the organization's ability to realize these cost saving strategies. As a result, organizations may turn to their outsourcing partners to help. Outsourced partners can often operate autonomously and have greater adaptability to meet needs and make changes. This may result in improved quality performance for the organization, such as higher levels of satisfaction and improved service delivery. When deciding to outsource, an organization needs to consider the desire to shift focus to improve IMIT services, not just reduce cost. Further studies are needed to assess the level of performance benefits when outsourcing, especially in the Canadian healthcare system.

According to the literature, outsourcing can also have many consequences for the organization. Outsourcing creates a major change for all employees across the organization. Outsourcing changes an organization's design and structure, the nature of the work, and the way the work is delivered (Elmuti et al., 2010). Outsourcing can lead to negative outcomes specifically when considering the level of change for the organization and the changes for employees, including decreased productivity which can lead to decreased service levels. Research has found that these consequences and negative outcomes need to be carefully mitigated through a variety of strategies.

Despite all the literature on outsourcing, there are still a number of questions about the success of outsourcing HIT that remain unanswered. Can outsourcing HIT in Canada result in better success when compared to delivering these functions internally? Some research suggests that healthcare organizations that outsource HIT functions do not perform any differently than other hospitals that keep their HIT functions internal

(Menachemi et al., 2007). Of the organizations that strategically decide to outsource and carefully negotiate their outsourcing agreement, are they seeing success? What functions of development, implementation, operations, and maintenance may provide the most benefit from being outsourced or delivered internally? What are the benefits, including both quality and financial, that organizations are seeing with outsourcing, if any? These are questions that further research about outsourcing may shed some light on.

2.7 Conclusion

To summarize, it is clear that organizations are learning more about outsourcing, including when to outsource and the benefits and challenges associated with this activity. However, further research on whether outsourcing HIT can improve financial and quality performance for healthcare organizations is needed. Empirical assessments on the successful outcomes of outsourcing HIT have been limited and the performance benefits that result from outsourcing have not been fully evaluated in the literature. There is a need to study the performance benefits of outsourcing different HIT functions in healthcare organizations, particularly in Canada.

Understanding whether outsourcing HIT can result in quality and financial benefits for healthcare organizations is important prior to entering into such a large change initiative. More so, understanding if benefits are associated with outsourcing certain functions, such as development, implementation, and operations and maintenance, is important. In this work, the researcher explores the perceptions that exist about outsourcing HIT in Canada versus keeping services internal, including the perceived benefits and challenges as well as the strengths and weaknesses.

Chapter 3: Study Design and Research Approach

3.1 Methodology

This study employed qualitative research methods. Qualitative research was used to interpret participants' views and opinions about the success of HIT outsourcing. Qualitative research helps to answer research questions from the viewpoint of participants and provides a holistic and subjective result (Jackson & Verberg, 2007). Qualitative research employs words rather than numbers to interpret the quality and financial performance benefits that may be associated with outsourcing HIT. Therefore, a qualitative exploratory approach was used in this study to gather participant feedback to generate items and groupings around the success of HIT outsourcing. This chapter describes how the study was conducted.

3.2 Participants

Individuals who participated in the study were from HIT departments from across Canada. Participants were from organizations that had outsourced HIT functions, including HIT development, implementation, operations and maintenance, or a combination of all four. Participants were also from organizations that had not fully outsourced HIT functions and had kept the majority of services internal. Participants had a number of different roles, or job titles. The roles included: Chief Information Officer, Chief Operating Officer, HIT Director and Manager. Senior executives and managers who were responsible for outsourcing contracts were invited to participate. These participants were of interest, as they have had experience with HIT outsourcing, or

keeping these functions internally staffed. These participants were most familiar with how HIT is managed within their organization and have some insights as to the consequences that may result from how HIT is delivered, internally or externally. Participants also worked in different organizations across Canada. The individuals were invited to discuss their experience with outsourcing HIT. The named participants, as well as the organizations they work for, have been anonymized in this thesis.

3.3 Recruitment

Several recruitment methods were used. An invitation to participate in the study was sent to a health informatics listserv, specifically the University of Victoria Health Information Science listserv, after obtaining approval from the School of Health Information Science and Human Research Ethics at the University of Victoria. The researcher also obtained approval from University of Victoria Human Research Ethics to have an expert from the University of Victoria School of Health Information Science send the recruitment email to their contacts in provinces across Canada (see Appendix B for the recruitment email).

A snowball sampling approach was also utilized. Snowball sampling is a referral sampling mechanism (Jackson & Verberg, 2007) and provides a good strategy when desired participants are difficult to access or approach (Fossey, Harvey, McDermott, & Davidson, 2002). As participants agreed to be part of the study, the researcher asked if the participant knew of any other individuals that may be willing to participate in the study. The researcher asked the participant to forward the recruitment email to those who they thought might be interested in participating. This helped to achieve saturation.

Achieving saturation is very common in qualitative research. Saturation occurs when no new data emerge (Strauss & Corbin, 1998). Saturation helps to ensure confidence in the data that has been collected and that a sufficient sample size has been found. Sample size in qualitative research is based on concepts and dimensions and does not involve having a pre-defined sample size prior to data collection (Jackson & Verberg, 2007). In this study, saturation was reached after 14 individuals from across Canada had been interviewed.

3.4 Setting

The interviews were conducted by telephone; however where possible some interviews were held in person in the participant's office. Conducting interviews allows for detailed verbal descriptions of the individual's experience, views and opinions regarding the research questions under study (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). The researcher attempted to understand where outsourcing occurred in the organization, the perceptions of outsourcing initiatives, and the impact and the intended and unintended consequences of outsourcing. This allowed the researcher to formulate answers to the thesis questions of what quality and financial benefits have resulted from outsourcing.

3.5 Data Collection

Once a participant emailed or called the researcher to indicate they were interested in participating in a study, the researcher contacted the participant to set-up a date and time for an interview. On the day of the interview, the researcher obtained consent from the

participant (see Appendix A for the consent form). Data were collected using two methods: demographic data questionnaires and semi-structured interviews.

3.5.1 Demographic Data Questionnaire

After agreement to participate was obtained from the participant, the researcher's first step consisted of asking the participant for some demographic data. The demographic data formed the basis of the interview and was used to gather information about participant demographics, their HIT experience, the type and structure of the organization they work for, and their experience with outsourcing (see Appendix C for the demographic data questionnaire).

Answers to the demographic data questions provided information about the participant's age, gender, educational experience, professional background, and years of experience in the HIT industry. Questions related to the participant's organization provided information about the type of organization the participant worked for and the HIT functions provided by the organization. Lastly, questions about whether the participants or their organizations had been involved in outsourcing or keeping services in-house were asked. This provided some initial information about the participant's outsourcing experience.

3.5.2 Semi-structured Interview

Once demographic data were collected, participants were asked to participate in a semi-structured interview. Semi-structured interviews consisted of open ended questions that allowed for further exploration of the topic (Britten, 1995). Semi-structured interviews differ from structured interviews, where pre-determined questions are asked in a specific order (Jackson & Verberg, 2007). They also differ from unstructured interviews, where

the researcher explores a topic by only asking a few specific questions (Douglas, 1985). Semi-structured interviews allow for some pre-determined questions to be asked and also allow the researcher to ask additional questions to probe for more ideas or themes. In this study, the researcher developed a core set of questions based on the literature review that were specific to the research questions under study (see Appendix D for the semi-structured interview script).

The interview was initiated with easier questions, which included discussing the participant's experience with outsourcing and their familiarity with outsourcing the different HIT functions. Characteristics of the outsourcing initiatives the participants had experience with were also explored, including the size, or complexity, and the length of outsourcing agreements. As the semi-structured interviews progressed, the questions became more focused and complex. Questions were asked about the perceptions that exist about outsourcing, including the rationale behind outsourcing and the positive and negative relationships between the organization and the outsourced partner that may exist. The researcher asked questions so that she would gain an understanding of the specific impact and the intended and unintended consequences that the outsourcing initiatives may have had on the participants or their organizations. Lastly the participants were asked for their opinion about the performance benefits that have resulted from outsourcing HIT functions. For those participants that had less experience with outsourcing, questions around in-sourcing were asked. This included exploring the reasons for keeping services in-house and the benefits and challenges of doing so. Although the interview questions moved from easier to more difficult questions, the exact

order of the questions varied depending on the responses of the participants. Participants were probed for further information as necessary.

Audio recordings and written notes were made of the interviews. Interviews were recorded and then transcribed by the researcher. Interviews can produce large amounts of data (Fossey, Harvey, McDermott, & Davidson, 2002). Therefore, audio recording together with written notes were the preferred data collection methods for the interviews. Audio tapes were transcribed and coded by the researcher following the interview. This coding allowed for the researcher to understand the answers discussed and identify new and emergent themes (Fossey et al., 2002). Observational notes made during the interviews were also added to the transcribed notes. All participants provided consent prior to audio recording.

3.6 Data Analysis

The researcher analyzed both the demographic data questionnaires and the semi-structured interview data. The data analysis process began immediately following the data collection of the demographic data. During this phase, the researcher transcribed the answers of the questionnaires into a Microsoft® Word document for each participant. The responses were then consolidated into a spreadsheet created in Microsoft® Excel to allow for comparison of the participant demographics. Following the data analysis of the questionnaire, qualitative content analysis was employed when analyzing the semi-structured interview data. Content analysis is becoming widely used in health studies (Hsieh & Shannon, 2005). Hsieh and Shannon (2005) indicate that conventional content analysis is often used when the literature on an area of phenomenon is limited. This data

analysis approach is appropriate for this study due to the limited literature on the success of outsourcing HIT. Content analysis allows a researcher to interpret text data through a systematic classification process that involves coding (Hsieh & Shannon, 2005).

Repetition of coding helps to identify particular patterns and themes that arise from the interview transcripts (Hsieh & Shannon, 2005). Research using qualitative content analysis examines the language of participants and focuses attention on the contextual meaning of the text to identify categories that have similar results (Priest, Roberts, Woods, 2002). Content analysis has been found to be a reliable approach for analyzing qualitative data, such as interviews (Priest, Roberts, Woods, 2002).

3.6.1 Demographic Data Questionnaire

The demographic data were analyzed by comparing each questionnaire in a consolidated Microsoft® Excel spreadsheet. The participants' demographics were tallied and compared to determine the different roles that each participant had in their organization. The participants' HIT experience was tallied and compared to highlight the average number of years of HIT experience. The participants' organizational characteristics, such as the type of organization they worked for and number of IMIT employees for the organization, were compared to gain an understanding of the level of IMIT investment among the organizations the participants worked for. Lastly, the participants' experience with outsourcing was tallied and compared to understand the number of participants with direct outsourcing experience and the number of participants with less outsourcing experience. This section of the demographic data questionnaire also allowed the researcher to tailor the semi-structured interview questions as appropriate. For example, if the participant expressed experience with outsourcing in

their demographic data questionnaire, the interview then centered on questions around outsourcing. If the participant stated little experience with outsourcing, the interview then centered on questions around in-house service delivery, with some questions on outsourcing. Overall, the data analysis on the demographic data questionnaires allowed the researcher to capture statistics to describe the participants in this study.

3.6.2 Semi-structured Interview Data

In this study, content analysis was employed to analyze the semi-structured interview data. As interviews were transcribed in Microsoft® Word documents they were analyzed. Words and segments of sentences were the unit of analysis (Jackson & Verberg, 2007). Words and segments of sentences were coded to represent a theme or category (Hsieh & Shannon, 2005). Initially open coding took place. Open coding involves reviewing the similarities and differences between interactions and groups them into categories (Priest, Roberts, Woods, 2002). In this initial phase, data collected through the interviews were analyzed to identify the participant's outsourcing experience, their perception of outsourcing, and their positive and negative opinions on outsourcing. The researcher created a spreadsheet using Microsoft® Excel to record the extracted data from the transcripts.

After open coding was performed to refine the codes and groupings (Priest, Roberts, Woods, 2002), the codes were grouped into larger categories. In content analysis, the participant's responses help derive the concepts and categories (Priest, Roberts, Woods, 2002). The researcher explored for relationships between the categories. This allowed for insights to be formulated and comparisons to be made between participants' comments. The researcher captured the consolidated codes and the concepts that

emerged from the data analysis in a Microsoft® Excel spreadsheet. Content analysis was undertaken until saturation had been reached. Saturation occurred when findings from the participants became repetitive and confirmed the data that had been collected previously (Strauss & Corbin, 1998). Content analysis generated a large set of data, which included 14 interview transcripts, and demonstrated that key findings had emerged throughout the study.

3.7 Ethics Approval

In early April 2012, an ethics review application was submitted to the University of Victoria Human Research Ethics Board. Ethics approval was provided on April 26, 2012. Data collection activities started following this approval. In July 2012, the researcher requested a modification for ethics review requesting an expert from the University of Victoria School of Health Information Science to distribute the recruitment email to contacts across Canada. The modification was approved by the Human Research Ethics Board on August 1, 2012.

Chapter 4: Study Findings

4.1 Introduction

This chapter reviews the study findings. The chapter outlines the demographic characteristics of the participants in this study and the concepts and themes that emerged from the semi-structured interviews. Direct quotes from participants have been included to illustrate the findings of the study.

4.2 Characteristics of the Participants in this Study

In this section of the findings, the demographic characteristics of the study participants are outlined.

4.2.1 Participant Demographics

A total of 14 participants were successfully recruited and participated in this study. All participants identified themselves as working in the HIT industry. Forty-three percent (n=6) were females and 57% were males. The majority of the participants (i.e. 57%, n=8) were greater than age 50, while 29% were between 35-50 years of age, and only 14% were less than 35 years of age. Similarly, 57% (n=8) had over 11 years of experience in the HIT industry, 29% had 5-10 years experience, and 14% had less than 2 years experience in the area. All of the participants were equivalent to a Manager level or higher, with 2 Chief Information Officers, 1 Chief Medical Information Officer, and 4 Executives/Vice Presidents also participating. Table 1 provides a full description of the participants' demographics.

Table 1 – Summary of Participant Demographics.

Participant Demographics	Frequency (%)
Gender	
Male	8 (57)
Female	6 (43)
Age	
<35	2 (14)
35-50	4 (29)
>50	8 (57)
Education Degree	
Diploma	2 (14)
Under-graduate	3 (21)
Graduate	9 (64)
Years in Health IT Industry	
<5 years	2 (14)
5-10 years	4 (29)
11+ years	8 (57)
Professional Background	
Manager	2 (14)
Director	4 (29)
Chief Information Officer	2 (14)
Chief Medical Information Officer	1 (7)
VP or Executive equivalent	5 (36)

To summarize the majority of participants in this study had many years of experience in the HIT industry. In addition to this, the majority were seasoned leaders with a breadth of knowledge about HIT. All of the participants had knowledge of outsourcing.

4.2.2 Characteristics of the Organizations Where Participants Work

Of the 14 participants, all participants were working in the area of HIT in Canada, with some participants referencing experience in the United States. The majority of participants at 71% (n=10) were currently working at a Health Authority or equivalent. Fourteen percent (n=2) of participants were working at a government organization, 7% (n=1) were working with a HIT consulting firm in the private sector, and 7% (n=1) were

working with an IT vendor. Those participants that worked with a Health Authority reported that their Health Authority had approximately 10,000 employees. Ninety percent (n=9) of the participants that worked in a Health Authority (n=10) reported that the number of HIT employees supporting the Health Authority was approximately 400, or 4% of the total number of employees in the Health Authority. The current literature on HIT spending states that approximately 2-3% of operating dollars is directed to HIT (Canadian Medical Association, 2007). The remaining participants that worked in a Health Authority (n=1) reported a smaller portion of employees working in the HIT area, at 1.5% of the total number of employees. The 14% (n=2) of participants that worked in a government organization reported that approximately 1000 employees were in the organization's healthcare division, with over 100 (1%) supporting HIT activities. The 14% (n=2) of the participants that worked in an IT firm, including a vendor or a consulting firm, varied. One participant that was working in a HIT consulting firm reported only 10 employees with 100% of the employees focused solely on HIT. The other participant that was working with an IT vendor reported over 30,000 employees with 500 (1.7%) working on HIT. All participants indicated that their organization was involved in all four major functions of HIT, including development, implementation, operations, and maintenance. These functions were described to the participants as per the following:

- Development can be described as converting the design and requirements taken by stakeholders into a complete system (Langer, 2008). This includes creating databases and building in the appropriate data and information for the system to function.

- Implementation can be described as putting the developed system into a live production environment (McDowall, 1991). This includes preparing for the implementation, such as ensuring system and user readiness, and executing and supporting the activation of the system.
- Operations can be described as operating the live system once it is in a production environment and being actively used (Langer, 2008). This may involve handling user change requests and issues that arise.
- Maintenance is considered to be a more daily routine function to ensure the system is working as it should (Aubert et al., 2008).

The extent to which the participant's organization was involved in these four functions varied. All of the participants that were working in Health Authorities (n=10) indicated that the organizations directly supported and delivered the four functions. The 14% (n=2) of the participants that were working in government organizations indicated that their organizations supported the four functions, but the majority of these functions were delivered by an external service provider or other organizations. This may be a reason for the smaller portion of government employees working on HIT. One participant (i.e. 7%, n=1), who worked in a HIT consulting firm, indicated that their organization supported HIT functions by providing strategic advice to organizations that delivered these four functions. Another participant (i.e. 7%, n=1), that worked within an IT vendor firm, indicated that their organization supported the functions by delivering services on behalf of other healthcare organizations, but also provided strategy and advice to organizations that delivered these functions. Table 2 summarizes the characteristics of the organizations where the participants worked.

Table 2 – Organization Characteristics.

Characteristics of Organization	Frequency (%)
Type of Organization	
Government	2 (14)
Health Authority/Local Health Integration Network	10 (71)
Health IT Consulting Firm	1 (7)
Health IT Vendor Firm	1 (7)
Number of Employees at Organization	
Government	
Over 1000	2 (14)
Health Authority/Local Health Integration Network	
Over 10,000	10 (71)
Health IT Consulting Firm	
Approximately 10	1 (7)
Health IT Vendor Firm	
Over 30,000	1 (7)
Number of HIT Employees within the Organization (%)	
Government	
Over 100 (1)	2 (14)
Health Authority/Local Health Integration Network	
Over 400 (4)	9 (64)
Approximately 150 (1.5)	1 (7)
Health IT Consulting Firm	
Approximately 10 (100)	1 (7)
Health IT Vendor Firm	
Over 500 (1.7)	1 (7)
Involvement in HIT Functions	
All (Development, Implementation, Operations, Maintenance)	13 (93)
Other: Strategic Advice, Planning	2 (14)

To summarize, the majority of participants in this study were working at Health Authorities with a large portion of their staff dedicated to HIT activities. Additionally, the majority of participants provided services across all HIT functions (i.e. development, implementation, operations, and maintenance).

4.2.3 Participants Experience with Outsourcing

All of the participants in this study stated they had some level of knowledge with outsourcing. Ninety three percent (n=13) of participants indicated they had direct experience with outsourcing in their current organization. The majority of the participants (i.e. 79%, n=11) expressed that their current organization had outsourced in the past, was currently outsourced, or would be outsourcing in the near future. The 14% of participants (n=2) from the health IT consulting firm and the IT vendor firm stated they had been involved in outsourcing engagements. Only 7% (n=1) reported that their organization was not involved in outsourcing, but was involved in similar consulting arrangements and the participant did have past experience with outsourcing in other organizations. Table 3 summarizes the participants' outsourcing experience:

Table 3 – Summary of Outsourcing Experience.

Participant Outsourcing Experience	Frequency (%)
Participant's Direct Outsourcing Experience	
Yes	13 (93)
No	1 (7)
Outsourcing Involvement in the Government Organization	Frequency: 2
Yes	2 (14)
No	
Outsourcing Involvement in the Health Authority	Frequency: 10
Yes	9 (64)
No	1 (7)
Outsourcing Involvement in the Health IT Consulting Firm	Frequency: 1
Yes	1 (7)
No	
Outsourcing Involvement in the Health IT Vendor Firm	Frequency: 1
Yes	1 (7)
No	

As stated above, 93% (n=13) of participants had direct experience with outsourcing. The roles of participants in outsourcing arrangements varied. Of the total participants,

43% (n=6) considered themselves customers, or the client, of the outsourced arrangement. The participants stated that they were not part of the organization that was outsourced to an external service provider, but they were the recipient of the services provided by the service provider. Thirty six percent (n=5) were involved in the leadership and the management of an outsourced arrangement. These participants described themselves as executives responsible for making the outsourcing decision, leaders responsible for executing the outsourcing contract, or managers responsible for the outsourced organization. Lastly, 14% (n=2) percent of the participants stated they were in an advisor role, supporting an organization with the outsourced arrangement. Table 4 summarizes the participant's role in outsourcing.

Table 4 – Summary of Participant Role in Outsource Arrangement.

Participant Role in the Outsource	Frequency (%) (n=14)
Participant Role	
Customer	6 (43)
Executive/Leader/Manager	5 (36)
Advisor	2 (14)
No involvement	1 (7)

In summary, all participants reported some level of experience with outsourcing and nearly all reported direct experience with outsourcing in their current organizations. The majority of participants considered themselves either a customer of outsourcing or as a manager or executive responsible for the outsourcing agreement. The different roles these individuals played in their outsourcing experience may shape their perceptions of outsourcing success.

4.3 Semi-Structured Interview Data

Semi-structured interview transcripts (n=14) were analyzed using a content analysis approach. Data were initially coded for concepts from the outsourcing literature. These concepts were then grouped into 24 categories. Table 5 provides the list of the categories. These categories were grouped into six findings sections.

Table 5 – Categories of Semi-structured Interview Findings.

Section	Categories
Outsourcing	General Outsourcing Health Information Technology Outsourcing Alternatives to Outsourcing Health Information Technology
Characteristics of Outsourcing	Health Information Technology Outsource Functions Characteristics of Outsourcing Agreements: Size, Length, Roles Outsourcing Relationships Reasons to Outsource Health Information Technology Outsourcing Alignment to Strategic Direction
Results of Outsourcing	Quality Benefits of Outsourcing Financial Benefits of Outsourcing Achieving the Intended Outcomes of Outsourcing Anticipating the Unintended Outcomes of Outsourcing Challenges of Outsourcing
In-sourcing	Reasons for Keeping Services In-house Benefits of Keeping Services In-house Challenges of Keeping Services In-house
Monitoring Organizational Performance	Performance Measures Commonly Tracked in Organizations Challenges Outsourced Organizations face with Performance Measures Performance Measure Improvement with Outsourcing
Summary of Outsourcing Strengths and Weaknesses	Top Strengths of Outsourcing Top Weaknesses of Outsourcing Will Outsourcing Happen Again? Outsourcing Considerations Outsourcing Future Directions

4.4 Outsourcing

4.4.1 General Outsourcing

There are many different attributes of general outsourcing as described by the participants. However, the differences that were found in this research were subtle. The majority of participants defined general outsourcing in a similar manner. In the general literature outsourcing is defined as contracting out a service or function which was traditionally done by an organization to an external organization that charges the organization back for its service (Hirschheim & Lacity, 2000; Moskowitz, 2009). Outsourcing can be considered an alternative to in-house services, or in-sourcing. In-sourcing occurs when services and functions are performed internally by organization staff (Willcocks & Lacity, 2009).

In this research, three common attributes of outsourcing were identified. These included the contracting of another organization, or external service provider; the transfer of staff to another organization; and the movement of non-core functions. When asked to define outsourcing, participants made reference to another organization. One hundred percent (n=14) of participants referred to the contracting of another organization, also commonly referred to by participants as an external service provider or vendor, when outsourcing. Participants stated that external service providers deliver a defined group of services that were traditionally done in-house and would be paid for by an organization who no longer wished to provide these services. Definitions of general outsourcing to another organization from the participants included the following:

“...having an external provider come in to take on the roles and responsibilities that were historically part of your company or your workplace.” (Participant 2)

“...using the services of an organization outside of your own department.”
(Participant 5)

Some participants also referred to the transfer of staff to the service provider organization. Of the participants, 29% (n=4) made reference to staff transfers when outsourcing. Staff transfers involve the movement of people from their home organization to the service provider organization (Willcocks & Lacity, 2009). Participants stated staff, or a portion of the staff, move by contract to the service provider. They become employees of the external service provider and no longer work for their organization. Instead, the employees support the organization by providing services or functions under the direction of the external service provider who charges back for their services. The service provider then becomes responsible and accountable for the staff. Definitions of general outsourcing involving staff transfers as described by the participants included the following:

“The movement of people to a third party organization to provide back the same services that you originally provided.” (Participant 12)

“It’s the moving of operational staff opposed to contracting those services.” (Participant 13)

Outsourcing is also considered to be a transfer of non-core services, or functions, to a service provider. Of the participants, 29% (n=4) made reference to outsourcing non-core services. Participants described non-core services as services or functions that are not core to an organization’s business. They may be services that are not required for an organization to fulfill its obligation to its customers, or do not support the strategic aims of the organization. Definitions of general outsourcing of non-core services by participants include the following:

“The transferring of a function which internally is not viewed as a core function by the organization to a third party service provider.” (Participant 6)

“Taking a piece of a business that is not core to the service the business provides and handing it to another organization to provide that service.” (Participant 7)

“It is the contracting for services that are not considered to be core to your main business.” (Participant 11)

Additional attributes of outsourcing were also found. Some participants described outsourcing as involving people, processes, technology, services and products. Other participants said that outsourcing could be done on a small scale with few staff or on a large scale with many staff. In summary, the research identified that the most commonly stated attributes of outsourcing include the contracting of another organization, the transfer of staff to another organization, and the movement of non-core functions. These common attributes make up the definition of general outsourcing.

4.4.2 Health Information Technology Outsourcing Definition

Participants were asked to define HIT outsourcing. All participants (n=14) stated that they would describe HIT outsourcing in the same terms as they had defined general outsourcing. Some participants (n=5) added further commentary around the definition of HIT outsourcing. These participants referred to HIT outsourcing as being an emerging trend and an evolution from general outsourcing. Participants stated the following:

“It isn’t any different [than general outsourcing] and I don’t think there is a lot of it. I think it is emerging. It is a new phase in the evolution of healthcare, in healthcare IT particularly, and is like a back office function that supports patient care. I think this is a new business approach to how we’re going to do this.” (Participant 1)

“It is sort of an evolution from [other healthcare] services that have traditionally been outsourced, and now this is the next steps where it’s not just the services of the person [being outsourced], it’s the services plus the information technology.” (Participant 2)

Participants’ statements demonstrated that there may be some difference with HIT outsourcing and general outsourcing. Some participants (n=2) indicated that HIT outsourcing involved a higher level of expertise, explaining that organizations outsource in order to leverage services they do not have internally to the organization. One participant described the following when defining HIT outsourcing:

“When we get into the kinds of outsourcing there are and the reasons for outsourcing, it may be different. From a strategic point of view, people want to outsource for leverage; you’re trying to get the benefit of the market in terms of expertise. If I need 50 people to be good at something for a given job, and I don’t have enough work for 50 people, it follows that I have to outsource or contract that out.” (Participant 10)

One participant made an interesting reference to HIT outsourcing, stating that this type of outsourcing may become commonplace over time. Today, anything different from in-house service delivery may be defined as outsourcing. Potentially with an increase in HIT outsourcing, the public will think less of services being outsourced and more of services being outsourced as a common service delivery mechanism. In summary, HIT outsourcing can be considered to be similar in definition to general outsourcing; however, HIT outsourcing is a specific type of outsourcing and with it may come other subtle differences and unique attributes, such as outsourcing for resources and specific expertise or having it become more of a common practice where HIT is concerned.

4.4.3 Alternatives to Outsourcing in Health Information Technology

When considering the definition of HIT outsourcing, participants brought up alternatives to outsourcing. Specifically some participants discussed contracting out and raised a concept called “out-tasking”, or the contracting of an external service provider to deliver a task without the organization’s resources transferring to the external provider. Participants stated healthcare organizations commonly contract out services to another organization, but do not perform a full outsource where staff are transferred. Participants described that with contracting out services the organization can rely on the external service provider and have the external provider’s staff come in and supplement the organization’s internal team. While it is similar to outsourcing, contracting out was found to be not on the same scale as full outsourcing, which requires fundamental organizational change. Participants also described out-tasking as an alternative to outsourcing. It was explained that out-tasking is similar to contracting out, and has less of an impact on the organization. An external provider comes in to fully deliver a service that is not delivered by the internal organization; staff in the internal organization continue to perform the work they have been doing. In addition to this, participants described this approach (i.e. contracting out of certain services) has less risk associated with it. One participant described this form of outsourcing in the following quote

"We do out-tasking. It’s a commodity and we treat it like a commodity. We can’t scale these areas, for example security monitoring, so we out-task. I get the benefit of the expertise... We take a well defined task and give it to a vendor. They become specialized and are considered to be the global high quality company in this area." (Participant 9)

In summary, participants stated that contracting out and out-tasking can be more common than outsourcing and may be used as an alternative to outsourcing. However, these alternatives do not change the organizational structure to the same extent as outsourcing does.

4.5 Characteristics of Outsourcing

Participants discussed different characteristics of outsourcing, including common functions that have been outsourced, characteristics of the outsourcing agreement or contract, types of outsourcing relationships, reasons for outsourcing, and the alignment of outsourcing to the organization's strategic objectives. These findings are explored below.

4.5.1 Common Health Information Technology Outsourced Functions

Participants discussed the HIT functions that they have commonly seen outsourced. The HIT functions included development, implementation, operations and maintenance. As discussed above in the literature review, development can be described as converting the design and requirements taken by stakeholders into a complete system (Langer, 2008). Implementation can be described as installing the developed system into a live production environment (McDowall, 1991). Development and implementation may be considered more project-based work. Operations can be described as operating the live system once it is in a production environment and being actively used (Langer, 2008). Lastly, maintenance is considered to be a more daily routine function to ensure the system is working as it should (Aubert et al., 2008).

The participants tended to group both development and implementation together and operations and maintenance together when discussing outsourcing. The majority of participants stated that they had seen outsourcing in Canada occur more commonly in the areas of operations and maintenance; however a good portion of the participants also stated that outsourcing development and implementation was also common. This differs from the literature that discusses the outsourcing of development and implementation as being more frequently outsourced than operations and, even more so, than maintenance (Wholey et al., 2001). However, some researchers have found that organizations have greater success from outsourcing operations rather than development and implementation functions (Lacity, Khan, & Willcocks, 2009). Therefore, based on this, it may be expected that more outsourcing would occur with operations and maintenance. When looking at the outsourcing of operations and maintenance, 86% (n=12) of the participants stated that they had commonly seen outsourcing of these two functions in Canada. Participants discussed that it made sense to outsource these functions:

“logical to be outsourced...easier to be outsourced.” (Participant 3)

“You don’t want to hold the responsibility of holding the actual code.”
(Participant 9)

Participants also provided examples of outsourcing in the areas of operations and maintenance. These examples included the following services: Service Desk; Desktop Management; Server Maintenance; Hosting; and Data Center Management.

Participants also stated that the outsourcing of development and implementation functions were common across Canada. Of the participants, 43% (n=6) stated that they had seen the outsourcing of development and implementation functions. Participants

stated that it is common to outsource projects and the development (i.e. the design and build) of systems:

“Most people cannot afford to maintain a project portfolio and be able to do it in-house. You tend to do small projects in-house and do large ones through a contract.” (Participant 9)

“In general there is more outsourcing of technical issues rather than operations issues. It is one thing to say I want a company to come in and build this system; it’s another to say come in and operate this system.” (Participant 8)

Participants also stated outsourcing development and implementation may be common as it may have less of an impact on employees. One participant explained that the outsourcing of development and implementation can occur due to workload issues with the current team:

“There was a case when the organization could not do what we wanted [with development and implementation], so we went out and hired an organization to do what we needed.” (Participant 5)

Participants explained that there was more work than the in-house team (i.e. those working internal to the organization) could handle, and therefore an external organization was brought in to support the internal organization to get the required work completed. This approach to outsourcing differs from moving staff to an external service provider to continue the same level, or amount, of work. Instead, an external service provider is coming in to support the organization’s current team to get an increased amount of work done.

A lower number of participants discussed the frequency of outsourcing all functions of HIT development, implementation, operations and maintenance together. Of the

participants, 36% (n=5) stated that they had seen the outsourcing of all HIT functions.

One participant discussed that outsourcing all functions includes having an external service provider operate an existing system, build a new system, and then operate the new system:

“Typically [my experience] has been run existing system, build the new one, and then run the new one. I call it Run, Build, Run. It’s [an approach] where [the vendor] builds the new system and then the vendor operates and manages it.” (Participant 6)

Participants also suggested that outsourcing all functions may be newer to the HIT industry and that contracts with external service providers are being expanded to include more functions and services:

“If I think about across Canada I don’t know of [many places], other than what we are about to embark on, outsourcing the development of a solution and the implementation of the solution, completely outsourcing with deliverable milestones. It’s done in consulting models, but that’s very different than an outsourcing model where you have that embedded in with the economic model of the ongoing operations and maintenance.” (Participant 1)

“I’ve seen [outsourcing] expand, more from a global perspective in healthcare, as we’re now outsourcing information management and information technology to [large companies].” (Participant 4)

In summary, participants have observed that all functions of HIT have been outsourced in some fashion across Canada. Generally, participants found that outsourcing operations and maintenance functions is most common, followed by outsourcing development and implementation, and lastly outsourcing all four functions.

4.5.2 Characteristics of Outsourcing Agreements: Size, Length, Roles

Participants discussed the characteristics of outsourcing agreements, including the typical size and impact on the organization of such agreements, the length of the agreement, and the common staff roles that move to the partner organization when outsourcing.

1. Size and Impact of Outsourcing Agreements

The size of the outsourcing agreement refers to its complexity, in terms of the number of staff impacted by the outsourcing agreement and, thereby, the contract terms to be managed and executed. For example, agreements that move a large number of staff over to an external service provider will be considered larger in size and higher in organizational impact (as a higher number of staff are impacted) as compared to those agreements that may be smaller in nature. The researcher found that both small agreements with lower organizational impacts and large agreements with higher organizational impacts have taken place across Canada. The researcher found that the size and impact of the outsourcing agreements varied by the type of HIT function that was outsourced. Of the participants that discussed outsourcing agreements for development and implementation, 100% of these participants indicated that the organizational impact was small:

“Nobody was impacted because it was a workload issue so no one really lost their jobs. You could say maybe in-house employees lost opportunities, but there was fairly limited impact. This was a case where [we] couldn’t do what we wanted, so we went out and [contracted an external service provider] to do what we needed.” (Participant 5)

Of the participants that discussed outsourcing agreements for operations and maintenance, participants suggested there was a mix of both small and large sized

organizational impacts. Some participants stated smaller outsourcing agreements where a small number of staff (such as 2-3% of the total staff) were transferred to an external service provider. Participants also provided examples where staff were transferred to an external service provider in order to support an outsourced service desk function and an outsourced desktop management function. The researcher also found that outsourcing agreements for operations and maintenance could be large when over 100 staff transfer to an external service provider to support these functions.

The largest size and impact of outsourcing was found when looking at outsourcing agreements that covered all functions of HIT. Of the participants (n=2) that discussed outsourcing agreements for all functions, 100% stated that many staff were transferred to an external service provider, indicating a large impact:

“We are a [full] organization...and all areas are going to be impacted. The solution development, the solution implementation, solution operations and maintenance...The entire team is impacted, but half the team is moving [to the external service provider].” (Participant 1)

The researcher also found that despite the size of the outsourcing agreement, staff would be impacted:

“Some people choose to leave the organization, so that is an impact...Other people, their job roles change, that’s an impact. You could argue that the level of service we are used to changes.” (Participant 5)

While outsourcing agreements for development and implementation are found to be smaller than outsourcing agreements for operations and maintenance and for all functions, the impact to an organization still exists.

2. *Length of Outsourcing Agreements*

Of the participants that discussed the length of outsourcing agreements (n=7), the majority at 86% (n=6) stated that typically the agreements were long in nature. These participants described outsourcing agreements as tending to be over 10 years in length. Fewer participants (29%, n=2) discussed seeing a shorter length of agreement. The researcher found that some agreements could be 1-3 years in length. One participant discussed a shorter length of agreement for approximately three years for the outsourcing of the development and implementation functions of HIT for their organization. Ironically, another participant suggested that shorter agreements may be better as they may secure a vendor to provide good service for many years (as the vendor is always competing to get the service).

“If you look at a big organization, by signing a long-term deal it forces competitive procurement which opens up competitive pricing. It is easy for a vendor to come in and you end up with a bad deal. But if you ask a company to go shorter term, it takes those things away. You make it easy for the vendor to win your business back. It’s completely not the way the industry tends to go. The vendor is happy with the result.” (Participant 9)

In summary, outsourcing agreements may be short or long in contract length; however, the researcher found that longer outsourcing agreements are more common among the participants.

3. *Roles that Commonly Move with Outsourcing Agreements*

Some participants also discussed the roles that are commonly impacted with outsourcing agreements, specifically the typical roles that move to an external service provider. Participants discussed, in general, that outsourced roles tend to be operations staff roles and can range from junior to senior staff. Some participants described

common roles that are frequently outsourced include system administrators, technical architects, developers, and analysts. This is consistent with literature that describes these roles as those that commonly support the functions of development, implementation, operations and maintenance (Lacity & Willcocks, 2009). Roles that may stay within the organization and may not be transferred may include staff that develop strategies or policies, and sit outside of the development, implementation, operations or maintenance functions. In summary, the characteristics of outsourcing agreements can vary. It was found that the majority of agreements are both small and large in size and impact, may be longer in terms of the contract length, and may include more technical roles versus business and strategic type roles.

4.5.3 Outsourcing Relationships

In this research, the researcher found that outsourcing relationships could range in the quality of the positive to the negative. This may be dependent on the outsource situation and may vary based on a number of different factors. In general, outsourcing changes relationships within an organization. Staff that move with the outsource agreement now work for the outsourced organization and are required to provide services to their previous organization from which they were transferred. Participants discussed experiencing positive and negative relationships between the organization and the external service provider when outsourcing. The majority of the participants (64%, n=9) discussed examples of positive outsourcing relationships. Some of these participants (2 of 9), along with other participants (n=4), also discussed examples of negative relationships arising from outsourcing. The relationships were discussed in context of the function outsourced. Table 6 provides a summary of the relationships expressed by the

participants. Some participants listed experiencing both positive and negative relationships.

Table 6 – Summary of Outsourcing Relationship by Function.

Outsourced Relationship and Function	Frequency (%) (n=14)
Positive by Function	
Development and Implementation	2 (14)
Operations and Maintenance	1 (7)
All Functions	6 (43)
Overall	9 (64)
Negative by Function	
Development and Implementation	0 (0)
Operations and Maintenance	3 (21)
All Functions	3 (21)
Overall	6 (43)

1. Positive Outsource Relationships

Participants provided many examples of positive relationships between the organization and the external service provider. Positive relationships were discussed along with outsourcing the development and implementation functions together, the operations and maintenance functions together, all four functions together, and when looking at outsourcing in general. When looking at outsourcing development and implementation functions, participants considered their relationship with the external service provider to be positive. Participants stated that vendors have local knowledge and expertise in the area of development and implementation. Participants also stated that when outsourcing operations and maintenance, the relationship was positive and one of collaboration. Participants stated that there are always challenges associated with outsourcing, but the relationship between the organization and the external service provider can still remain a positive one.

“It think there is always barriers that exist especially when you outsource a part of the business, but I think generally speaking its good.” (Participant 7)

When looking at outsourcing all functions, examples of positive relationships were provided. Some participants discussed having good relationships early on in the contract phase:

“So far, so good, we’re in the early days. The solution partner has a strong footprint in the province, and they reputationally have a lot of bench strength in this area.” (Participant 1)

“During negotiations [there is] a fairly good relationship; obviously the vendor is very incented to get to a signed contract.” (Participant 6)

Another participant demonstrated that good relationships can also exist at the end of the contract:

“The results of interim assessment is that we have a very good positive working relationship with the vendor... We’re in an end of term assessment review to determine if we are going to extend for 5 years...we’ve been approved to extend for 5 years.” (Participant 8)

In general, participants also indicated that positive relationships are dependent on a number of things. Participants stated that positive relationships may exist when outsourcing is part of the organization’s strategic plan and when there is appreciation and attention given to it:

“It’s been good when there is an appreciation on each side on what the organization can do and what the organization cannot do... Outsourcing works when it is part of a strategic plan. It’s an activity to achieve a strategic initiative; it should not be viewed by itself as a thing to do.” (Participant 12)

“It’s been good when you’ve done the right amount of due diligence pre-deal to lay out expectations of both the service provider and the retained organization.” (Participant 13)

To summarize, participants identified positive relationships when outsourcing any of the HIT functions; however, the extent of the positive relationship may vary based on a number of different factors.

2. *Negative Outsource Relationships*

Negative examples of outsourcing relationships between the organization and the external service provider were also found in the study. Participants, both from the customer and from the vendor side, suggested that outsourcing relationships for operations and maintenance can vary and can also be negative. A lack of collaboration and communication between the two groups (i.e. the organization and the external service provider) can lead to negative relationships. Participants described the following examples of negative outsource relationships:

“I think [relationships] varies. We manage over 100 applications that span quite a few business areas so it depends on the business area. There has been some very collaborative work that has been done with particular business area, and in other cases I’d say we’ve been very much in the dark with what’s going on and just taking orders.” (Participant 7)

“In this situation [of operations and maintenance], I would say from my perspective the relationship is not good. Frustrated would be a good word.” (Participant 5)

“It’s a very immature relationship at this stage with the end user community...The level of communication and education out to the end users about what to expect was very limited and the communication on how we’re moving to get to a steady state was equally limited. It was to be a seamless turnover to the vendor...but in reality there were a lot of things going on...The bad news is people didn’t have an appreciation of what were the levels of change.” (Participant 11)

When looking at all functions, participants also discussed the characteristics of negative relationships. One participant discussed a dependent relationship on the external service provider:

“I don’t have anyone else to go to get things done obviously, or to get things done right, so that’s where the dependency comes in.” (Participant 4)

Another participant discussed negative relationships when unrealistic expectations are present and or when the contract is not executed well:

“The time its gone bad is when a service has been starved or un-invested in and there are unrealistic expectations made of the service provider to improve the service when not enough resources are being transferred.” (Participant 13)

“It’s also gone bad from a managing cost perspective. If your deal is not structured well enough, the vendor has too many opportunities to charge you for uncompensated cost. It comes down to what is written. You have to do your due diligence, you have to have well established baselines going into the deal and you have to have the right support structure once the deal is signed to maintain the relationship with an understanding of the roles of the organization as well as the outsourcer.” (Participant 13)

In summary, both positive and negative relationships of outsourcing were found. These relationships varied based on each outsourcing circumstance and could be influenced by different factors. However, regardless of the relationship status, there is a great effort that must be made. Some participants described the change management effort that is required for stakeholders, for staff transferring to the external service provider, and for the retained organization. Participants found that this can help create a positive relationship. Participants described that the structural change, i.e. where people

belong, is only a small part of the change. The culture and the organizational change is the largest part of outsourcing.

4.5.4 Reasons to Outsource Health Information Technology

There were many reasons for outsourcing that were described by the participants. The top two reasons for outsourcing were to realize cost savings (50%, n=7) and to gain expertise in delivering high quality services (50%, n=7). Other reasons for outsourcing that were stated by the participants included improving service delivery, focusing on the core business, expediency, the transfer of risk, efficiency, and scalability. Table 7 provides a summary of the list of reasons for outsourcing as stated by the participants. Some participants provided more than one reason to outsource.

Table 7 – Summary of Reasons to Outsource.

Reasons for Outsourcing	Frequency (%) (n=14)
Cost Savings	7 (50)
Expertise	7 (50)
Improve Service/Improve Delivery	3 (21)
Focus on Core Business	3 (21)
Expediency	3 (21)
Transfer Risk	3 (21)
Efficiency	2 (14)
Scalability	2 (14)

Outsourcing in order to achieve cost savings was a reason stated by half of the participants. Participants stated that outsourcing could help manage and control costs for an organization. They felt that many organizations outsource to save costs over the years of a contract. Despite this, some participants felt cost savings is a promise never met and outsourcing may just be a mechanism to help keep costs flat. Participants identified that organizations need to consider the costs when delivering the business services themselves

and the costs of hiring an external expert to do the business services on the organization's behalf:

“It's based on the premise that if a company is very good at doing something and they operate at a cost 20% lower than the organization, then there is a 20% advantage over the organization. If I in-source something at cost X, and a company can do it cheaper, say 80% of X, the company should be able to offer a price point that is less than my price point. The challenge is their margin. If they add a 20% margin, in a best case scenario for the same quality, then I have no incentive to move from an in-sourcing model to an outsourcing model.” (Participant 9)

Outsourcing to gain expertise was also a common reason stated by the participants for engaging in outsourcing as an activity. Many participants indicated that when you often cannot get expertise in-house, you outsource to obtain access to resources and infrastructure you cannot easily find. The participants also suggested expertise is needed to meet the demands of the customers (i.e. meeting timelines and providing new solutions and ideas):

“[We outsource] because we cannot do it ourselves... We cannot bring in the people, the expertise, and the resources fast enough to do what we need to do.” (Participant 1)

“The only way to get a solution was to go to an outside vendor to help develop [it].” (Participant 5)

Participants also indicated that they outsourced to gain expertise where they need support. One participant explained that when an organization's infrastructure and operational structure is unstable and unsustainable, an organization may consider outsourcing in order to bring in the expertise to support the organization. The need to improve service delivery was another stated reason for outsourcing. Participants

suggested a focus on improving outcomes which leads to improving services and improving delivery of those services as being important. One participant described the need to improve services faster than could be done in-house:

“The intended outcome is better patient care, bottom line; we’re doing this because we want to get faster to a place where IMIT can enable better patient quality outcomes with better systems and better tools.” (Participant 1)

Participants also described a need to get out of non-core business activities as a reason for outsourcing and focusing on core business competencies. The participants stated examples of project delivery and internal operations as non-core business activities. This may be related to why these two areas are commonly outsourced.

Some participants stated expediency as a reason for outsourcing. Participants outlined that organizations outsource in order to improve the speed to action and the speed to execute work activities. One participant outlined a long list of requests that could not be addressed by their organization due to staffing shortages, so they went out and hired an external service provider to support staff with the workload. Another participant suggested that by outsourcing they could get things done faster than doing it in-house:

“We outsourced to a vendor. They came in and fixed us up. They did a wonderful job and cleaned us up. I have no doubt I could do a better job in the long run, but I couldn’t wait. The vendor in one year brought us to levels of effectiveness.” (Participant 9)

Participants stated transferring risk was another reason for outsourcing. Transferring risk involved the transfer of staff, including their benefits, pension, and other expenses, to

another organization. Participants stated that transferring risk makes the external service provider responsible for delivering the contracted service:

“When you transfer the risk, you’re in a better position to hold a vendor to account for contract and performance.” (Participant 11)

Participants suggested efficiency could be improved through outsourcing. Some participants stated that by outsourcing, efficiencies could be gained that may not be achievable with in-house resources. Other participants said that with outsourcing organizations can align services and systems under one service provider, thereby reducing multiple existing systems, processes and services.

Lastly, participants indicated that scalability (i.e. the ability to grow and improve a system or resources) was an important reason for outsourcing. The researcher found that you can scale resources (i.e. increase growth or performance of resources) if you have an external service provider, whereas you cannot easily scale resources when services are only delivered with internal staff. External service providers have many more resources to draw on than the local organization does. Participants identified that recruiting in-house staff takes times, whereas an external service provider has a lot of “bench strength”, where resources are prepared to come in and support.

While the top two reasons (i.e. cost savings and expertise) were provided as reasons for outsourcing, participants also stated many other reasons that included improving service delivery, focusing on the core business, expediency, transfer of risk, efficiency and scalability. Many participants discussed more than one reason, indicating that outsourcing is a strategic decision made with thoughtful consideration.

4.5.5 Outsourcing Alignment to Strategic Direction

Despite the many reasons for outsourcing listed by the participants, it was commonly expressed that outsourcing did, or needed to be, aligned with an organization's strategic direction. Participants indicated that if there is a need for outsourcing, it should be based on an organization's strategy:

“It needs to align, or it will fail.” (Participant 12)

Participants stated that when outsourcing any of the four functions in HIT, the decision to outsource must be aligned with both the organization and the customer's vision (such as the clinical vision). Other participants identified that when an organization does strategic planning the leadership looks at the services within the organization and determines the organization's core competencies or services, and their non-core competencies or services. Participants identified non-core services provide opportunities to outsource. One participant stated that outsourcing aligned with the strategic vision of having the organization focus on more planning and strategic activities; and hence the four functions of development, implementation, operations and maintenance were functions that were outsourced. In summary, participants indicated that the decision to outsource must align with the organization's strategic direction. If the organization's direction changes overtime, the outsourcing decision must be re-evaluated to ensure continued alignment.

4.6 Results of Outsourcing

Outsourcing leads to differing results, including the development of new benefits, outcomes, and challenges. The quality benefits, financial benefits, intended and unintended outcomes, as well as the challenges of outsourcing are explored in this section of the thesis.

4.6.1 Quality Benefits of Outsourcing Health Information Technology

Participants were asked to provide information about quality benefits they have experienced or witnessed arising from outsourcing. For purpose of this research, the researcher defined quality benefits as the non-financial benefits that have resulted in improvements for an organization. For example, effectiveness is often referred to as a quality benefit. Other examples of quality benefits may include the ability to consistently deliver with no errors and achieve satisfactory levels of customer satisfaction.

Participants listed similar quality benefits arising from outsourcing (much as they did the reasons for outsourcing). Interestingly, the most commonly stated quality benefit of outsourcing was improved delivery of services, which can lead to improved outcomes. The benefit of having expertise from an external service provider was listed as a common reason to outsource (second to improved delivery). This was followed by expediency, risk management, and lastly efficiency. Only two participants, both coming from a customer perspective, said that no quality benefits could be noticed from their experience with their respective initiatives that involved outsourcing operations and maintenance functions. Table 8 below provides a summary of the quality benefits suggested by the participants. Some participants listed more than one benefit from outsourcing.

Table 8 – Summary of Quality Benefits.

Quality Benefits	Frequency (%) (n=14)
Improve Delivery and Outcomes	7 (50)
Expertise	3 (21)
Expediency	2 (14)
Risk Management	2 (14)
Efficiency	1 (7)
No Quality Benefits	2 (14)

Many participants (n=7) listed improved delivery and improved outcomes as the most noticeable quality benefit emerging from outsourcing. These participants stated that outsourcing delivered higher quality services and improved performance. One participant stated that due to outsourcing, their organization could deliver improvements with the same cost. Another participant shared their opinion about receiving good delivery:

“We had a difficult time maintaining staff complement [prior to outsourcing], and we were always behind. We always had 30,000 plus pieces of correspondence and work on the shelf to answer, so [the vendor] took over and there were some strict service levels they had to meet as part of their contract. It’s been valuable and it’s been done very well”.
(Participant 4)

Some participants indicated outsourcing improved service delivery and performance, as services and products were delivered on time and on budget. It was stated that the vendor had defined deliverables and a defined timeframe that they had to meet, and they did. Additionally, it was found that outsourcing products and services led to quicker delivery of those services:

“For example, the team does good work, but if they are doing 10 different projects, how effective can they be? Whereas if you go to a vendor and

say I want this interface built and need it built by x time, you have a contract they have to deliver, where the in-house people there is nothing to push your issue to the top.” (Participant 5)

These participants described that the timeliness of product or service delivery, resulted in improved delivery and outcomes. Participants also found that outcomes improved as service delivery improved. These participants stated that as customer satisfaction levels improved, service levels became standardized and clinical benefits could result:

“We’ve had some absolutely amazing change in the results and [the vendor’s] ability to delivery on service levels, which has far exceeded anything we could accomplish in-house.” (Participant 8)

Though expertise was listed as a common reason for participants pursuing outsourcing, it was only identified by 21% of the participants (n=3) as being a quality benefit. One participant stated that the external service provider is contracted for the work that they specialize in. Often the external provider is more experienced with the work that the internal organization is concerned with, and therefore the external provider’s expertise is highly valued. The researcher also found that with outsourcing you have access to many different types of expertise, and this includes not only expert resources, but also worldly experience of best practices in HIT:

“We’ll see benefit of turnaround of methodology, technology, and training. That’s their job, they’re best in class. That’s what I expect to benefit from.” (Participant 11)

Expediency includes the speed to action a request or the speed to execute. Participants stated this was a quality benefit of outsourcing. These participants suggested that with

outsourcing, the organization could deliver on work they were previously behind on. They indicated that delivering services and products was done in a timelier manner.

Risk management and more predictable outcomes was also another benefit of outsourcing found in the study. Participants stated that by transferring risk an organization can have more predictable outcomes and can manage their risk more effectively. One participant stated the following:

“The thing about outsourcing is you have more visibility into the cost of the service, opposed to the service is always there without the investment. Today we stretch out staff. In an outsource environment, you can’t do that. You’re able to focus a bit more and demonstrate to your organization as to where you should be focusing your effort. The cost of doing business as opposed to an operating cost. You have much more service control, to predict, to grow service, to make decisions where you want to invest in terms of opportunity and growth.” (Participant 13)

Lastly, efficiency was a benefit stated. One participant suggested that an organization may not necessarily be delivering services at a lower cost, but “they’re doing a lot more with the same resources” (Participant 6). In summary, the quality benefit most commonly identified by the participants was improved delivery, followed by available expertise, expediency, risk management and lastly efficiency.

4.6.2 Financial Benefits of Outsourcing Health Information Technology

Participants were asked to describe the financial benefits they have experienced arising from outsourcing. For purpose of this research, the researcher defined financial benefits as financial performance that have resulted in improvements in cost savings or return on investment for the organization (Business Dictionary, 2013). Examples of financial benefits may include increased productivity and improved financial results, such as improved total margin (Cullen, Seddon, & Willcocks, 2009). One of the most common

reasons, reported by both participants and the literature, for moving towards outsourcing was to achieve cost savings. However, financial improvements and savings were not identified as a benefit by most participants. Only a few participants provided examples of cost savings when discussing the financial benefits of outsourcing. Other participants suggested that the cost model for outsourcing itself could provide benefits to the organization. Yet, other participants described outsourcing more as a cost neutral strategy.

The participants that provided examples of cost savings benefits indicated that cost savings could be realized from the approach taken with outsourcing. More specifically, participants believed that by outsourcing, timelines were met and therefore the timelines and the budget associated with outsourcing did not have to be extended (which often happens with projects delivered by the public sector). One participant also said that you can realize cost savings through optimizing the use of resources. Some organizations have a difficult time recruiting full-time staff. Therefore, these organizations are required to pay a higher rate to have part-time staff complete the work required, especially when clinical staff are required. With an external service provider, participants said that organization's can use the external provider's resources more effectively and efficiently and perhaps save costs. The external provider's resources are only engaged when required and the internal organization may be able to reduce their dependence on paying part-time staff to complete the work.

Other participants indicated that the financial benefits associated with outsourcing were more around the economic cost model of outsourcing. Participants found that by outsourcing, an organization can realize capital investments made by the external service

provider (that the organization may not be able to get from its public sector purse). This can help fund the outsourcing agreement in the early years.

“...using the vendor’s balance sheet to be able to smooth things over time, across the years. The [external service provider] can make capital investments in the early years that can be recovered with efficiencies in the back end; that’s something the public sector cannot do. [The organization] can’t say I’ll borrow today and pay back next year with operating money. The vendor can cross fiscal year boundaries financially (the public cannot). They don’t have to spend all the capital today because they know they won’t get it next year.” (Participant 6)

Participants also suggested that with outsourcing one could understand the economic cost model and the organization’s budget is predictable year after year while they are in the outsourcing contract. The participants described that a fixed price model, where the organization pays the external service provider a set amount, or the same amount every month (Yao, Jiang, Young, Talluri, 2010), works well. Furthermore, when discussing the benefits of the cost model with outsourcing, participants also discussed the benefit of having financial penalties for the external service provider in the contract:

“The organization can put financial penalties/consequences on private sector service providers that they have no teeth to implement and maintain over time. These may be service level penalties when servers go down, when calls are not picked up on time, or when problems are not solved in time periods for critical systems. The organization can put some financial consequences and get a better response in a private sector than they can get from their own organization.” (Participant 6)

Although few financial benefits were identified by participants, the majority of participants described outsourcing more as a cost neutral strategy. Some participants outlined that with outsourcing, organizations may be able to do more, but that the same

amount of money is required. These participants suggested that outsourcing isn't a "cast to save money" and that it's not a negative thing if cost savings are not being realized, as long as your service delivery and outcomes are improving. Other participants stated that outsourcing may be a cost neutral strategy as "you're getting a whole lot more", but it is also costing the organization:

"The organization took the budget we were operating under and said here's the money available, who wants to take it on? So there was not a significant cost savings; it was never intended to be a significant cost savings. But with the same amount of money, we had dramatic improvements in service delivery and our ability to replace our legacy systems." (Participant 8)

"The costs are huge. I'm not saying we're not getting value for spending the money because I do not believe we could have delivered the kinds of things we have if we only had in-house resources. I don't know if we would have been that far ahead. It's costly, but I don't know if we could have done it any other way." (Participant 4)

Lastly, a few participants (n=2) stated that they did not believe there were any financial benefits arising from outsourcing. These participants stated that financial benefits were difficult to demonstrate. In summary, as described by the participants, the financial benefits associated with outsourcing may not necessarily be directly related to cost savings, but may come as a result of the outsourcing agreement and approach taken. Additionally, outsourcing may be a cost neutral strategy. Organizations should strategically consider if and how they can realize financial benefits in the early phases of the outsourcing contract.

4.6.3 Achieving the Intended Outcomes of Outsourcing

Participants were asked whether outsourcing in their experience had achieved the intended outcomes that the organization had set out at the start of the initiative. It was found that achieving intended outcomes varied across the participants, from outcomes being fully achieved to outcomes being partially achieved. Of the participants, 14% (n=2) stated that the intended outcomes were fully achieved. These participants suggested that outcomes achieved were more than expected and that service had improved from a customer perspective. Twenty nine percent (n=4) of participants stated that the intended outcomes had been partially met. These participants indicated that some objectives had been met while others perhaps had not been met. One participant suggested that from an organizational perspective the intended outcomes had been achieved, but from a customer perspective the outcomes had not been achieved. A few participants stated that the intended outcomes were achieved when the organization outsourced project delivery, but the outcomes were not as well achieved when the organization outsourced operations and maintenance (which had more challenges). These participants believed that outsourcing project delivery resulted in more benefits and outcomes than outsourcing operations and maintenance. Thirty six percent (n=5) of participants stated that the intended outcomes were expected to be achieved but they could not yet confirm this expected achievement. No participants stated the no outcomes had been achieved by outsourcing. The remainder of the participants (n=3) did not respond to the question on intended outcomes.

4.6.4 Anticipating the Unintended Outcomes of Outsourcing

Participants were asked about the unintended outcomes of outsourcing, including any desirable or undesirable consequences that result from outsourcing that were not planned or anticipated. Many of the participants stated that there were no unintended outcomes or consequences. Other participants stated that unintended outcomes included the ability to meet service levels, knowledge and resource levels, and negative communication and noise.

It was found that an unpredictable outcome of outsourcing was the external service provider's ability to meet the defined target service levels. Participants described that when service levels are set by the organization, the external service provider will strive to meet these levels, but they may not meet the organization's expectations. For example, one participant indicated that during the first six months of a contract, the service provider struggled to meet the service levels needed by their organization. The service level was to answer a helpdesk phone to troubleshoot customer issues within three minutes. When the organization looked at what was actually happening over a period of a month (to measure the service levels), they found that early in the month a user would wait 5-10 minutes for someone to answer the phone. As it got closer to the end of the month, the service provider would monitor the average wait times for calls and add additional resources to bring it to less than three minutes in order to try to hit their service level targets. The organization learned from this and is now looking at modifying the service level target to be a maximum time of five minutes:

“This was one small example where our intent was one thing, but something else happened and that's understandable in the way we motivate the vendor.” (Participant 8)

A few participants discussed the unintended consequences of not having enough internal resources dedicated to the management of the outsourcing agreement. These participants indicated that organizations cannot forget the importance of continuing to support operational knowledge internally to their organization, and to ensure internal resources are assigned to help manage the outsourcing agreement:

“Keeping knowledge current within the program areas and the business management office [internal] is a challenge that we need to address.”
(Participant 8)

“The investment in the organization to have the dollars to support the internal resourcing needs in leadership; it can’t be done without investing dollars in the site where the care delivery is to be done. The vendor can’t find the clinical leads you need. You can’t reach the treetops if we don’t invest in the grass roots.” (Participant 11)

The participants also discussed the unintended consequences of noise or negative communication caused by outsourcing. One participant described an experience where they saw naysayers and negative press which presented an unpredicted challenge for the organization to deal with. In summary, unintended consequences and outcomes can arise when undertaking outsourcing of HIT. The researcher found that unintended consequences may include the external service provider’s inability to meet the defined service levels, the level of knowledge and resources that are required in-house, and the negative communication that outsourcing may cause among employees and customers. Organizations need to be able to respond and react to these unintended consequences in order to get the outcomes from outsourcing that they desire.

4.6.5 The Challenges of Outsourcing Health Information Technology

Participants identified many challenges that need to be considered when outsourcing HIT. The challenge most commonly stated by the participants (50%, n=7) was the level of change experienced by everyone involved, including the organization, its employees and its customers. Participants also suggested there were challenge associated with retaining internal expertise at 36% (n=5). Other challenges included decreased service levels, funding commitments, resistance, and executive leadership. Table 9 provides a summary of the challenges. Some participants stated more than one challenge.

Table 9 – Summary of Challenges of Outsourcing.

Challenges	Frequency (%) (n=14)
Levels of change	7 (50)
Ability to retain internal expertise	5 (36)
Decreased service levels	2 (14)
Funding	2 (14)
Resistance	2 (14)
Executive Leadership	1 (7)

Half of the participants described how the change that is required with outsourcing presents challenges, specifically process changes. Participants stated that a large amount of change management and stakeholder engagement with staff and customers is required in order to set expectations for the staff and customers. Many of these participants discussed the challenges associated with modified or different processes and changed relationships. Some participants, speaking from a customer perspective, stated that a challenge was that internal staff transferred to the external service provider became part of a bigger process and the individual could no longer control things. This could make processes appear more complex and unclear to a customer. The internal staff that controlled the process (when they were internal to the organization) became more distant

in terms of their personal interactions and relationships with their customers. One participant described the following scenario:

"Before it would get done pretty fast... Now, it may take up to 10 days to get even a response from a resource. Before when we'd ask the resource to do something, he/she would say no problem, now when we ask, he/she says I'm sorry I can't do anything until it's recorded in the system and I have to wait to get a ticket." (Participant 5)

Another participant stated that many customers have internal connections with the internal staff and they do not want this to change. When referring to the challenge of change, some participants stated that outsourcing is a "hard sell" to end users and customers. Outsourcing requires communication about the level of change that is taking place for stakeholders and customers around the services that are being provided and the services that are changing:

"There are always unmanaged expectations and not enough communication about what services are being provided out of the deal. There is not enough communication, and there is ambiguity on what this means to stakeholders." (Participant 13)

"[Customers] cannot have unique ways of doing things as [outsourcing] will force them to be standardized [on a system], which will lead to adoption [of the system]. We will not achieve the quality outcomes if we do not have all the stakeholders adopting it, and getting the adoption is all about the standardization." (Participant 1)

The other challenge that was found involved "setting expectations" on the amount of change required from outsourcing. Some customers may expect more than what can be provided by the external service provider. Participants stated that the staff do not change when they move over to their new employer:

“You have to remember in outsourcing you’re transferring staff, you don’t magically change people over night when they go to another employer. There is likely going to be a productivity drop in the first few months as people are getting use to their new job. The benefits come by putting the contractual obligations into a design build by a service provider to contain costs and meet timelines, but a lot of the benefits come from ongoing management because by the 5/6th year they’ve had enough time to change the labour side of things.” (Participant 6)

“Staff do not turn into different people. Their habits remain...People stay the same, because they know the old process and it takes a long time to [transition].” (Participant 14)

Although participants found that having external expertise was a benefit where outsourcing was concerned, participants also stated that the ability to retain internal expertise was a challenge. Participants suggested that internal resources are required to support the outsourcing agreement and there is a need for knowledge of the organization’s internal environment. Participants described challenges associated with ensuring internal resources are involved in managing the outsourcing agreement, especially during the outsourcing contract negotiations. Participants also stated that these internal resources are required throughout the outsource agreement. The external service provider comes to the outsource agreement with much more experience in negotiating outsource contracts (as they have done it before), and the public sector organization needs to try to match this level of expertise by having knowledgeable resources on the organization’s side. The literature has found that often organizations believe they are at a disadvantage when establishing and managing the contract as they do not have the same level of experience outsourcing as the external service provider (Cox, Roberts, & Walton, 2012). Participants also stated that external service providers can incent their staff to stay engaged during the agreement, whereas a public sector organization cannot do this as well with their employees. Internal employees may get burned out from managing the

outsource agreement due to the complexities; managing outsourcing contracts is typically not something internal employees are used to. Therefore, these employees may move off the outsourcing initiative and into other roles. Participants describe the challenge of ensuring internal resources are available throughout the outsource agreement:

"You have to invest in having at least enough smart people freed up to be able to sit with the vendor to execute this in order to get what you want."
(Participant 11)

"We want to be lean, but we need to invest in the infrastructure/people in order to drive strategy and drive accountability for achievement of the strategy."
(Participant 8)

The other challenge arose from retaining internal expertise or the ability to continue maintaining knowledge of the internal environment. Participants found that although outsourcing partners may be experts, they are not familiar with the local organizational environment and they do not understand the culture, people or processes in the local organization. Furthermore, participants stated that with outsourcing, it becomes difficult to recruit and promote from within an organization. As many of the staff have moved to the external service provider, managers within the internal organization have a difficult time hiring and promoting internal resources with local knowledge (as the majority have moved to the external service provider). These managers have to hire new resources from the outside and have to train and orient these resources to the local environment.

Service levels and service delivery were identified by participants as a major benefit of outsourcing. Despite this, interestingly, participants also indicated decreased service levels as a major challenge associated with outsourcing. Some participants gave examples from a customer's perspective. For example, the time to resolve an issue or a call under an operations outsourcing agreement had actually increased for the customer.

Another participant stated that service delivery slowed down with outsourcing. Before, when services were in-house, the customer knew who to go to; now (with outsourcing), the participant indicated, the customer has to go through many more hoops to get the service they require.

Continued commitment of funding for the organization was also found to be a challenge. Participants suggested that generally when outsourcing, the majority of funding goes to the outsourcing initiative. However, organizations still need to continue to fund the resources that stay internal to the organization, as well as any added services that may come up for the external service provider that were not originally outlined in the contract. Resistance was another challenge identified by the participants. More specifically, participants discussed a lack of trust that may exist between the internal staff and the external service provider. This may make staff resist changes associated with outsourcing on some level to the move to their new employer. Participants also indicated that this resistance can make it very difficult to transfer knowledge between the organization and the external service provider. Lastly, one other challenge that arose included the need for executive leadership. Participants suggested that securing executive leadership and identifying one organization contact person for customers to go to was difficult. An executive leader can help deal with any problems from the external service provider and can act as a point person for customers to get questions addressed. In summary, there are many challenges associated with outsourcing. The challenge most commonly stated was the amount of change required with outsourcing, followed by ensuring internal expertise, followed by decreased service levels, funding commitment, resistance, and lastly executive leadership.

4.7 Findings on In-Sourcing

A subset of the participants who were more familiar with keeping services in-house expressed views on in-sourcing HIT, including the reasons for in-sourcing, and the perceived benefits and challenges associated with in-sourcing. The following outlines the findings from the semi-structured interviews with participants on in-sourcing.

4.7.1 Reasons to In-Source Health Information Technology

Many of the participants had experience with keeping HIT functions internal to the organization, also referred to as in-sourcing. Participants (n=9) provided many reasons on why organizations in Canada decide to keep these functions in-house (as opposed to outsourcing any of them). These reasons included internal expertise as stated by 56% (n=5) of the participants, followed by less risk and because in-house delivery is “traditional” (and what organizations typically do) each at 33% (n=3), followed by more control by the organization at 22% (n=2), and lastly because the functions are core at 11% (n=1). A summary of the reasons can be found in Table 10 below.

Table 10 – Summary of Reasons to In-source Health Information Technology.

Reasons to In-source	Frequency (%) (n=9)
Internal Expertise	5 (56)
Less Risk	3 (33)
Traditional	3 (33)
Control	2 (22)
Core	1 (11)

The reason most commonly stated by participants for keeping services in-house was the internal expertise and knowledge that exists within an organization. Participants

identified that many healthcare organizations support unique, complex applications and environments, and replacing staff with external resources is difficult. The organization's staff base has the corporate and the detailed environmental knowledge that is required to support the work:

“When you deal with applications...there are about 600 applications used in [the Health Authority] and knowledge of these applications is really quite sparse outside of [the Health Authority]...I think the corporate knowledge and the knowledge of the staff is such that there would be a significant risk if someone else were to take that on and take on the responsibility of that.” (Participant 3)

“Where you have a high degree of variability outsourcing may not be the best thing to do. When you can define a service and a role, something that's more a repeatable, predictable, saleable service, you could outsource.” (Participant 13)

When referring to internal expertise, participants also suggested that generally staff have been with the organization for a long time and understand the customers' needs:

“Organizations in-source because their relationship with their customers is very important and understanding the customers' business is very important. Bringing someone in and going through the learning curve would take a long time.” (Participant 14)

Another common reason for in-sourcing (as stated by the participants) was that in-sourcing could be less risky. Participants stated that there would be less risk in terms of any labour issues that can arise with outsourcing. The researcher found that often high powered executives say no to outsourcing, and therefore the organization keeps services in-house. Participants also stated that keeping services in-house avoids the risk of change. Participants suggested that it can be difficult to get executives to buy-in:

“There needs to be a high degree of organization and buy-in to go through the efforts to outsource. Sort of like, no change is easy. I would think getting the executives to buy-in to the concept of outsourcing is difficult.” (Participant 10)

Participants also stated that there is less risk in managing the expectations of the organization’s staff and of its customers when in-sourcing. As in-sourcing is traditional, and many organizations are accustomed to their routine operational processes, organizations may not outsource. Participants stated that because in-sourcing is more traditional in Canada, this may be a reason why many organizations keep services in-house. Participants indicated that in Canada organizations may not be allowed to outsource due to collective agreement restrictions and other process restrictions that have been in place for many years. Participants also described a lack of vision to look at the outside, as organizations are grounded in what is traditional. One participant stated that organizations may lack capital funding to support any major changes; yet they also lack ideas and a vision to achieve the capital funding required through another means.

Another participant described a lack of vision for alternative solutions:

“I think the organizations didn’t have the maturity or the vision to look outside what was tradition. It’s all traditional. Traditionally [HIT] sits here, and traditionally [the organization] has the staff, and traditionally we develop and we support. And they just didn’t have the vision to look for alternatives.” (Participant 2)

The need for control was another reason for in-sourcing. For example, participants stated they wanted to keep services in-house. Participants referred to control over the organizational environment, its staff and its customers as being important. One participant described that control may be required for privacy and security reasons:

“There may be very sensitive information, very confidential information. I know some areas of government have a hard time outsourcing because they keep criminal records. I think privacy and security have driven keeping things in-house because you feel you can control that better.”
(Participant 6)

Lastly, it was stated that because HIT functions may be considered core to an organization’s business, the organization may decide to keep some services in-house:

“If it’s core to your core competency you don’t touch it. There are reasons why you exist. You wouldn’t outsource the clinical delivery of clinical service. For example, the bank doesn’t outsource their mortgage department. You cannot manage the risk.” (Participant 12)

In summary, organizations may keep services in-house for many reasons. The researcher found that the need for internal expertise, the desire to have less risk, the traditional and familiar nature of in-sourcing, the need for control, and the need for core competencies are all reasons why an organization may keep services in-house opposed to outsourcing them.

4.7.2 Benefits of In-Sourcing Health Information Technology

Some participants discussed the benefits of in-sourcing HIT. These benefits were similar to the reasons stated for in-sourcing and included the benefits of having internal knowledge, quality work, and trust. In alignment with the most commonly stated reason for in-sourcing, a major benefit of in-sourcing stated (by many of the participants) included having internal knowledge. Participants stated that in-house employees have been around for years and over the years they have gained in-depth knowledge of the organization. Participants stated that internal staff are valued just as much as outsourced

expertise, as the internal staff have deep knowledge. One participant stated that when it comes to software application delivery and management, this should be done with internal staff as they have knowledge of the organization. Participants stated that internal staff know their contacts within an organization and use this to get work completed, whereas in the case of outsourced resources it is often more difficult to navigate the organization to which the services have been outsourced. Participants described the following:

“There is a lot of knowledge that can only be accumulated overtime that is valued just as much as a perspective from someone who is from outside the organization” (Participant 3)

“People know their contacts. You keep local knowledge people available and in the loop, and very aware of the local situation. There is pride in ownership, pride in long term employees. Someone that has worked in an organization for 25 years, that person has worked hard for the organization. Outsourcing becomes anonymous.” (Participant 11)

The benefits associated with having quality work delivered by internal employees were identified by participants. Participants indicated that with dedicated, internal employees, quality can be assured:

“Quality is that you have supportive, dedicated teams that are part of the organization, so they feel a kinship to the organization and that helps with quality.” (Participant 2)

Lastly, participants also stated that trust was also a benefit of keeping services in-house. More specifically, trust was referred to as the trust between the organization, its internal employees and its customers:

“Trust is a huge benefit, all around. Leadership to staff, vice versa and the client to the organization. Especially with clinicians, it’s an important quality to be on their team.” (Participant 14)

In summary, the most commonly stated benefit of keeping services in-house was the benefit of having internal knowledge. This was followed by ensuring quality work and promoting trust with employees and customers.

4.7.3 Challenges of In-Sourcing Health Information Technology

Many participants (n=9) discussed the challenges associated with keeping services in-house. The most commonly stated challenge reported by 67% (n=6) of the participants was staffing challenges, including motivation of staff, external expertise, recruitment and retention, and staffing structures. Participants also reported the challenge of being able to improve or change services (n=3) with internal resources, and the challenge of having no capacity to meet customer and organizational work expectations (n=2). Table 11 below summarizes the challenges listed by the participants. Some participants listed more than one challenge with in-sourcing.

Table 11 – Summary of Challenges with In-sourcing.

Challenges with In-sourcing	Frequency (%) (n=9)
Staffing Challenges	6 (67)
Lack of Motivation	
Lack of Expertise	
Recruit/Retain	
Staff Structures	
Difficult to Improve/Change Service Delivery	3 (33)
No Capacity	2 (22)

The participants suggested that staffing challenges were associated with keeping services in-house. Participants stated that in-house staff often lack motivation, as many

of them have been with the organization for many years. Participants suggested that this may be due to the inability of healthcare administrators to reward and recognize individuals in the public sector. One participant stated that there are no incentives or levers for public sector staff to take on additional activities to support the work that they do, such as documentation for cross training or knowledge transition. Participants also stated that staff that are with an organization for many years may have corporate knowledge but they may lose morale and motivation to increase their expertise or they become jaded due to a constant changing political environment, as illustrated in the following quote:

"If you have someone that's here to make a profit doing this work, they're going to make sure that there is innovation; that they look at better more efficient ways of doing work, opposed to the public servant expectation that this is my job and I'm here and I'm going to carry on until I retire – I don't need to be innovative, I don't need to think of better, more efficient ways of doing things." (Participant 2)

Participants stated that typically in-house staff often lack knowledge of outside experiences. Although these employees have an in-depth knowledge of the organization, they have a difficult time passing on new knowledge or bringing forward the experience of what worked in other organizations. One participant stated that with internal staff you may need more staff, and that by outsourcing you can do the same amount of work with less resources, as there is more expertise and services are well defined. Another staffing challenge that the researcher found in the research, was the difficulty that managers experience with being able to recruit and retain staff to the organization. Participants said that it is difficult for public sector organizations to compete against private sector service providers for good resources, especially in HIT which is a growing industry. Lastly, the

human resource challenge of public sector organizational staffing structures was described. Participants stated that often public sector organizations can operate in silos. In the public sector there may be multiple teams and multiple groups which make it difficult to promote collaboration across different teams. Participants indicated that external service providers may be structured more flexibility, allowing for resources to move across groups and for work to be conducted in more of a collaborative fashion.

Participants also stated that a challenge with in-sourcing is the difficulty in improving, or even changing, service delivery. These participants said that it is difficult to incent an organization to be held to task or to achieve improved standardization or improved service levels. They explained that external service providers can be held to task through a contract with defined penalties, if service levels are not met. One participant described:

"We as an organization would never be able to get our clients to a level of ability to deliver good care that an outsource can give us." (Participant 2)

Another challenge found was the difficulty of not having enough capacity in an organization to get the required work completed. Participants stated that with in-house resourcing, a healthcare organization could not meet the increased demands from their customers (as there would be no capacity for staff to take on additional work or improve current services levels). Participants also stated that they could not meet customer expectations or grow functionality offered to customers as the internal team was at capacity and could not take on any more work. In summary, a common challenge with in-sourcing is centered on staffing; specifically the ability to motivate internal staff, the ability to have external expertise, the ability to recruit and retain, and the ability to collaborate. The researcher found that with in-sourcing it may be more difficult to

improve or change service delivery, and that organizations may be maximized in terms of their capacity to take on increased customer demands. All of these present many challenges for an organization to face.

4.8 Monitoring Organizational Performance with Outsourcing

Outsourcing can have an affect on the performance of an organization. Typically, organizational performance levels are indicated through performance measures. The effect that outsourcing has on increasing or decreasing these performance measures is reviewed in this section.

4.8.1 Performance Measures Commonly Tracked in Organizations

Participants were asked what performance measures are commonly captured in their organizations. Performance measures are measures or metrics that organizations may collect data and information on in an effort to understand their service levels and their ability to meet organizational strategic objectives. Performance measures may be non-financial (such as benefit measures of a quality) or financial in nature. Participants reported on a few key performance measures that were commonly captured. These included response times, quality of service, quality of delivery, satisfaction, and budget. Specifically, participants suggested that response time is commonly measured in organizations. Response times may include looking at call volumes to a service desk, or help desk, and/or call in resolution times. Some organizations measure volume of calls over time, including whether the calls were resolved by the service desk or if escalation was required in order to resolve the issue. One participant described:

"Within the organization and IMIT, the volume of calls over time and whether calls resolve within the service desk, opposed to having to be escalated is measured, along with the overall time to resolve those issues." (Participant 3)

Quality of a product, service, or function was also a performance measure that participants stated was captured in some organizations. A specific example of this performance measure included assessing the quality of the product. Participants stated that this may be evaluated through acceptance testing. Another example provided was measuring the quality outcomes of a service, including health and patient outcomes. One participant described how the organization was working on developing quality outcomes measures:

"We are in fact developing 5-8 quality outcome measures that are of the model that are expected to be achieved; they are not the financial piece, but they're about the patient quality piece." (Participant 1)

Quality of delivery was also stated as a common measure to be captured in organizations, specifically the ability to deliver required work on time and on budget. Some participants stated that their organization reports on whether products or services have been delivered on time and on budget, and whether a systems implementation project came in on time and on budget, or was delayed. Satisfaction was also stated as a performance measure. Specifically, participants stated that staff satisfaction surveys were routinely done to monitor staff satisfaction. However, participants did not make mention of any customer satisfaction measures.

Lastly, it was found that performance measures in some organizations may be lacking. Some participants expressed that certain processes or functions may be measured, but the

organization as a whole often isn't measured in terms of its performance. One participant described:

"I have my own measurements around quality and timelines and the quality of the produce that is being delivered, but from an overall organization perspective, I don't know if we really have those checks and balances in place. It is lacking somewhat." (Participant 4)

Participants also stated that performance measures and their results may not be visible or shared with the organization's customers:

"I think performance measures are done anecdotally; I don't see it." (Participant 5)

Another participant also commented that often performance measures are identified too late. Rather, measures should be defined early and up front in business cases and strategy documents. Measures should be taken from the beginning of the early phases of an organization's initiative. In summary, the researcher found that organizations are tracking performance measures, such as response times, quality service, quality of delivery, and satisfaction; however, further improvements are needed and there is a need to establish performance measures for the organization and introduce these measures to an organization's customers.

4.8.2 Challenges Outsourced Organizations Face with Performance Measures

When considering performance measures for organizations that have outsourced, participants felt that there would be challenges for the organization, as the performance measures that are collected and measured may change with outsourcing. The researcher

found that with outsourcing, performance measures change for the staff that are transferred to the external service provider. Staff start to have a different accountability to their new employer and they are measured on different parameters, with different criteria and different objectives. Participants stated that this could make it different for staff. Other participants stated that from a customer perspective, the new performance measures for the staff may not benefit the customer or its organization, but may just benefit the private sector external service provider. One participant described this belief in the following manner:

“Those staff have different objectives and measurements that they can deem a success which doesn’t help relationships and doesn’t help the issue of the task of the day. That’s a risk and a negative of having staff do functions when they are accountable to another organization.” (Participant 3)

The researcher found that, when outsourcing, transparency is required into the performance measures captured by the organization and the external service provider, to make the change less challenging for staff and customers.

4.8.3 Performance Measure Improvement with Outsourcing

Participants were asked for their opinion on whether they saw outsourcing as a mechanism to improve performance measures. Two measures were considered by participants as either having increased or decreased with outsourcing: the speed/timeliness with which services and products are delivered by the external service provider; and the quality with which services and products are delivered by the external service provider. Of the participants that responded (n=8), only one stated that outsourcing had decreased performance on both the measure of speed and the measure of

quality. All other participants (n=7) stated that outsourcing had improved organizational performance, where speed and quality of delivery were concerned. Additionally, some participants further described that the increase or decrease in these performance measures may vary based on the organization's situation. A summary of the findings can be found in Table 12 below.

Table 12 – Status of Performance Measures.

Increase or Decrease in Performance Measures	Frequency (%) (n=8)
Decrease:	1 (13)
Decrease in Speed	
Decrease in Quality	
Improvement:	7 (88)
Increase in Speed	
Increase in Quality	

The one participant that stated that outsourcing had decreased organizational performance (according to the organization's customers), was speaking from a customer point of view. This participant stated that the work being done by an external service provider was slower to get done and that the work could occur better with in-house staff. The majority of participants provided examples of where performance of specific organizational measures had improved with outsourcing. Participants indicated that the ability to deliver improved services and the quality of the service itself had improved with outsourcing. They explained that an external service provider was focused on delivery and was solely devoted to the work activity they were contracted for. Additionally, participants felt that an external provider was more motivated for efficiencies in service delivery, as compared to internal organizational resources. Additionally, with outsourcing the organization knew what services they were getting and the service targets were well defined. Participants explained that they felt the

organization was getting value for money; they were getting more expertise and better quality work:

"There are companies out there that this is their business and they've done it over and over and over. They can do it better, they can do it faster, and they can do it cheaper. " (Participant 1)

"We are getting the functionality we asked for. I think generally we're doing quite well in terms of value for money. I think we can always do better." (Participant 8)

Participants also described how outsourcing had improved the speed or timeliness of service delivery. Participants explained that they felt that outsourcing was delivered faster and more efficiently. They explained that the organization could incent the vendor to deliver more timely by setting up payments based on deliverables and milestones, which you cannot do internally:

"There are no silver bullets that the vendors come with but you can have more hooks and teeth into them to incent the behaviour that you cannot incent." (Participant 6)

In this research, the researcher also found that the results of outsourcing may vary for different departments. For example, for an organization that outsources multiple departments, the improvement or decline in the performance may vary for each department. Participants explained that less mature departments may see an increase in the speed and quality when outsourcing; however, more mature departments may see a decrease in these measures. The participants indicated that outsourcing can standardize performance across an organization. The participants stated that overall the outsourcing agreement may benefit the organization by evening out service levels between the mature

and less mature departments. To summarize, although performance measures may vary based on what is measured, how it is measured, and who measures performance; overall participants felt that improvements could be seen with organizational performance measures.

4.9 Summary of Outsourcing Strengths and Weaknesses

Outsourcing has many strengths and weaknesses and can offer many advantages and disadvantages to an organization. This section outlines the strengths and weaknesses stated by the participants and looks at some future directions and considerations of outsourcing.

4.9.1 Top Strengths of Outsourcing

Towards the end of the semi-structured interviews, participants were asked to comment on the top strengths of using outsourcing. The researcher found that the strengths of outsourcing that were stated by the participants aligned closely to the benefits of outsourcing that were stated by the participants; however, the researcher did also find some differences between stated strengths and stated benefits of outsourcing. The majority of participants (57%, n=8) stated that access to expertise was the biggest strength of outsourcing. Furthermore, 36% (n=5) of participants stated that a strength of outsourcing was that it can drive improvements in service delivery. Another big strength of outsourcing, as stated by 29% (n=4) of participants was that it can drive process change, including a focus on core competencies. Participants also stated that control was a strength of outsourcing, as was the transfer of risk, both stated by 21% (n=3) of the

participants. Table 13 summarizes the top strengths of outsourcing as stated by the participants. Some participants stated more than one strength.

Table 13 – Outsourcing Strengths.

Top Strengths of Outsourcing	Frequency (%) (n=14)
1. Expertise	8 (57)
2. Drives Improved Service Delivery	5 (36)
3. Drives Process Change	4 (29)
4. Enables Control	3 (21)
5. Transfers Risk	3 (21)

The majority of participants listed expertise as one of the top strengths of outsourcing. Participants stated that with outsourcing the organization is guaranteed expertise with external connections and experience. This can lead to innovation and better work products. Participants stated that expertise comes from the external service provider having staff with expertise as part of their organization. External service provider resources can be called on at anytime to come in and support the healthcare organization. For example, when needed, the external service provider can pool knowledgeable resources to help troubleshoot or strategize on major issues that the internal organization may come across. In addition, expertise found within an external provider organization can be used to benefit an organization in many ways. Participants stated that external provider expertise does not just include bringing in resources, but also involves providing expert methodologies and processes. Furthermore, expertise from outsourcing functions can provide an organization with piece of mind, or comfort, in knowing that expert resources are unavailable to help should major issues arise. Participants described the following:

“Your outsourcing partner should have the competencies and the ability to bring best in class methodology, technology, training to get you where you want to go.” (Participant 11)

"If you're in an area of extreme complexity and churn, any area that is complex, having a company that is a specialist gives us piece of mind. Anytime you do something in-house you ask yourself, I am as good as I could be." (Participant 9)

The ability to drive improved service delivery was another top strength of outsourcing (as described by the participants). Participants stated that with outsourcing the organization could drive efficiencies and improvements. Participants stated that outsourcing can result in better services for functions that are not the organization's core business. It was also found that outsourcing can improve service delivery by delivering services more quickly and in a cost effective and efficient manner.

Process changes, including process improvement and overall change, were stated to be a top strength among some participants. Participants stated that a key strength of outsourcing is the ability to define HIT processes, such as development or implementation processes or ongoing operational and maintenance processes. Process definition is required in order for the healthcare organization to have a clear understanding of what the external service provider is to deliver on. Participants explained that outsourcing can help with documenting processes, mapping workflows, and understanding accountability. Participants said that with outsourcing and process definition, organizations could change to realize improvement:

“It drives change in the organization, which can be a good thing.”
(Participant 12)

“You retain what's core and important to your work, which is the strategy, the direction, the clinical engagement.” (Participant 11)

Another top strength of outsourcing as stated by the participants is that outsourcing can enable control for an organization. Participants stated that with outsourcing you can drive the service and behaviour of the external service provider through incentives included in the contract. The participants suggested that if a contract is well managed, the organization can closely monitor the service provider to ensure the service targets are met.

The other top strength outlined by participants is that outsourcing allows for a transfer of risk from the organization to the external service provider. Participants indicated that outsourcing allows an organization to transfer any operational (including staff) risk from itself to the external service provider. Participants explained that while outsourcing does not allow for political risk to be transferred from the public sector to the service provider, it transfers some risk, which can bring more certainty for the organization (as the organization knows the variables within which it as well as the service provider are operating). Participants described the following:

“It's not about shredding risks, it's about sharing risks at different proportions.” (Participant 6)

“We pay for certainty, but there is good value for the organization in getting that certainty and being able to amortize that over the length of the contract.” (Participant 8)

In summary, many of the strengths outlined by the participants aligned with the benefits of outsourcing that were listed by the participants. The most commonly stated top strength of outsourcing stated by the participants is the ability to have expertise to

support the organization. This was followed by driving service delivery improvements, creating process change, enabling control, and transferring risk.

4.9.2 Top Weaknesses of Outsourcing

Participants were also asked to comment on the top weaknesses associated with outsourcing. The researcher found that the top weaknesses are similar to the stated challenges associated with outsourcing. The most common weakness of outsourcing as stated by 36% (n=5) of participants was the negative change that outsourcing can cause for an organization, its staff and its customers. Another weakness stated by 29% (n=4) of participants was the complexity involved with outsourcing itself. Participants also stated weaknesses of loss of control (n=3), increased costs (n=2), and lack of local knowledge (n=2). A summary can be found in Table 14 below. Some participants stated more than one weakness.

Table 14 – Outsourcing Weaknesses.

Top Weaknesses of Outsourcing	Frequency (%) (n=14)
1. Change	5 (36)
2. Complexity	4 (29)
3. Loss of Control	3 (21)
4. Costs	2 (14)
5. Lack of Local Knowledge	2 (14)

The top weakness of outsourcing was the change that outsourcing can cause for an organization, its staff and its customers. Participants suggested that the organizational change required for outsourcing HIT is difficult for a healthcare organization and its employees. Participants stated that extensive change management efforts are required to help transition individuals and organization to their new future state with outsourcing. In addition, participants stated that outsourcing can be disruptive and have huge impacts on

the environment and on people. Other participants suggested that with outsourcing organizations lose a sense of internal team-based culture that may exist with in-house staff, as new external staff are coming in which can change a culture. Outsourcing can lead to “us-versus-them” environment between the internal organization staff and the external service provider staff. Other participants explained that organizations and customers expect positive change with outsourcing, but they end up expecting too much and their expectations are not met. Participants stated that there is no “silver bullet”, or straightforward solution with outsourcing, explaining that it does not create just positive change for everyone; therefore organizations need to set expectations on the change that is expected to occur with outsourcing. As a participant described:

"I think it's impossible to get to that ideal situation where everyone collaborates together, that's just an inherent weakness in the model."
(Participant 7)

This statement by the participant highlights that organizations need to be prepared for the change that outsourcing will create and they have to accept all the levels of change that may occur.

The complexity of an outsourcing agreement itself was found to be a top weakness of outsourcing. Participants indicated that outsourcing is very time intensive for an organization and it is a complex model for public sector organizations to adapt to. Participants stated outsourcing can be very complex for organizations that have had no experience with outsourcing in the past. Participants stated that organizations do not have the same level of experience as external service providers do with negotiating complex outsourcing agreements:

“The weakness is our ability to be mature organizations, to leverage full advantage of what is the outsourced partnership.” (Participant 11)

Participants indicated that the complexity of outsourcing is difficult to manage when the internal environment is already at capacity and staff do not have the extra time to make outsourcing initiatives successful on top of trying to continue with their current workload. However, although participants stated that it is difficult to ensure internal resources are committed to support the organization, participants also stated that they are required to make complex outsourcing agreements work:

“With more outsourcing deals, the organization is going to be doing a lot of work to build up our expertise to be able to develop and implement best practice across the board across the division. We’re excited about that investment and the outsource deals we have.” (Participant 8)

Participants stated that a loss of control is another weakness of outsourcing. Study participants indicated that organizational control can be lost in outsourcing when the outsourcing contract is poorly written. If there is no tight control and clear service targets, the organization will lose control over the external service provider. Loss of control can lead to increased costs for an organization, which was found to be another weakness of outsourcing. Participants stated that poor contracts can lead to higher costs.

The lack of local knowledge from the external service provider was also stated as a weakness. These participants described that with outsourcing an inherent weakness is the loss of internal expertise. In addition to this, the external service provider has a difficult time adapting to local requirements and understanding the local needs. In summary, some of the strengths of outsourcing can also become the weaknesses of outsourcing (if the outsourcing contract is not executed carefully). The top weaknesses of outsourcing as

stated by the participants included negative change, the complexity of outsourcing, loss of control, increased costs, and lack of internal knowledge.

4.9.3 Will Outsourcing Happen Again?

Participants were asked whether they would perform outsourcing all over again knowing what they know now and considering its strengths and weaknesses and benefits and challenges. Nearly all participants felt that outsourcing would happen again.

Participants stated that outsourcing may be something desired by the organization; however, some participants indicated that outsourcing may not be what organizations' customers always want, as the customers are use to the service levels they are getting with the internal organization and do not want to change. Therefore better engagement of customers may be required to make outsourcing work. Despite this, many participants stated that outsourcing would continue to happen:

"It's hard as heck, but it's the right thing to do." (Participant 1)

"We just would not be able to sustain having this back in-house again."
(Participant 4)

Furthermore, participants believed that outsourcing would occur again in any of the four functions of development, implementation, operations, and maintenance. As participants discussed performing outsourcing again, they suggested they may do things differently, such as engage more internal organization resources, negotiate the contract differently, or set expectations with customers. Participants noted that organizations could learn from their past experiences with outsourcing to improve future outsourcing agreements.

4.9.4 Outsourcing Considerations

During the semi-structured interviews, many participants brought up some considerations for other organizations to be aware of when outsourcing. The considerations identified by the participants were grouped into the following categories:

- Ensure careful planning and understanding during the contract phase;
- Ensure the appropriate level of knowledge, including internal knowledge and management skill; and
- Establish strong relationships.

Nearly all the participants stated it was important to ensure careful and thoughtful planning when outsourcing. Participants stated that outsourcing requires consideration about the whole lifecycle of the initiative during the early contract phases. The contract must consider all options for the organization, including having “off-ramps”, where the organization can back out of the outsource deal at certain points or be able to repatriate staff back from the external service provider to the organization (Vitasek, 2010).

Participants suggested there is a need to carefully plan the outsourcing agreement that is required and that an understanding of how the service provider gets compensated and rewarded is needed. The external service provider has a very different model from the public sector in terms of compensation. Participants indicated that a service provider will take risks if there are incentives available for them. Therefore, these incentives, as well as penalties (if service levels are not met), should be thoughtfully considered when planning the outsourcing agreement. In addition to this, the participants identified a contingency must be included when carefully planning a contract, such as planning for the unexpected. The contingency provides a way of mitigating risks for the organization.

Participants also stated that when carefully planning a contract, attention needs to be given to ensuring process clarity and what will be transferred to the external service provider. In the early phases of planning the agreement, organizations need to define processes and functions to ensure these are clear and understood by the service provider. Otherwise, the service provider may take advantage of a situation that is unclear.

Participants also stated that complex, more technical processes and requirements should be transferred to an expert external service provider, while local processes and requirements should stay with the organization. One participant summarized the need for investing attention early in the planning phase very well:

"You still need to do the same things at the beginning. You need to have a core strategy, you need to have a governance structure, you need to have people on the ground, you need to enlighten leadership. If you've done all that at beginning, then probably outsourcing can deliver a better result."
(Participant 11)

Participants stated that an appropriate level of knowledge from the healthcare organization is required when outsourcing. More specifically, participants stated that both internal knowledge and management skill is required to support an outsourcing agreement. Participants explained that internal knowledge is required in order to support change management, staff transfers, and hold the vendor accountable. Participants explained that management skill and specialized skill sets are required to get you through the deal and through the contract. These skill sets may not exist within the organization and the organization may need to contract these services to a third party organization. The third party organization would come in to support the internal organization with the negotiation and the management of the contract. Participants stated that not having the

appropriate knowledge level on the healthcare organization's side can put an outsourcing agreement at risk.

The researcher found that organizations also need to consider establishing a strong relationship between the organization and the external service provider when outsourcing. Outsourcing agreements require trusted relationships in order to be successful. As one participant describes in the following excerpt:

"Relationships are so important. If we don't have trust, we're going to have a struggle to deliver and have success. Here, we have a very successful relationship. I think we're unique for having a good model. A lot has to do with the relationships." (Participant 8)

Participants described the outsourcing relationship and how it needs to be continued throughout the life of the outsourcing agreement. Some participants stated that the work activities that require the service provider's support need to be planned jointly with the service provider to get a better result. For example, participants suggested that the service provider should be involved in the planning and the requirements gathering processes prior to being expected to deliver a product or a service. Participants stated that if there is no way for the service provider to understand the stakeholder's requirements before they deliver something, they will never meet expectations. The service provider should be engaged right from the beginning, which requires a collaborative, trusted relationship. Participants explained that this may run the risk of costs increasing for the short term; however, the service provider acts as the organization's partner and there is an overall understanding of expectations right upfront and both parties can benefit. In the long run, this may result in cost savings.

In summary, there are many things for an organization to consider when outsourcing. Careful attention to the contract was most commonly stated as a strong consideration when outsourcing, followed by ensuring appropriate knowledge from within the organization, and building trusted relationships with the organization's outsourced partner.

4.9.5 The Future Directions of Outsourcing

Finally, participants were asked for their thoughts on outsourcing in the future. All participants stated that outsourcing would happen in the future in some fashion. Some participants stated that the extent of outsourcing will depend on a number of factors. Others explained that what is outsourced and how healthcare organizations outsource may change in the future.

Overall, participants believe that outsourcing would continue, especially in the healthcare environment. Participants explained that it is difficult for healthcare organizations to attract HIT resources and invest in building expert knowledge internally. Others participants stated that outsourcing is required to help meet the increasing demand for HIT. One participant described the following:

"Especially in healthcare, when I look at the demand on healthcare going forward, IT has to play a key role in it to drive efficiency; otherwise we cannot afford the system we have in this country. I don't think organizations are going to be able to build the size of an IT organization they need to support everything. They won't be able to attract the people. They're competing against large private sector IT companies." (Participant 6)

The researcher also found that the trend toward outsourcing will depend on a number of factors. One participant described outsourcing like a pendulum – “it swings out for a

while and organizations move towards outsourcing, and then it comes back and organizations shift to an in-house model” (Participant 11). Other participants indicated that outsourcing depends on what the “next new thing” is. For example, many industries saw an increase in outsourcing when off-sourcing, meaning sending off tasks to another company, came on to the scene. As one participant describes:

“You may find a certain niche in the market. For example, off-source development was a new thing. Then we learned, unless it was cookie cutter requirements, and costs went higher. It will continue to evolve. One decade you’re outsourcing, one decade you’re in-sourcing.” (Participant 13)

Participants also suggested the trend toward outsourcing can depend on the political climate. Participants stated that in healthcare big decisions such as outsourcing are always driven politically. If the government in power at the time supports outsourcing, the trend will increase. This may vary across Canada with such a decentralized federated model. The trend towards increased outsourcing in the future can also depend on other healthcare organizations’ experience with outsourcing. Participants indicated that in Canada “we’re interested in looking at those organizations doing outsourcing now.” Organizations will look to others experience, both bad and good. Other participants stated that outsourcing will depend on the industry and the organization’s strategy. Participants explained that some industries are now in-sourcing everything, and others are still outsourcing. An organization needs to be strategic on where to use outsourcing and they have to be focused on how to use it properly. Participants outlined when to outsource should depend on the characteristics of the organizations. Organizations with repeatable, well defined processes are better able to outsource, whereas organization with

complexity and variability are better off keeping services in-house. As one participant describes in the following quote:

"Where you have a high degree of variability outsourcing may not be the best thing to do. When you can define a service and a role, something that's more a repeatable, predictable, saleable service, you could outsource. Vendors can attract people and retain these people, better than a health organization could...Where you have high specialty, you may be better to do in-house because you may pay too high of a price. You'd want to invest internally and train internally for specialized services, opposed to commodity services. Where you can get strength in numbers and leverage the resource pools or leverage through volume than you're better off to outsource. Where you have highly specialized roles that drive strategy and thought leadership, those are the ones you want to keep." (Participant 13)

To summarize, outsourcing will depend on the political climate, what other organizations are doing, and what the organization's model and strategy is. Finally, participants discussed potential outsourcing changes in the future. A recent trend in health informatics is cloud computing, where resources and services are delivered over a remote network, and not on the organization's location. Participants stated that outsourcing may increase or change with the introduction of the cloud. Participants indicated that outsourcing can move to the cloud and provide opportunities for more external service providers to specialize in healthcare and offer outsourcing in the cloud. Some participants explained that this can drive real measurable economic value. Participants stated that in Canada we will see HIT vendors step up and offer cloud-based systems, and we'll see organizations turn to these vendors for support in managing and operating their systems. Lastly, participants mentioned that they hope Canada will see more healthcare specific outsourcing companies that are good at the business of HIT. As one participant describes:

“When you look at outsourcing companies today, they require us to adapt to their model. We cannot operate like this. For example, some firms do not have a model for 24x7 coverage. Finding a company more attune with our reality is going to come.” (Participant 9)

In summary, participants are of the opinion that the trend towards outsourcing will continue, but it will depend on a number of factors. Participants perceived that outsourcing will become more specialized in the healthcare informatics industry, which may lead to better outsourcing success when delivering and supporting HIT.

4.10 Conclusion

Overall, the semi-structured interviews led to findings on what outsourcing is, the characteristics of outsourcing, and the results that organizations may gain from outsourcing. The researcher found general outsourcing to be very similar to HIT outsourcing, and that organizations may outsource for many different reasons, such as gaining vendor expertise, cost savings, and improving service delivery. Participants indicated that HIT outsourcing was common with operations and maintenance; however, outsourcing development and implementation functions has also been seen. They also stated that outsourcing could achieve its intended outcomes and that it could improve service levels, expediency to deliver work, and create efficiency. However, participants indicated that financial benefits of outsourcing were rarely seen and that it was more of a cost neutral strategy.

The researcher also found that organizations in-source for different reasons and can also experience benefits and challenges with in-house service delivery. Participants identified that in-sourcing provides internal expertise and local knowledge that often do

not exist with an external service provider. Participants stated that this internal expertise was a benefit to the organization; however, participants also suggested in-sourcing was a challenge with in-house staff often not being motivated towards improving service delivery or towards gaining external and innovative knowledge (for example, learning new ways of working or advancing education outside of their organization).

Semi-structured interview findings also suggest that organizations have a variety of ways of managing performance and that outsourcing can have an effect on organization performance levels. The researcher found that some organizations saw an increase in performance, and achieved on time and on budget service delivery from the external service provider; whereas other participants expressed that performance declined with outsourcing. Participants also stated that, when outsourcing, an organization should be transparent on what the performance measures are and ensure the results of the performance measures are communicated across the organization and its customers.

Lastly, the researcher found strengths and weaknesses associated with outsourcing HIT, as well as potential future directions for outsourcing HIT in organizations. Participants outlined the top strengths of outsourcing as an organizational approach to HIT management including having (a) access to external expertise, (b) the ability to improve service levels, (c) access to process change specialists, and (d) the ability to enable control for an organization (such as through standardizing processes). Participants stated the top weaknesses of outsourcing HIT include the change outsourcing brings with moving to this approach of managing HIT, the complexity of the approach, and the lack of internal knowledge about outsourcing. Finally, the participants stated that there are many things that organizations need to consider when outsourcing their HIT. Participants

believed that outsourcing would continue in the future. Participants indicated that outsourcing or in-sourcing would depend on many factors, but that the trend to outsource HIT would continue.

Chapter 5: Discussion

5.1 Introduction

The purpose of this study was to explore the perceived benefits and implications of outsourcing HIT and to gain an overall understanding of whether outsourcing HIT can result in organizational successes. The researcher has identified key aspects of outsourcing HIT, as well as general themes about the success of outsourcing HIT. Through the literature review and the data collection, the researcher gained an understanding of the perceptions that exist about the benefits and impacts of outsourcing, the HIT functions that are outsourced, and the perceived strengths and weaknesses of HIT outsourcing. This chapter discusses the findings from this research more specifically; it answers the four research questions posed earlier in the thesis and outlines an outsourcing model.

5.2 The Success of Outsourcing Health Information Technology

The success of outsourcing HIT has been found to vary. The literature identifies that outsourcing success is difficult to measure and can vary based on an individuals' perceptions (Dibbern, Goles, Hirschheim, & Jayatilaka, 2004; Hirschheim & Lacity, 2000). Gottschalk and Hans Solli-Saether (2006) found that outsourcing success can be measured using both business and user perspectives. Others have explained that outsourcing success can be achieved through budgetary, technical, or business related benefits (Dibbern, Goles, Hirschheim, & Jayatilaka, 2004). These researchers describe that an organization's satisfaction with achieved benefits is often used as a measure of

success; however this may not provide a fulsome understanding of outsourcing success.

Organizations must define what success looks like at the start of an outsourcing agreement and this must be measured throughout the initiative.

Similarly, all participants expressed that outsourcing success depends on certain circumstances and situations. They explained that outsourcing success may be dependent on an organization's people, or employees, the way the contract is negotiated, the level of leadership support for outsourcing, the amount of communication and information that is provided to the organization's customers on the level of change that outsourcing brings, and the external service provider's level of expertise, among others. Participants described outsourcing success more in terms of how quality and performance benefits are achieved, rather than financial benefits. Overall, participants felt that outsourcing does not result in a lot of cost savings. Therefore, the researcher believes that cost savings may not be a good indicator of outsourcing success. Rather, participants considered organizational performance levels when evaluating outsourcing success. Some participants saw organizational performance levels go up with outsourcing, stating that HIT service delivery levels improved with the outsourcing of HIT to an external service provider. Other participants (looking at outsourcing success from a customer perspective) saw organizational HIT performance levels go down. The view on whether organizational performance levels are achieved may depend on the role of the individual and their individual opinion. Employees that are part of the organization and the outsourcing agreement may see organizational performance levels improve. Customers of the organization, that are not familiar with the outsourcing agreement and notice a change in the service they receive, may think that organizational performance levels have

decreased. Because opinions of organizational performance can vary based on an individual's role (employee or customer), the researcher found that organizational HIT performance levels should be established and communicated widely across the organization and its customer base (such as informing everyone what performance metrics are being measured). Additionally, these organizational HIT performance levels should be reported outwards to employees and customers on a regular basis (in order for everyone to understand if the metric has actually increased or decreased).

General findings from this research are discussed below, including answers to the posed research questions under study.

5.2.1 Perceptions of Benefits and Impacts of Outsourcing

The first research question posed was: what are managers' perceptions of the benefits and negative impacts of outsourcing (in terms of quality benefit measures and financial benefit measures)? When asked about the perceived benefits of outsourcing HIT, participants stated more qualitative benefits than they did quantitative or financial benefits. Despite not stating many financial benefits, interestingly participants stated that the top reason that organizations outsource is because of cost savings. Consistently, Lorence and Spink (2004) found that saving money is one of the major factors that influences a healthcare organization's decision to outsource HIT. Similarly, Lacity, Khan, and Willcocks (2009) found that organizations outsource mainly to reduce operational costs. However, the financial benefit of cost savings was not found to be a major benefit stated by the participants. Instead, participants stated that outsourcing was more of a cost neutral strategy and described that with an outsourcing agreement (that often has a set cost year after year), the annual operating budget can become more

predictable during the outsourcing agreement. The organization knows how much they are required to pay the external service provider each year of the outsourcing contract. This is consistent with research from Dibbern, Goles, Hirschheim, and Jayatilaka (2004) that finds outsourcing is attractive to organizations as budget planning becomes predictable year after year. Rather than demonstrating many financial benefits, this research found that outsourcing HIT provided more quality benefits. One of the top quality benefits found with outsourcing is the ability to improve delivery and outcomes. Participants said that with outsourcing, their organization found that service delivery improved (such as improved turnaround times, better service, and improved outcomes). One participant stated that outsourcing led to improved outcomes that could not be achieved by in-house staff. These findings are consistent with the research by Lorence and Spink (2004) that finds that outsourcing improves cost savings and patient care. A study of outsourcing in healthcare organizations in Greece also found that service quality levels and outcomes improved with outsourcing (Moschuris & Kondylis, 2006). The researcher found that the ability to gain expertise from an external service provider was a major quality benefit of outsourcing. Participants stated that expertise from an external service provider proved valuable in delivering services more efficiency, effectively, and expediently. According to the literature, many organizations outsource IT in order to access expert resources (Lacity, Khan, & Willcocks, 2009). Resource theory suggests that in order for an organization to achieve their desired outcomes, resources must provide value to the organization and have expertise in the area of work they are hired for (Lorence and Spink, 2004). Organizations can find it difficult to find these expert resources in-house. Therefore, organizations outsource to gain new capabilities and

competencies from an external service provider who has such experts (Lorence and Spink, 2004; Oshri, Kotlarsky, & Willcocks, 2009). Furthermore, the literature also finds that with outsourcing, internal staff can be redirected to help an organization focus on core business activities (Teng, Cheon, & Grover, 1995), leaving defined work processes to the expert service provider. Lastly, the ability to transfer risk from the organization to the external service provider was found in the research to be a benefit associated with outsourcing. Participants stated that outsourcing could support an organization with risk management and allow for an organization to transfer the risk of employees (including their benefits, pension and expenses) over to the external service provider. The literature also suggests that outsourcing can lower risk while creating more flexibility for an organization (Roberts, 2001) and that it can allow an organization to share risks (such as staff) with a partner organization (Ketler & Walstrom, 1993).

Despite the benefits associated with outsourcing, negative impacts of outsourcing were also found in the research. Outsourcing can change many things for an organization including the way services are delivered. Although outsourcing is intended to improve service levels (in many areas), outsourcing can also lead to decreased service levels. Responses from participants in this research study verify this. When asked about service delivery, participants (speaking from a customer perspective) stated that outsourcing can decrease service levels for customers (for example decreasing how quickly customers receive service and support). Participants stated that external service providers can change a process to try to meet the bare-minimum service level required (i.e. just meet the service level right on the target, potentially improving the service level for some and decreasing it for others). To customers, it looked like service had decreased as the

customers were not familiar with the service provider's new standardized process.

Lacity, Hirschheim, & Willcocks (2009) found that with outsourcing, organizational and operational processes can become more centralized by an external service provider and the relationship the customer had with the former organization's employees can change (as the process may have been decentralized in the past where the customer could have called any employee for support). Lacity, Hirschheim, & Willcocks (2009) provide an example where, prior to outsourcing, customers used to phone their contacts directly in the IT organization to get immediate support with IT problems. For example, prior to outsourcing IT support, it may have taken an employee 2 days to fix the problem. With outsourcing, (through a central intake process) it may take much more time to fix a problem. This may prevent many minor requests from going to the HIT organization and the new external service provider, but it can also slow down the process to get critical problems resolved (as problems now go through a central intake process prior to being assigned for resolution) (Lacity, Hirschheim, & Willcocks (2009)). This change that is experienced by an organization can also have a negative impact on the organization's staff. Participants identified that staff that are hired by the external service provider do not necessarily improve their quality of work. Instead staff may have a more difficult time performing activities as they have gone through a personal and career change. A review of the literature finds that outsourcing can have a negative impact on the work-life balance of the organization's employees (Elmuti et al., 2010). Outsourcing can generate a lot of uncertainty for the organization's employees and can lead to decreased morale, which can affect performance (Elmuti et al., 2010). The research, from both the semi-structured interviews and the literature, finds that clear communication from leadership is

required to support employees. The researcher has found that transparency and setting expectations can be two strategies to help employees go through the complex change of outsourcing. Another negative impact found with outsourcing is that internal expertise can be difficult to recruit and retain, as the external service provider is now providing the service and internal resources are not relied on to deliver the service as much as they were before outsourcing. Responses from participants on the challenges of outsourcing suggest that local knowledge of the internal environment can be lost with outsourcing. An external service provider comes in to deliver local services, and while external expertise is gained, the service provider does not understand the local environment, including all the unique aspects of the organization and its customers. Participants identified that understanding the local environment is important and outsourcing agreements may fail if the local environment is not understood by the external service provider. The literature review also finds that a negative consequence of outsourcing is the loss of important internal competencies. Agndal and Nordin (2009) note that outsourcing can reduce the organization's internal knowledge, skills and relationships. Furthermore, Oshri, Kotlarsky, and Willcocks (2009) found that this loss of internal knowledge can create an overdependence upon the external service provider to deliver services.

Table 15 summarizes some positive benefits and negative impacts associated with outsourcing.

Table 15 – Positive Benefits and Negative Impacts of Outsourcing.

Benefits and Positive Outcomes	Impacts and Negative Outcomes
<p>Improved outcomes and service delivery</p> <ul style="list-style-type: none"> External service provider can deliver services faster and more efficiently <p>Positive change for the organization</p> <ul style="list-style-type: none"> The organization can set service levels for the external service provider to meet <p>External expertise are gained</p> <ul style="list-style-type: none"> The organization can gain expertise from outside the organization to improve services <p>Focus on core can improve services</p> <ul style="list-style-type: none"> Organizations can focus on core competencies, allowing the external service provider to support with non-core service delivery <p>Risk management</p> <ul style="list-style-type: none"> Risk (including staff) is transferred from the organization to the external service provider 	<p>Decreased service delivery</p> <ul style="list-style-type: none"> Customers do not have individual connections at the organization to get their issues resolved quickly <p>Negative change for the organization</p> <ul style="list-style-type: none"> Change can negatively impact staff which can lead to decreased performance <p>Internal expertise are lost</p> <ul style="list-style-type: none"> The organization can lose internal knowledge to the external provider, who does not know local environment <p>Focus on core can impact customers</p> <ul style="list-style-type: none"> Customers of the organization may not feel they are getting the attention they need from the external service provider to address their issues <p>Level of risk</p> <ul style="list-style-type: none"> Outsourcing can create new risk, especially for organizations that have not outsourced before; and can create a loss of control for the organization as staff move to the external service provider

The researcher has found that while benefits can be achieved with outsourcing, these same benefits can also lead to negative impacts. While organizations plan on the intended benefits of outsourcing, they must also develop mitigation strategies for any unexpected and unintended negative impacts of outsourcing.

5.2.2 Outsourcing Health Information Technology Functions in Canada

The second research question posed was: what types of HIT functions (HIT development, implementation, operations, and maintenance) are outsourced in Canadian

health IT organizations and why (including what is the underlining rationale)? When asked about the HIT functions outsourced, participants stated experience with outsourcing all of the different HIT functions. The researcher found that any of the four HIT functions are outsourced in Canada, and that outsourcing in general in Canada is becoming quite common. The researcher found that outsourcing operations and maintenance functions may be more common than outsourcing development and implementation functions in Canada. Additionally, outsourcing operations and maintenance functions and outsourcing development and implementation functions were found to be more common than outsourcing all four functions together. Examples of services that are seen to be outsourced with operations and maintenance include Service Desks, or Helpdesks, Desktop Management, Server Maintenance and Hosting, and Data Centers. The researcher found that participants believed that outsourcing of these two functions of operations and maintenance was easier, as they had clearer, more well-defined processes than development and implementation functions. Participants also believed that organizations did not want to assume internal responsibility for the technical aspects of system operations and maintenance, including programming and software code development. A review of the literature in conjunction with data from the semi-structured interviews identified that organizations want to outsource non-core services (such as delivery and support) and retain core services (such as strategy and policy) internally (Oshri, Kotlarsky, & Willcocks, 2009; Dibbern, Goles, Hirschheim, & Jayatilaka, 2004; Hirschheim & Lacity, 2000; Diana, 2009). The technical aspects of system operations and maintenance can be considered non-core services, which may be why these services are frequently outsourced over other functions or core services. Teng,

Cheon, and Grover (1995) found that outsourcing non-core services, such as data center management, can help organizations focus their efforts on more strategic business activities. Additionally, often these system operations and maintenance services, such as data centers and telecommunications, are found to have low asset specificity (meaning they are not complex or highly customized) (Lacity, Khan, & Willcocks, 2009). The literature finds that often it is the lower asset specificity functions that are more commonly outsourced compared to higher asset specificity functions (which are more complex and customized) (Gottschalk & Hans Solli-Saether, 2006; Diana, 2009). Furthermore, Lorence and Spink (2004) found that more technical services compared with information management or managerial functions are more often outsourced. However, despite these findings, a significant portion of the literature on outsourcing identifies that typically operations and maintenance functions are outsourced less often than development and implementation. Wholey, Padman, Hamer, and Schwartz (2001) have found that healthcare organizations in the United States are more likely to outsource development functions (such as system build and configuration) than day-to-day operational activities. Similarly, Lorence and Spink (2004) state that the “development and operation of information systems are generally ranked first and second, respectively, as service most likely to be outsourced” (p. 132). There may be a difference in the findings between Canada and the United States, as the majority of the literature is from the United States and the semi-structured interviews were conducted with participants in Canada. This may also demonstrate a shift due to the growth in outsourcing in recent years, as the semi-structured interviews are more recent than the literature that exists on outsourcing functions. It may be that more commonly today healthcare organizations in

Canada are outsourcing operational activities as compared to development and implementation functions.

The researcher also found that outsourcing development and implementation functions occurs in Canadian healthcare organization. Participants believe that outsourcing the development and implementation functions can have less of an impact, or change, on employees and customers, as often external service providers come in to supplement the existing organization teams, rather than completely take over the work the teams are doing. The researcher has found that typically the functions of development and implementation need to be outsourced as there is too much demand for new projects. Additional resources from an external service provider are needed to support the volume of development and implementation that is required for new projects. Additionally, development and implementation have been found to be complex functions (Wholey et al., 2001) and often organizations need to bring in external expertise to support these functions. The findings from the research also identify all functions (development, implementation, operations and maintenance) can be outsourced together in Canadian healthcare organizations; however, more commonly selective outsourcing is done in Canada. Selective outsourcing refers to instances where only certain functions are located with an external service provider (Gottschalk & Hans Solli-Saether, 2006).

5.2.3 HIT Functions that Provide the Most Benefit

The third research question posed was: what functions (development, implementation, operations, maintenance) are perceived as providing the most benefit from outsourcing? The literature review finds that selective outsourcing can offer many benefits. According to Lacity and Willcocks (1998), selective outsourcing can be more successful than

outsourcing all functions (or total outsourcing where over 80% of the IT budget is outsourced to an external service provider). However, what functions benefit most from being outsourced? In this research, analysis revealed that all functions of development, implementation, operations and maintenance had benefits and challenges when outsourcing. However, the researcher found a difference between the semi-structured interview results and the literature on the types of functions that provide the most benefit when outsourcing. Semi-structured interview findings revealed that outsourcing of development and implementation functions may offer an organization slightly more benefits than outsourcing operations and maintenance functions (despite, the research finding that operations and maintenance are more commonly outsourced than development and implementation). When considering the relationships between the organization and its external service provider, participants discussed more examples of positive outcomes associated with outsourcing development and implementation functions than they did for operations and maintenance functions. Participants suggested that organizations can benefit from external provider expertise for development and implementation. They also described many examples of positive relationships when outsourcing all four functions. Furthermore, when discussing negative relationships, participants did not state any negative relationships to be associated with outsourcing development and implementation. Only negative relationships for outsourcing operations and maintenance were described, as well as outsourcing all four functions. The researcher found that collaboration and communication between the organization and the external service provider can be very difficult when outsourcing operations and maintenance, or when outsourcing all four functions. Regardless of the function

outsourced, the research finds that establishing a good relationship between the organization and the external service provider is critical to the success of the outsourcing contract. Cox, Roberts, and Walton (2012) found that while the contract should outline strict service levels, it needs to promote a working relationship between the organization and the external service provider. The contract requires trust and at the same time trust is required to make the contract successful. The research in the United Kingdom found that organizations that focus on relationships with their external providers were more successful than organizations that focused on the contract itself (Cox, Roberts, & Walton, 2012).

When looking at the outcomes of outsourcing, it was found that outcomes for any of the four functions could be achieved; however, it was found that outsourcing development and implementation may offer more benefits in terms of outcomes than operations and maintenance. Participants indicated that outsourcing development and implementation led to improved delivery, including on-time and on-budget delivery. Although, they also identified that outsourcing operations and maintenance could improve operational service levels. Some participants stated that improved service levels were difficult to measure and see from a customer perspective. According to a few participants, outcomes were realized with project delivery activities (development and implementation), but were not as well achieved with operations and maintenance which provided the organization with more challenges to deal with. In contrast, the literature notes that outsourcing operations and maintenance may provide more benefit than outsourcing development and implementation functions when looking at outsourcing IT in general (not HIT specifically). One study has found that the outsourcing of operations,

telecommunications and maintenance demonstrated positive outsourcing success, whereas information technology development and implementation functions, including system planning and management, did not demonstrate there being a strong relationship with outsourcing success (Lacity, Khan, & Willcocks, 2009). This may indicate a difference between outsourcing success in general IT outsourcing versus HIT outsourcing. It may also indicate a difference between outsourcing in the United States versus in Canada (as the majority of the literature has come from the United States). Additionally, the literature on the outsourcing success of different types of functions was performed over a decade ago. It may be that the benefits of outsourcing different functions is dependent on a number of different things, such as how the contract is negotiated, the staff transfer and impact, and the level of change management and communication that is provided to the customers. Table 16 below summarizes the findings from the semi-structured interviews and the literature review in terms of the HIT functions commonly outsourced and the HIT functions that may provide benefit when outsourced. The differences in the findings are highlighted.

Table 16 – Difference of Outsourcing HIT Functions Between Semi-Structured Interviews and Literature.

	Semi-structured Interviews	Literature Review
Functions Commonly Outsourced in Canada	<ol style="list-style-type: none"> 1. Operations and Maintenance 2. Development and Implementation 3. All Functions 	<ol style="list-style-type: none"> 1. Development and Implementation 2. Operations and Maintenance
Functions Providing Benefit when Outsourced in Canada	<ol style="list-style-type: none"> 1. Development and Implementation 2. All functions 3. Operations and Maintenance 	<ol style="list-style-type: none"> 1. Operations and Maintenance 2. Development and Implementation

Further research and understanding on what functions offer the most benefit when outsourcing HIT is recommended.

5.2.4 Management Perceptions Regarding the Strengths and Weaknesses of Outsourcing

The fourth research question posed was: what are the perceived strengths and weaknesses of outsourcing, compared to internally delivering HIT services? In both the literature review and the semi-structured interviews, the researcher found that there can be many strengths and weaknesses with outsourcing. The researcher found that these strengths and weaknesses are varied based on a number of different factors, such as how the contract agreement was negotiated or the level of support for the outsource agreement from HIT management. The researcher found a relationship between some strengths and weaknesses, identifying that many of the strengths of the outsourcing model can also be a weakness in that same model. Table 17 provides a summary of the strengths and related weaknesses of outsourcing.

Table 17 – Strengths and Weaknesses of Outsourcing.

Top Strengths of Outsourcing	Top Weaknesses of Outsourcing
External Expertise	Loss of Internal Expertise
Drives Improved Service Delivery	Costs
Drives Process Change	Complexity with Change in Process
Enables Control	Loss of Control
Transfers Risk	Negative Change

The researcher found that a key strength of outsourcing is the ability for organizations to bring in expertise from an external service provider. In the semi-structured interviews, the researcher found that outsourcing provides advanced expertise that does not exist in-house to an organization. The external service provider comes with best practice

experience from other organizations and can apply past lessons learned to the organization they have contracted with. Gottschalk and Solli-Saether (2006) explained that based on resource-based theories, organizations require expertise to gain a competitive advantage and achieve strategic objectives. Therefore, resources are needed to bring in new ideas and innovative strategies to perform the required work more efficiently and effectively. Additionally, Quinn and Hilmer (1994) explain that developing expertise is often very difficult for organizations to do with in-house staff, and when organizations try to do this it is often very costly. Therefore, organizations look to the outside market for expertise (Oshri, Kotlarsky, & Willcocks, 2009). However, contrary to this strength of outsourcing, the loss of internal expertise was found to be a weakness. Participants stated that the “external expertise” in the external service provider does not understand the organization’s local environment. Additionally, as staff transfer from the healthcare organization to the external service provider through outsourcing, the local staff may not provide the same local service that they once were able to provide to customers (as they may move to different roles in the external service provider or follow different processes). Furthermore Ketler and Walstrom (1993) found that often healthcare organization staff leave the organization when outsourcing takes place, which makes the organization’s in-house staffing model weak and makes the transition to outsourcing very difficult. This can result in local organizational knowledge being lost and customers being unhappy with the new level of service.

The ability to improve service delivery is another key strength of outsourcing that the researcher has identified. In the semi-structured interviews, the researcher found that through outsourcing healthcare organizations can drive improved service delivery and

achieve better results. Through outsourcing, organizations hand over a service to an expert that has specialized in delivering that same service. The external expert can deliver the same service in a more efficient or effective manner, thereby improving service delivery. Participants shared their experiences describing how service targets were met and performance improved. In the literature, Moschuris and Kondylis (2006) found that outsourcing improved performance and service quality levels in Greek hospitals. Lorence and Spink (2004) found that a major factor that influenced an organization's decision to outsource was improved patient care. However, despite these findings, the literature is still relatively weak in terms of the number of studies that show outsourcing has improved service delivery and performance. The researcher has also found that as organizations work to improve service delivery through outsourcing, it can end up costing the organization more. Participants indicated that with outsourcing, an organization may get a product or service delivered more quickly, but it often comes with an associated cost. The researcher found that this associated cost may cause individuals to perceive outsourcing as negative. Similarly, Lacity, Hirschheim, & Willcocks (2009) describe an IT cost/service trade-off. These researchers found in a study that organizations who understood the IT cost/service trade-off were happy with the level of service from the external service provider (Lacity, Hirschheim, & Willcocks (2009). If organizations did not understand the cost associated with outsourcing, and perceive it only as a cost savings strategy, then they may not be happy with the outsourcing arrangement. Furthermore, in the semi-structured interviews, the researcher found that outsourcing can cost organizations more money over time. Consistent with this finding, literature from the United Kingdom finds that there can be hidden costs when outsourcing

in the public sector (Cox, Roberts, & Walton, 2012). These hidden costs can offset the cost savings that organizations may experience at the beginning of a contract and overtime the outsourcing initiative costs more money. Gottschalk and Solli-Saether (2006) explain that the decision to outsource on purely achieving cost savings without consideration of the service quality desired will lead to higher costs. This can make organizations unsatisfied with the outsourcing agreement and feel that service delivery has not improved, as it has cost the organization more.

Another key strength of outsourcing is the ability to drive process change in an organization. Participants described that by outsourcing organizations are forced to define process through the contract negotiation, and then the external service provider will come in and often change this process to improve it. The researcher found that often the external service provider will centralize functions or services to make them more streamlined and efficient. This may be satisfactory for many organizations; however, the researcher has found that this can also be perceived as a weakness by many of the organization's customers. Participants in this study with a customer perspective explained that with the centralized service they were not able to get the support they were used to getting prior to outsourcing. It added complexity to the model. Lacity, Hirschheim, & Willcocks (2009) highlight a similar example where customers were not able to directly contact the resource they used to contact to get their required service. This change in process can be perceived as a strength by some and a weakness by others.

The researcher also found that the ability to enable control for an organization is perceived to be a strength of outsourcing. In the semi-structured interviews, the researcher found that outsourcing can allow organizations to drive the desired service

levels through controlling the external service provider to meet the service levels through the outsourcing contract. However, participants also stated that outsourcing can cause organizations to lose control of service levels if the contract is poorly written and negotiated. They explained that if there are no tight controls in place or unclear service targets, the organization will not be able to control the external service provider to deliver the desired service levels. Similarly, the research literature demonstrates that loss of control is a perceived risk with outsourcing (Ketler & Walstrom, 1993; Roberts 2001). Ketler and Walstrom (1993) explain, through the Ledgeway/Dataquest survey to CIOs and IT directors, that 31% of respondents listed loss of control as a disadvantage of outsourcing. In addition to the perceived loss of control for the organization, the researcher has also found that loss of control can exist amongst the organization's employees. In one study, Morgan (2008) found that employees felt a lack of control over outsourcing events. Therefore, outsourcing can both increase and decrease an organization's level of control.

The researcher found the transfer of risk to be another strength of outsourcing. Participants explained that organizations can transfer risk, such as staff benefits, pension and expenses, to the external service provider. Organizations are no longer required to manage and support staff, as they have moved to the external service provider. They are able to share some of their risks with the service provider. However, outsourcing can also create a number of risks for an organization. Perhaps one of the larger perceived weaknesses of outsourcing is the negative change and impact it can have on an organization, its employees and its customers. Participants stated that outsourcing requires huge change, as employees transfer to another organization. This affects both

the employee, as they have a new employer, and the customers, who are accustomed to working with these employees. Some participants perceived this transfer as negative change caused by outsourcing. Many people are resistant to change. Roberts (2001) explains that leaders in the organization are required to manage this change throughout the outsourcing agreement.

The researcher found that there can be many strengths and weaknesses of outsourcing. Organizations should be aware of these strengths and weaknesses prior to entering into the outsourcing agreement. Mitigation strategies should be developed for any of the perceived weaknesses and potential risks with outsourcing. Organizations should also be aware that while strengths and weaknesses may stand-alone, many of the strengths of outsourcing may also lead to a weakness in the outsourcing model.

5.3 An Outsourcing Model for Consideration

The researcher has found participants' perceptions regarding the success of outsourcing HIT, including the benefits and challenges, strengths and weaknesses, and differences with outsourcing the different HIT functions. Throughout the data analysis phase, numerous concepts and categories emerged that demonstrated interrelationships. A conceptual model has been developed to link inter-related categories together. A conceptual model, or framework, is used to help portray the concepts, assumptions, or subject matter that the model represents, in visual or textual representation (Maxwell, 2005). It uses concepts and categories to convey the model visually and textually, and it depicts concepts and their associated relationship (Henderson & Johnson, 2011; Maxwell, 2005). Conceptual models can be used to inform research design (Maxwell, 2005). The

following section outlines a conceptual model, developed by the researcher. The inputs and outputs of outsourcing HIT are described and a comparison of the model to the findings from the literature review is provided.

5.3.1 Conceptual Model for Outsourcing

The conceptual model uses the concepts and categories that emerged from the research to represent outsourcing HIT. The model builds on the categories found in the research and represents the relationships and interdependencies between these categories. The model highlights the inputs and the outputs to outsourcing as an organizational strategy, including the factors that influence an organization's decision to outsource, the risk and challenges associated with outsourcing, and the expected outcomes and benefits that can result from outsourcing. The following Figure 1 outlines the conceptual model.

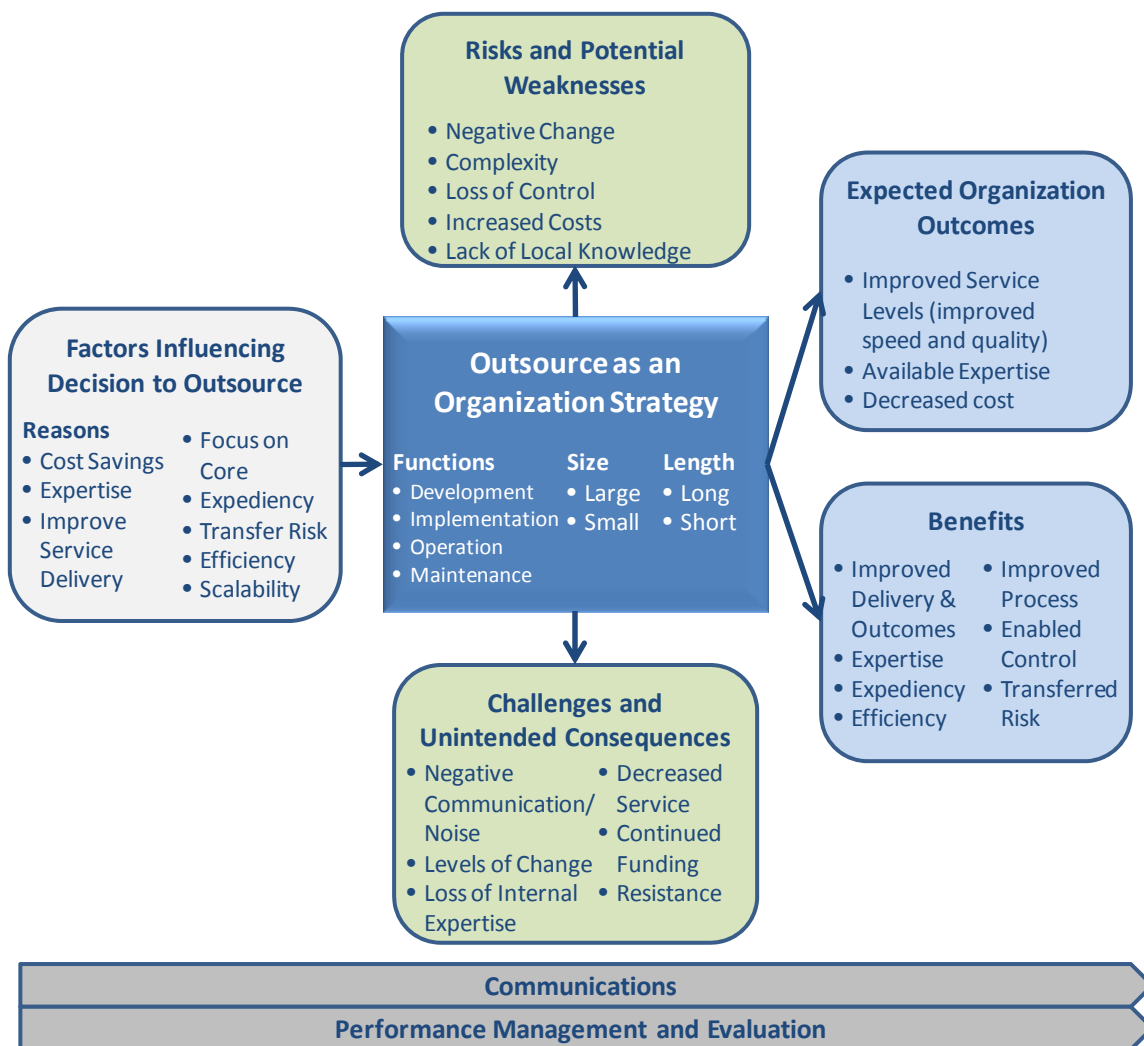


Figure 1 – Conceptual Model for Outsourcing as an Organization Strategy.

5.3.2 How the Model fits within the Literature Review and Data Analysis

Outsourcing as an organization strategy, including the factors associated with outsourcing and its influencers and outcomes, were discussed in the literature and the semi-structured interviews. The conceptual model presented in this study is reviewed against the findings in the research. This section explains the components of the conceptual model.

1. Outsourcing as an Organization Strategy

The conceptual model looks at outsourcing as an organization strategy. When deciding to outsource, organizations need to consider what HIT functions will be outsourced (development, implementation, operations, and maintenance), and the size and length of the outsourcing agreement. The research finds that the factors of HIT function, organization and contract size, and contract length are all associated with outsourcing. Decisions organizations make around these factors when outsourcing may determine the level of success the organization experiences with outsourcing or not. All HIT functions have been found to be candidates for outsourcing. While the literature indicates that often operations and maintenance functions can be more successful from outsourcing when compared to development and implementation functions, the semi-structured interviews demonstrate that outsourcing development and implementation may have more positive impacts and less negative impacts for an organization in Canada. The research also indicates that the size and length of the outsourcing agreement can affect the success of outsourcing (Gottschalk and Solli-Seather, 2006; Menachemi, Burke, Diana, Brooks, 2005). The semi-structured interviews identify that often larger outsourcing agreements (in terms of size, length and complexity) can add more risk to the outsourcing agreement making it more challenging to manage. However, perhaps the most critical consideration for organizations when outsourcing is that the outsourcing strategy is part of the organization's overall strategic plan. In the research it was found that more positive outcomes can occur when outsourcing is part of the organization's strategy. In addition to this, organizations also need to develop an overall outsourcing

strategy that defines the objectives and desired outcomes of outsourcing (Morgan 2008; Piachaud, 2005; Roberts, 2001).

2. Factors Influencing the Decision to Outsource

When looking at outsourcing as an organization strategy, organizations need to first review the factors that influence their decision to outsource. Specifically, organizations need to consider the reasons for outsourcing. The research finds that two key reasons to outsource are to save costs and to improve outcomes (Lorence and Spink, 2004).

However, the participants identified many more reasons to outsource including efficiency and expediency gains, the ability to focus on core business activities, and the ability to transfer risk to an external service provider, among others. The research has shown that despite cost savings being a major reason for outsourcing, outsourcing does not always result in cost savings for an organization. Rather, outsourcing has been found to have hidden costs and may be a cost neutral strategy (Cox, Roberts, & Walton, 2012; Menachemi et al., 2007). If organizations outsource for the sole reason to realize cost savings, they likely will not be satisfied with the outsourcing agreement; organization leadership may perceive it as not achieving the intended objectives and not being successful. Organizations need to review all the reasons for outsourcing, prior to initiating an outsourcing agreement, and ensure these reasons are outlined in the organization's strategy and are reviewed throughout the outsourcing lifecycle.

3. Risks and Potential Weaknesses

Depending on the strategic decision for an organization to outsource and the reasons for outsourcing, outsourcing can generate many risks and have inherent weaknesses that need to be mitigated. Risks and weaknesses are similar in that risks have the potential for

activities to lead to undesired outcomes whereas weaknesses are a perception that the activity will lead to an unsuccessful outcome. These risks and weaknesses need to be alleviated through mitigation strategies and tactics that the organization must put in place. These mitigation strategies should be incorporated into the overall outsourcing strategy. The research found that there are many perceived risks and weaknesses associated with outsourcing. These include the following: the negative change that the organization and its employees and customers may face as service levels and service delivery mechanisms change; the complexity of managing and executing outsourcing agreements from the organization's side; the loss of control over the organization's environment (as there is some shared control with the external service provider); potential increased costs due to realization of hidden costs in the contract (Cox, Roberts, & Walton, 2012); and a lack of local knowledge as staff transition to the external service provider and no longer service the organization and its customers in the same way (Agndal & Nordin, 2009). Morgan (2008) explains that often risks are not thought of by the organization upfront; when performance targets become unmet, risks are often identified. Organizations must identify these risks up front and ensure they are outlined in the outsourcing strategy.

4. Challenges and Unintended Outcomes

In addition to monitoring risks when outsourcing, organizations also need to be aware of potential challenges and unintended outcomes that are not planned for. There are many challenges that organizations will face when outsourcing. Specifically, in the Canadian health informatics industry, outsourcing is a fairly new trend. Many public healthcare organizations do not have experience with outsourcing. Therefore, a challenge will be the learning curve that organizations, including employees and customers, will

need to go through. According to the research literature, external service providers are very knowledgeable in negotiating and managing outsourcing agreements (Cox, Roberts, & Walton, 2012). Organizations need to ensure they have experts on the organization's side to support negotiations and management of the agreement. Other challenges and potential unintended outcomes when outsourcing (that were found in the research) included the following: negative communication or "noise" on the outsource agreement that may spread through employees and customers, making support for the outsource agreement a challenge; the level of change that the organization, including employees and customers need to go through, which requires change management strategies; the loss of internal expertise to support the organization with the outsourcing agreement and to support customers with service delivery; potential decreased service which may result if service targets are not defined clearly in the outsourcing agreement; continued funding support for the organization as the majority of funding is going to the external service provider; and resistance from employees and customers to the change if the expectations and objectives of the outsourcing agreement are not communicated. These challenges need to be managed throughout the outsourcing contract to ensure they do not turn into unintended outcomes. Organizations must be flexible to adapt to unplanned challenges and consequences and mitigate these challenges from perpetuating across the organization's environment.

5. Expected Organizational Outcomes

The outcomes of outsourcing will vary based on the outsourcing strategy, the reasons for outsourcing, and the risks and challenges identified while outsourcing. The researcher identified that there can be positive outcomes associated with outsourcing. A

common positive outcome that was identified in both the semi-structured interviews and the literature was the ability for the organization to access available expertise. Experts from the external service provider can help support an organization to deliver services more efficiently and effectively, while the organization focuses on their core competencies (Roberts, 2001). The semi-structured interviews found that this expertise can help an organization improve service delivery and create positive change for the organization. Specifically, the researcher found that improved service levels, including improved speed to delivery of work and improved quality, can result from outsourcing. Some participants described how outsourcing could improve the timeliness to action, the timeliness to execute, and the quality in which services are delivered. When organizations reviewed these service levels as performance measures and reported out progress on performance, organizations found their performance measures to improve. Additionally, while only a small number of participants discussed financial benefits from outsourcing, the ability to decrease costs for an organization was found to be an expected outcome of outsourcing, from both the literature and the semi-structured interviews.

6. Benefits of Outsourcing

In addition to positive outcome measures, organizations can also realize many benefits from outsourcing. The benefits identified are dependent on a number of factors involved in outsourcing, including the outsourcing strategy and approach, how the contract is negotiated, the reasons for outsourcing, and the mitigation strategies that are put in place. In the research the following key benefits were found: improved delivery and outcomes, such as improved service levels; available expertise from the external service provider to support the organization and bring innovation and external knowledge; expediency to

deliver services; efficiency of service delivery processes; improved processes and practices, which helps organizations define and standardize uncertain processes; enabled control for the organization to direct their external service provider, providing the contract is negotiated and managed carefully; and transfer of risk, as employees move over to be employees of the external service provider. These benefits will vary depending on the outsourcing situation, but may be found to possibly be realized.

7. Communications and Evaluation

Throughout the outsourcing agreement, organizations need to consider the communication required to staff and customers, as well as the performance evaluation strategy for the outsourcing initiative. These activities need to start up front when developing the outsourcing strategy and run until after completion of the outsourcing arrangement with the external service provider. Organizations need to set expectations with their staff and their customers by constantly communicating. Organizations also need to measure performance throughout the outsourcing agreement. Key performance indicators should be identified and measured prior to the outsourcing initiative, and they should be measured throughout the outsourcing initiative. As performance increases or decreases, organizations may need to adjust the outsourcing contract accordingly to ensure that the desired outcomes and benefits from outsourcing are being achieved.

This conceptual model was developed based on the data collected during the research. The model can be applied locally, nationally, and even internationally. The participants in this research study expressed their thoughts on outsourcing success in a generic way, while describing specific examples. The concepts in the model are generic and can be considered by any public healthcare organization outsourcing HIT.

5.4 Study Limitations

There are many benefits associated with the use of qualitative approaches, as outlined in Chapter 3 – Study Design and Research Approach. Overall, qualitative approaches have the ability to help researchers understand complex textual descriptions of an individual's experience within a research area of interest (Mack, Woodsong, MacQueen, Guest, & Namey, 2005). However, this particular method of study can have potential limitations. These limitations in the data collection and data analysis methods used in this study are described in this section.

5.4.1 Generalizability and Credibility

Qualitative research on outsourcing success can advance the knowledge base on HIT outsourcing in Canada. The findings from the research study demonstrate consistency with the literature review and other similar outsourcing studies. The literature review covered a range of topics relevant to outsourcing. Papers and studies from outside of Canada, such as in the United Kingdom and the United States, were included as they offered additional substance to the study. Common elements between outsourcing success, in terms of the perceived benefits and challenges, as well as strengths and weaknesses, were found between the semi-structured interviews and the literature review. However, not all findings may be generalized to all healthcare organizations in Canada that are outsourcing HIT. This is due to a few limitations arising from recruitment, data collection, and data analysis. The first limitation is the relatively small sample size and the number of participants that were recruited for the study. There were a small number of participants in this study. This may be due to many HIT leaders not having direct experience with outsourcing in healthcare organizations. The limitation was that the

study recruited senior roles aware of outsourcing to participate in the study, which made the pool of eligible participants small. In the data collection, semi-structured interviews took place, which may be a second limitation. Participants were primarily asked open ended questions. This allowed participants to provide very detailed information and discuss their perceptions of outsourcing; however, a different approach to the questionnaire and interviews, such as a web-based questionnaire for all CIOs across Canada, may have elicited a larger sample size. Work from the research could be used to develop an online questionnaire as part of future research. Despite this, in this research, the smaller sample size and semi-structured interviews, allowed the researcher to obtain rich data during the data collection. Additionally, the sample size of 14 participants was sufficient for a qualitative study. A third limitation was that many participants could not answer all questions in the semi-structured interview. Some participants were knowledgeable about outsourcing, some participants were knowledgeable about in-sourcing only, and some participants were knowledgeable about both outsourcing and in-sourcing. Only the participants with experience in both outsourcing and in-sourcing could answer all of the questions. While the differences in experience and perception made this study robust and provided insights into outsourcing as compared to in-sourcing; the findings may not be generalized when comparing outsourcing and in-sourcing directly to each other. A fourth limitation is that participants' perceptions regarding outsourcing were based on participants' experience with outsourcing at the point in time when the interview was conducted. Some participants were in the early stages of outsourcing HIT, while others had experienced a full outsource before. As participants experience more outsourcing, their opinions and perceptions may change.

During the data analysis phase, a final limitation found may be the content analysis approach itself. Content analysis can present challenges to a natural environment study (Hsieh & Shannon, 2005). There may be a tendency to approach the study with an informed bias. This bias is explained in the section below. However, overall, the descriptive findings in the semi-structured interviews paired with the findings in the literature review gives credibility to the results of this research study.

5.4.2 Bias

At the start of the research study, the recruitment process may have been subject to a selection bias, specifically when looking at the participants who expressed interest in the research study. The researcher outlined that this study looked at outsourcing success and the benefits and challenges of outsourcing. The participants most likely to participate in this study were likely those who had solid opinions, either for or against, outsourcing HIT. The researcher found opinions varied based on the role the participant played in the outsourcing initiative they worked on. During the semi-structured interview, the researcher could have improved the clarification of some questions. Specifically, when asked “What quality and financial performance measures are captured in your HIT organization?” participants asked for further explanation. This question could have been accompanied by examples of performance measures to trigger the participant’s response. It may have been possible that the participants did not have a lot of experience with performance measures for outsourcing. In additional, the question “How do you think outsourcing compares to in-house development, implementation, operations and maintenance?” could have been clarified by asking participants to compare and contrast outsourcing and in-sourcing. Another potential bias, as discussed above, is that content

analysis may cause the researcher to approach the study with an informed bias (Hsieh & Shannon, 2005). Coding is a subjective activity where the researcher codes the data themselves directly (Hsieh & Shannon, 2005). However, during initial development of the categories the researcher and her supervisor independently reviewed the first few transcripts and discussed coding. To prevent any researcher bias, the researcher clearly asked participants for their perceptions on outsourcing success and frequently re-examined the transcripts and coding to ensure saturation without bias.

Chapter 6: Conclusion

Throughout this study, the research has achieved the objectives of evaluating the success of outsourcing HIT and the different functions, exploring how outsourcing HIT functions compares to organizations that have kept these functions internally, describing how organizations are measuring success of outsourcing, and describing perceptions around the success of outsourcing HIT. The study has answered the four posed research questions. Participants provided many benefits (such as improved service delivery, external expertise, and the ability to focus on core competencies), and negative impacts (such as decreased service levels, negative change, and loss of internal expertise) of outsourcing. The researcher has also found the types of functions that are commonly outsourced in Canadian HIT organizations. While the participants described outsourcing operations and maintenance functions that were more commonly seen in Canada, they also stated that development and implementation functions, as well as all functions, were outsourced. The literature to date on outsourcing in general has found that typically development and implementation functions are outsourced more than operations and maintenance functions. This may be a key difference between general outsourcing and outsourcing in the Canadian HIT industry. This may also be a key difference between outsourcing in the United States and Canada. The majority of the literature for this research study came from the United States and was not specific to HIT. The research also looked at the HIT functions that may provide the most benefit from outsourcing. The participants stated that outsourcing development and implementation can provide benefits; however, they stated fewer benefits from outsourcing operations and maintenance or all functions together. This differed from the research on general

outsourcing that has found the operations and maintenance functions may benefit more from outsourcing than development and implementation functions. The research study also identified the perceived strengths of outsourcing (such as having external expertise, improved service delivery, and positive process change) and weaknesses (such as loss of internal expertise, increased costs, and complexity with change) of outsourcing. By answering the four research questions, the health informatics industry, including healthcare administrators and health informatics practitioners, will gain a deeper understanding on the impacts to outsourcing HIT functions. Understanding these positive and negative impacts is important as healthcare organizations are increasingly looking at outsourcing as a mechanism to deliver HIT services differently.

6.1 Implications of the Research Study

This research has some important implications to consider, including implications to Canadian healthcare organizations and implications to the health informatics industry.

6.1.1 Implications for Outsourcing in Canadian Healthcare Organizations

This research can support Canadian healthcare organizations that are looking to outsource HIT. The research study provides perceptions from different viewpoints, such as HIT leaders, employees, and customers. These different viewpoints should be considered when outsourcing, in order to set expectations and direct communications and change management efforts most appropriately. The research provides insight into other Canadian healthcare organizations' experience with outsourcing, including the positive and negative outcomes and impacts, as well as functions that are often outsourced and

have had success. The research study also presents a conceptual model that organizations can consider when outsourcing. This model can be used by healthcare leaders who are exploring outsourcing options and developing outsourcing strategies.

6.1.2 Implications for Health Informatics Practice

The research study has implications for the health informatics industry. This research may change the way outsourcing is perceived. The conceptual model developed in this research may help health informatics practitioners and leaders in understanding all the factors associated with outsourcing, and how some factors can have an impact on the success of the outsourcing agreement. Academic organizations teaching health informatics courses can look to this research to understand the different methods of delivering the HIT functions of development, implementation, operations, and maintenance, and the role outsourcing can play in the delivery of these functions. These courses can also look at educating on the outsourcing trends in Canada and the successes and failures that exist.

Overall, the research study identifies some differences between general IT outsourcing and HIT outsourcing in Canada. It also identifies some differences between the literature, which highlights that outsourcing operations and maintenance has been found to be successful, and the semi-structured interview data, which found that outsourcing development and implementation may be more successful (than operations and maintenance). It may be that outsourcing HIT in Canada is different from outsourcing IT and is different from outsourcing in the United States (where the majority of the literature came from). This is a qualitative study and, therefore, the research cannot be certain of this difference. However, these differences warrant further exploration and research.

6.2 Future Research

Outsourcing in the health informatics industry is a relatively new mechanism for delivering HIT services and functions, especially in Canada. Therefore, there are a number of areas that require further research. This research is one of the first studies to look at HIT outsourcing success in Canada specifically, while at the same time comparing the findings to general outsourcing as well as to HIT outsourcing in other countries and jurisdictions. To date the majority of studies on outsourcing have been on general outsourcing, and studies on HIT outsourcing have been limited to the United States and Europe. Hence, evaluation studies within Canada on HIT outsourcing success are critical to determine what functions may offer the most benefits and understand where outsourcing success is being achieved. Areas that need to be further explored include the functions that are most often outsourced and their associated benefits and success measures. Specifically, the differences found between HIT outsourcing of functions in Canada and general outsourcing of functions warrants further research. The conceptual model developed based from the research study and the literature review extends the research on outsourcing, including the inputs and outputs that should be considered. Concepts in this model can be further explored, such as outsourcing risks and challenges or benefits and outcomes; however, this model provides a good starting point for healthcare organizations in Canada looking to outsource.

References

- Agndal, H., & Nordin, F. (2009). Consequences of outsourcing for organizational capabilities: some experiences from best practice. *Benchmarking*, 16(3), 316.
- Allen, S., & Chandrashekar, A. (2000). Outsourcing services: The contract is just the beginning. *Business Horizons*, 43(2), 25-34. doi: 10.1016/S0007-6813(00)88558-4
- Armstrong, J. (1998). Some thoughts on alternative service delivery. *Optimum (Ottawa)*, 28(1), 1.
- Aubert, B. A., Beaurivage, G., Croteau, A. M., & Rivard, S. (2008). Firm strategic profile and IT outsourcing. *Information Systems Frontiers*, 10(2), 129-143.
- Blumenberg, S. (2008). IT outsourcing relationship quality dimensions and drivers: empirical evidence from the financial industry. *Proceedings / Americas Conference on Information Systems (AMCIS), Paper 299*.
- Britten, N (1995). Qualitative research: qualitative interviews in medical research. *British Medical Journal*. Retrieved from: <http://www.bmj.com/cgi/content/full/311/6999/251>
- Business Dictionary. (2013). *Financial performance*. Retrieved January 31, 2013, from: <http://www.businessdictionary.com/definition/financial-performance.html>
- Business Dictionary. (2012). *Quality*. Retrieved February 10, 2012, from: <http://www.businessdictionary.com/definition/quality.html>
- Canadian Medical Association. (2007). *Information technology and health care in Canada: 2007 Status report*. Retrieved December 10, 2012, from: http://www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/HIT/2007_status_report/IT-handbook-e.pdf
- COACH Canada's Health Informatics Association. (2012). *Health Informatics Professional Core Competencies Version 3.0*. Retrieved March 17, 2009, from: <http://www.coachorg.com/en/publications/resources/CoreCompetenciesV3-Final-Web-Low.pdf>
- Cox, M., Roberts, M., & Walton, J. (2012). IT outsourcing in the public sector local government: experiences of the management and selection of IT service providers. *The Electronic Journal Information Systems Evaluation*, 15(3), 231-243.
- Cullen, S., Seddon, P., & Willcocks, L. (2009). IT outsourcing success: a framework for assessing intentions and outcomes. In Willcocks, L., & Lacity, M. (Eds.), *The Practice of Outsourcing: From Information Systems to BPO and Offsourcing* (p. 303-338). Palgrave, London, UK.

- Dean, A. M., & Kiu, C. (2002). Performance monitoring and quality outcomes in contracted services. *International Journal of Quality and Reliability Management*, 19(4), 396-413.
- Dean, T. (2011). Is public service delivery obsolete? *Literary Review of Canada*. Retrieved Jan 13, 2012 from: <http://reviewcanada.ca/essays/2011/09/01/is-public-service-delivery-obsolete/>
- Diana, M. L. (2009). Exploring information systems outsourcing in U.S. hospital-based health care delivery systems. *Health Care Management Science*, 12(4), 434-450.
- Dibbern, J., Goles, T., Hirschheim, R., & Jayatilaka, B. (2004). Information systems outsourcing: A survey and analysis of the literature. *ACM SIGMIS Database*, 35(4), 6-102.
- Douglas, J. D. (1985). *Creative Interviewing*. London: Sage Publications, Inc.
- Elmuti, D., Grunewald, J., & Abebe, D. (2010). Consequences of outsourcing strategies on employee quality of work life, attitudes, and performance. *Journal of Business Strategies*, 27(2), 177.
- Fossey, E., Harvey, C., McDermott, F., Davidson, L. (2002). Understanding and evaluating qualitative research. *Australian and New Zealand Journal of Psychiatry*, 36(6), 717-732.
- Foxx, W. K. (2009). Outsourcing services in the healthcare sector. *Journal of Medical Marketing*, 9(1), 41-55.
- Fyfe, T. (2004). Alternative service delivery: responding to global pressures. *International Review of Administrative Sciences*, 70(4), 637-644.
- Fyfe, T. (2003). Tough choices. *Summit*, 6(5), 16-17. Retrieved from <http://search.proquest.com.ezproxy.library.uvic.ca/docview/230367515?accountid=14846>
- Gottschalk, P., & Solli-Saether, H. (2006). Managing successful IT outsourcing relationships. *Reference and Research Book News*, 21(1).
- Government of Alberta Environment and Water. (n.d.). *Delegated arrangements*. Retrieved Jan 15, 2012, from: <http://environment.alberta.ca/01876.html>
- Guimaraes, C. M., & Crespo de Carvalho, J. (2010). Outsourcing in health care sector: a state of the art review. *RIRL 2010: the 8th International Conference on Logistics and SCM Research*. Bordeaux, France. Retrieved Mar 3, 2012, from: <http://www.airl-logistique.org/fr/files/?view=420>

- Health Care in Canada. (2007). *The 10th annual health care in Canada survey: a national survey of health care providers, managers, and the public*. Retrieved Sept 26, 2011, from: <http://www.hcic-sssc.ca/english/Home.aspx>
- Henderson, A., & Johnson, J. (2011). Conceptual models: core to good design. *Synthesis Lectures on Human-Centered Informatics*, 4(2): 1-110.
- Hensley, S. (1997). Outsourcing moves into new territory. *Modern Healthcare*, 27(2), 39-40, 42-3.
- Hirschheim, R., & Lacity, M. (2000). The myths and realities of information technology insourcing. *Communications of the ACM*, 43(2), 99-107.
- Hsieh H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Institute for Citizen Centred Service & Institute of Public Administration of Canada. (2003). *Citizens first 2003*. Retrieved Jan 13, 2012, from: http://www.erinresearch.com/documents/citizens_first_3.pdf
- Institute of Public Administration of Canada. (2007). *Alternative service delivery. Leadership matters topical briefs*. Retrieved Jan 14, 2012, from: <http://www.ipac.ca/documents/WBI-AlternativeServiceDelivery1.pdf>
- Jackson, W., & Verberg, N. (2007). *Methods: Doing social research 4th Ed*. Toronto: Prentice Hall.
- Ketler, K., & Walstrom, J. (1993). The outsourcing decision. *International Journal of Information Management*, 13(6), 449-459.
- King, R. (2009). Hospitals must account for vendors' work. *Biomedical Instrumentation & Technology*, 43(6), 479.
- Klein, S. R. (2006) Keys to health care outsourcing success. *Journal of Healthcare Information Management*, 20(1), 28-30.
- Kolawa, A. (2004). Outsourcing: devising a game plan. *ACM Queue*, 2(8).
- Lacity, M., & Hirschheim, R. (1993). The information systems outsourcing bandwagon. *Sloan Management Review*, 35(1), 73.
- Lacity, M., Hirschheim, R., & Willcocks, L. (2009). Realizing outsourcing expectations: incredible promises, credible outcomes. In Willcocks, L., & Lacity, M. (Eds.), *The Practice of Outsourcing: From Information Systems to BPO and Offshoring* (p. 37-58). Palgrave, London, UK.

- Lacity, M. C., Khan, S. A., & Willcocks, L. P. (2009). A review of the IT outsourcing literature: insights for practice. *Journal of Strategic Information Systems*, 18(3), 130-146.
- Lacity, M. C., & Willcocks, L. P. (1998). An empirical investigation of information technology sourcing practices: lessons from experience. *Management Information Systems Quarterly*, 22(3), 363-408.
- Lacity, M., & Willcocks, L. (2009). IT sourcing: examining the privatization option in public administration. In Willcocks, L., & Lacity, M. (Eds.), *The Practice of Outsourcing: From Information Systems to BPO and Offsourcing* (p. 159-186). Palgrave, London, UK.
- Langer, A. M. (2008). System development life cycle (SDLC). *Analysis and Design of Information Systems 3rd Edition* (p. 10-20). London: Springer.
- Lorence, D. P., & Spink, A. (2004). Healthcare information systems outsourcing. *International Journal of Information Management*, 24(2): 131–145.
- MacDonald, C. (2004). Alternative service delivery within shared services! *Solutions BC Shared Services*.
- Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2005). Module 1: qualitative research methods overview. Qualitative research methods: A data collector's field guide. *Family Health International*.
- Maxwell, J. A. (2005). *Qualitative research design: an interactive approach 2nd ed.* Thousand Oaks, California: Sage Publications.
- McDowall, R. D. (1991). The systems development life cycle. *Chemometrics and Intelligent Laboratory Systems*, 13(2): 121-133.
- McGee, M. (2005). Outsourcing hurts employee morale. *InformationWeek (Manhasset, N.Y.)*, (1045), 70.
- Menachemi, N., Burke, D., Diana, M., & Brooks, R. (2005) Characteristics of hospitals that outsource information system functions. *Journal of Healthcare Information Management*, 19(1): 63-9.
- Menachemi, N., Burkhardt, J., Shewchuk, R., Burke, D., & Brooks, R. G. (2007). To outsource or not to outsource: Examining the effects of outsourcing IT functions on financial performance in hospitals. *Health Care Management Review*, 32(1), 46-54.
- Morgan, S. J. (2008). Human resource management and employee engagement. In Taplin, R. (Ed.), *Outsourcing and Human Resource Management: An International Survey* (p. 26-56). London; New York: Routledge.

- Moschuris, S. J., & Kondylis, M. N. (2006). Outsourcing in public hospitals: a Greek perspective. *Journal of Health Organization and Management*, 20(1): 4-14.
- Moskowitz, S. L. (2009). Outsourcing. In Wankel, C. (Ed.), *Encyclopedia of Business in Today's World* (p. 1256-1258). Sage Publications, Inc.
- Musico, C. (2008). Worldwide outsourcing market to grow 8.1% in '08. CRM Media, a division of Information Today, Inc. Retrieved Jan 20, 2012, from: <http://www.destinationcrm.com/Articles/CRM-News/Daily-News/Worldwide-Outsourcing-Market-to-Grow-8.1-in-08-47196.aspx>
- Mutiangpili, J., & Ravago, M. (2010). Government sector outsourcing: transforming public service with outsourced IT services. Thalons. Retrieved Jan 15, 2012, from: http://www.tholons.com/nl_pdf/Government_Outsourcing.pdf
- Ngeo, C. (1998). A different view of outsourcing. survey shows providers want quality and consolidation, not cost-cutting. *Modern Healthcare*, 28(35), 43-50, 52-4, 56-8.
- Office of the Auditor General of Canada. (2007). *Assessing alternative service delivery arrangements*. Retrieved Jan 13, 2013, from: http://www.oag-bvg.gc.ca/internet/English/meth_gde_e_10195.html
- Ontario Public Service Restructuring Secretariat. (1999). *Alternative service delivery in the Ontario public sector*. Retrieved Jan 15, 2012, from: http://www.iccs-isac.org/en/pubs/asd_on.pdf.pdf
- Oshri, I., Kotlarsky, J., & Willcocks, L. (2009). *The Handbook of Global Outsourcing and Offshoring*. Palgrave Macmillan.
- Overby, S. (2005). Simple successful outsourcing. CIO Magazine. CXO Media Inc. Retrieved Sept 28, 2011, from: http://www.cio.com/article/12554/Simple_Successful_Outsourcing
- Perkins, B. (2003). The forgotten side of outsourcing. *Computerworld*, 37(36), 42.
- Piachaud, B. (2005). Outsourcing technology. *Research-Technology Management*, 48(3): 40-46.
- Priest, H., Roberts, P., & Woods, L. (2002). An overview of three different approaches to the interpretation of qualitative data. Part I: Theoretical issues. *Nurse Researcher*, 10(1): 30-42.

- Providence Health Care. (2012). *News release: New transcription model to improve service, save millions for health authorities and patients*. Retrieved Jan 15, 2012, from: <http://www.providencehealthcare.org/NewTranscriptionmodel.html>
- Province of British Columbia, Ministry of Citizens' Services and Open Government. (2011). *ASD project information*. Retrieved Jan 15, 2012, from: http://www.cio.gov.bc.ca/cio/strategic_partnerships/office/ASD_Summaries_Reports.page?alliance/summaries.asp
- Province of British Columbia, Ministry of Health Services. (2004). *News release: government moves to improve MSP and Pharmacare services*. Retrieved Jan 15, 2012, from: http://www2.news.gov.bc.ca/nrm_news_releases/2004HSER0073-000919.htm
- Province of British Columbia, Ministry of Citizens' Services and Open Government (2007). *Provincial laboratory information solution (PLIS) and interoperable electronic health record (iEHR) project summary*. Retrieved Jan 15, 2012, from http://www.health.gov.bc.ca/ehealth/pdf/PLIS_project_summary.pdf
- Province of British Columbia, Ministry of Citizens' Services and Open Government. (2011). *Solution integration phase alternate service delivery project (ASD) summary*. Retrieved Jan 15, 2012, from: http://www.cio.gov.bc.ca/local/cio/asd/PCHS_Project_Summary.pdf
- Pryma, K. (2002). Human factor requires attention in outsourcing deals. *ComputerWorld Canada*, 18(19), 0-n/a. Retrieved from <http://search.proquest.com.ezproxy.library.uvic.ca/docview/219934659?accountid=14846>
- Quinn, J. (1994). Strategic Outsourcing. *Sloan Management Review*, 35(4), 43.
- Roberts, V. (2001). Managing strategic outsourcing in the healthcare industry. *Journal of Healthcare Management*, 46(4), 239.
- Ross, J. W., & Beath, C. M. (2005). MIT report: achieving sustainable value from outsourcing. *CIO Magazine*. CXO Media Inc. Retrieved Sept 28, 2011, from: http://www.cio.com/article/12555/MIT_Report_Achieving_Sustainable_Value_From_Outsourcing
- Roth, S. B., & Fisher, J. E. (2003). Information technology outsourcing. *Business Briefing: Global Healthcare*. Retrieved Mar 3, 2012, from: http://www.touchbriefings.com/pdf/28/gh031_t_Pwc.pdf
- Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

- Taplin, R. (2008). Outsourcing and human resource management: an introduction and comparative overview. In Taplin, R. (Ed.), editor, *Outsourcing and Human Resource Management: An International Survey* (p.1-25) . London; New York: Routledge. 2008.
- Teng, J. T. C, Cheon, M. J., & Grover, V. (1995). Decisions to outsource information systems functions: testing a strategy-theoretic discrepancy model. *Decision Sciences*, 26(1): 75-103.
- Vitasek, K. (2010). Vested outsourcing: five rules that will transform outsourcing. New York: Palgrave MacMillan. 2010.
- Wholey, D. R., Padman, R., Hamer, R., & Schwartz, S. (2001). Determinants of information technology outsourcing among health maintenance organizations. *Health Care Management Science*, 4(3): 229-239.
- Wilkins, J. K. (2003). Conceptual and practical considerations in alternative service delivery. *International Review of Administrative Sciences*, 69(2): 173-189.
- Willcocks, L., & Lacity, M. (2009). Outsourcing practice: the search for flexibility and control. In Willcocks, L., & Lacity, M. (Eds.), *The Practice of Outsourcing: From Information Systems to BPO and Offsourcing* (p. 3-34). Palgrave, London, UK.
- Williamson, O. E. (1981). The economics of organization: the transaction cost approach. *American Journal of Sociology*, 87(3): 548-577.
- Yao, T., Jiang, B., Young, S., & Talluri, S. (2010). Outsourcing timing, contract selection, and negotiation. *International Journal of Production Research*, 48(2): 305-326.

Appendix A: Consent Form



Health Information Science
University of Victoria

Participant Consent Form

An Evaluation of Health Information Technology Outsourcing Success

You are invited to participate in a study entitled “An Evaluation of Health Information Technology Outsourcing Success” that is being conducted by Shannon Malovec.

Shannon Malovec is a Graduate student in the department of Health Information Science at the University of Victoria and you may contact her if you have further questions by email at smalovec@uvic.ca or telephone at 778-988-9226.

As a Graduate student, I am required to conduct research as part of the requirements for a degree in Health Information Science. It is being conducted under the supervision of Elizabeth Borycki. You may contact my supervisor at emb@uvic.ca or (250) 472-5432.

Purpose and Objectives

The purpose of this research project is to understand the quality and financial benefits and the intended and unintended consequences that may result from outsourcing health information technology functions in Canada. This research project will study the benefits and the short-comings that result from transferring service delivery from healthcare organizations to external service providers in the public sector. The information collected during this study will be used as a foundation in exploring the quality and financial benefits that may result, or not, from outsourcing so that other organizations may learn from these experiences. The research aims to answer the following questions: *What are Managers perceptions of the benefits and negative impacts of outsourcing? In terms of quality benefits measures and in terms of financial benefit measures? What type of functions (development, implementation, operations, maintenance) are outsourced in Canadian health IT organizations and why? What is the underlining rationale? What functions (development, implementation, operations, maintenance) are perceived as providing the most benefit from outsourcing?*

Importance of this Research

Research of this type is important because in healthcare specifically, there is a lack of evidence of whether outsourcing health information technology functions actually proves successful and results in benefits for an organization. This has been a gap in the literature and is important for organizations to understand prior to embarking on such a large initiative. Outsourcing requires huge culture change and investment by every individual within the organization, from the senior executive to the junior analyst. It is important to understand the desired benefits of the outsourcing initiative, prior to initiating the outsourcing engagement with a partner organization. Answers to the research questions are important to understand as healthcare organizations are increasingly looking at

outsourcing as a mechanism to deliver new technology to meet consumer demands, all while achieving cost savings.

Participants Selection

You are being asked to participate in this study because 1) you are part of the University of Victoria Health Information Science listserv or 2) have been recommended by your peers (i.e. snowball sampling approach). Chief Information Officers, Chief Operating Officers, IMIT Directors and Managers are among many who are being selected and recruited in this research as they possess valuable insight regarding outsourcing IMIT functions.

What is involved

If you agree to voluntarily participate in this research, your participation will include the following:

- **Procedure:**
 - a. An invitation to participate will be sent to you via email. If your interest is expressed, a follow-up email will be sent to confirm the interview and obtain consent.
 - b. The researcher will read and explain the consent form to you at the beginning of the interview via in-person or telephone depending on your location.
 - c. Once consent is obtained in person or over the phone, the researcher will ask you to answer a demographic data questionnaire and will conduct a semi-structured interview with you. Here, an audio recording device will be used to record the interview. The recording will then be transcribed for the purpose of data analysis.
- **Duration:** At most 60 minutes of your time is required
- **Location:** In the case of in-person interview, participation will take place at your workplace. In the case of telephone interview, the researcher will call from her private residence to your workplace.

Inconvenience

Participation in this study may cause some inconvenience to you, including time devoted to the research (i.e. approximately 45-60 minutes of your time for the interview).

Risks

There are some potential risks to you by participating in this research and they include experiencing some emotional discomfort when recalling the outcomes and consequences associated with outsourcing or not outsourcing health information technology functions. To prevent or to deal with these risks, you are reminded that you do not have to answer any questions you feel uncomfortable answering.

Benefits

The potential benefits of your participation in this research include the following:

- **To Participants:** This research serves as a ground for collaboration to discuss the outcomes and consequences of outsourcing that can significantly impact healthcare information technology organizations in Canada. By participating in this research, you will understand some of the positive and negative outcomes, and the intended and

unintended consequences, of outsourcing IMIT functions versus keeping these functions in-house

- **To Society:** As this research seeks for an understanding on the outcomes and consequences of health information technology outsourcing, it has the potential to change how health technologies are delivered and managed in the health informatics industry. The findings from this study can inform society of the benefits that organizations may have had with outsourcing services or keeping services internally
- **To the State of Knowledge:** As far as the researcher is aware of, there is limited research on the outcomes and consequences of outsourcing health information technology, and whether outsourcing a certain IMIT function may be more beneficial for an organization than outsourcing another IMIT function. Thus, this research aims to fill this literature gap in the area of the outcomes of health information technology outsourcing in Canada.

Voluntary Participation

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will not be used in the analysis and will be destroyed.

Researcher's Relationship with Participants

The researcher may have a relationship to potential participants as a colleague in the field of health informatics. Your participation in this study is voluntary and if this relationship exists it should not influence your ability to participate in the study. Participants should not feel any obligation to participate due to a relationship with the researcher.

Anonymity

There are limits on how your anonymity can be protected due to the nature of snowball sampling approach. Specifically, those who recommended you will know who you are. However, your identity will be completely masked from other participants and the public by using pseudonyms and changing other identifying information and features during transcription of the interview.

Confidentiality

Your confidentiality and the confidentiality of the data will be protected by using pseudonyms and changing other identifying information and features during transcription of the interview. All of the collected data will be coded, aggregated and summarized into a single list that represents the group findings rather than individual perspectives. While the researcher will need to associate responses and other data to you, no one else will be able to make this association (i.e. who said what). All files (e.g. audio recordings, transcripts, and coded data) will be encrypted and password protected using software such as TrueCrypt. All files will also be stored on a password-protected computer. All paper printouts will be stored in a locked cabinet.

Dissemination of Results

It is anticipated that the results of this study will be shared with others in the following ways:

- Thesis/Dissertation/Class presentation;
- Presentations at scholarly meetings;

- Internet or websites;
- Published article, chapter or book;
- Media; and
- Directly to participants and/or groups involved.

A summary of this research (e.g. the outcomes and consequences of outsourcing different health information technology functions) will be sent to all participants so that they can compare their own perspectives with that of their peers and other stakeholders. This will benefit the participants by raising awareness on the impacts that outsourcing can have.

Disposal of Data

The encrypted data from this study will be disposed of 5 years after the study has been completed. After 5 years, the method for destroying data is to delete the encrypted data as they are and to shred all paper forms and documents.

Contacts

Individuals that may be contacted regarding this study include the following:

- **Researcher:**
 - Shannon Malovec, Graduate Student, School of Health Information Science, University of Victoria, 778-988-9226, smalovec@uvic.ca
- **Supervisor:**
 - Elizabeth Borycki, School of Health Information Science, University of Victoria, (250) 472-5432, emb@uvic.ca
- **Thesis Committee Member:**
 - Andre Kushniruk, School of Health Information Science, University of Victoria, (250) 472-5132, andrek@uvic.ca

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you agree to participate in this research project.

If verbal consent is obtained from the participant, it will be documented by the investigator.

Name of Participant

Signature of Participant (if in person) or Investigator (if telephone)

Date

Appendix B: Recruitment Email

To Whom It May Concern:

I would like to invite you to participate in a study to look at the quality and financial benefits that may result from outsourcing health information technology functions in Canada. The study entitled “An Evaluation of Health Information Technology Outsourcing Success” is one of a kind in Canada to study the benefits and the shortcomings that result from transferring service delivery from healthcare organizations to external service providers in the public sector. The information collected during this study will be used as a foundation in exploring the quality and financial benefits that may result, or not, from outsourcing so that other organizations may learn from these experiences.

The research aims to answer the following questions: *Can outsourcing health information technology functions provide higher quality and financial benefits opposed to keeping these functions internally? What function (development, implementation or operations and maintenance) can provide the most benefit from outsourcing?*

The study will take approximately 45-60 minutes of your time in an interview setting. You will be asked to complete a short demographic questionnaire and an interview by telephone or in person depending on location and availability.

If you consent to participate in this study, your identity, as well as your organization’s identity, will be kept strictly confidential. Your name or any other identifying information will not appear in any presentations or publications from this research. Any identifying information collected during this interview will be removed. Published results will contain only anonymous data.

If you are interested in participating in this study, please reply to Shannon Malovec at smalovec@uvic.ca. You may also call 778-988-9226.

If you have any further questions regarding this study, please contact:

Principal Investigator: Shannon Malovec

Email: smalovec@uvic.ca

Supervisor: Elizabeth Borycki, Health Information Science, UVic

Email: emb@uvic.ca

Thank-you for your consideration and we hope you can participate in this exciting study!

Sincerely, Shannon Malovec

Appendix C: Demographic Data Questionnaire

1. Gender:
 - a. Female
 - b. Male
2. Age:
 - a. <35
 - b. 35-50
 - c. >50
3. Education degree
 - a. Diploma
 - b. Under-graduate
 - c. Graduate
4. Number of years experience in the health informatics industry
 - a. < 5 years
 - b. 5-10 years
 - c. 11+ years
 - d. Other:_____
5. Professional background
 - a. Manager
 - b. Director or equivalent
 - c. Chief Information Officer
 - d. Chief Financial Officer
 - e. Chief Operating Officer
 - f. VP,
6. Type of organization
 - a. Government
 - b. Health Authority/Local Health Integration Network
 - c. Health IT consulting firm
 - d. Health IT vendor
 - e. Other:_____
7. Number of employees at organization 200 C&W
8. Number of employees within IMIT department of organization
9. What services does the IMIT department provide to the organization?
10. Does the organization provide IMIT development, implementation, operations and maintenance functions?

IMIT development, implementation, and operations and maintenance are considered major functions, as defined in the system development phases of the system development life cycle. IMIT development can be described as building a

system and converting the design and requirements taken by stakeholders into a complete information system. IMIT implementation can be described as putting the developed system into a live production environment. This includes project managing the implementation, ensuring system and user readiness, and executing and supporting the activation of the system. IMIT operations can be described as operating the live system once it is in a production environment and being actively used, such as handling change requests and system or performance issues. IMIT maintenance is considered to be a more daily routine function to ensure the system is working as it should.

11. How is the organization structured? Are there separate departments or portfolios for IMIT development, implementation, operations and maintenance?
12. Has your organization outsourced, or contracted out, any IMIT functions to an external service provider to deliver, rather than having these functions delivered by in-house staff of the organization?

Appendix D: Semi-Structured Interview Script

Subject:_____

Thank you for your interest in this study on evaluating the success of health information technology outsourcing. The information collected during this interview will be used as a foundation in exploring the quality and financial benefits that may result, or not, from outsourcing so that other organizations may learn from these experiences.

During this interview I will be taking notes and will be audio-recording for later analysis to ensure I do not miss anything. Your responses will be kept anonymous in my final thesis and any resulting publications.

Introduction

1. How would you define outsourcing in general?

Thank you. Outsourcing is often used interchangeably with contracting out and alternative service delivery in Canada specifically. For purposes of this study, outsourcing will be defined as the contracting out of services to an external service provider in the private sector in order deliver services or functions in a more efficient and cost effective manner than the host organization can provide.

2. How would you describe outsourcing for the health informatics industry in Canada?
3. In your experience, where have you most commonly seen outsourcing occur? IT development, implementation, operations, or maintenance.
4. What types of outsourcing initiatives have you been involved in or seen in your past experience?
5. Have you been involved in outsourcing, or contracting out services, for IMIT development, implementation, operations, or maintenance?

Questions on Internal or External Service Delivery

If the answer is “yes” to question 5, please answer questions 6-18.

6. What was your experience with the outsource, or contract, initiative? What role did you play?
7. What area or IMIT function of the organization was impacted? IMIT development, implementation, operations, or maintenance?

8. How many employees were impacted by the outsourcing initiative? What types of employees were impacted?
9. What was the relationship between the organization and the outsource partner? For example, was it a positive relationship? Was the organization highly dependent on the external service provider?
10. What is/was the length of the outsource agreement?
11. For what reasons did the organization decide to outsource?
12. What were the objectives and motivations of outsourcing? What was the intended outcome? Did the outsource initiative align with the organization's strategic objectives?
13. What quality benefits have resulted from the outsource initiative?

For purposes of this research, quality benefits are defined as non-financial benefits that have resulted in improvements for the organization. Quality is also commonly referred to as effectiveness. Examples may include the ability to consistently deliver with no errors and achieve satisfactory customer satisfaction.

14. What financial benefits have resulted from the outsource initiative?

For purposes of this research, financial benefits are defined as benefits that have resulted in improvements in cost savings or return on investment for the organization. Examples may include increase productivity and improved total margin.

15. Have the intended outcomes been achieved?
16. Have there been any outcomes that you did not expect? Have these unintended outcomes been desirable or undesirable? Please provide examples.
17. What has been some of the challenges?
18. If you had the opportunity to do things again, what would you do differently?

If the answer is "no" to question 5, please answer questions 19-23.

19. For what reasons did the organization decide to keep IMIT functions and services in-house?
20. Is the organization achieving its objectives and intended outcome by keeping services in-house? Is the organization meeting their IMIT strategic objectives?

21. What have been some of the benefits of keeping IMIT functions and services in-house? Please include both quality and financial benefits.
22. What has been some of the challenges?
23. Would you or the organization look to outsourcing in the future?

Closing

24. What types of quality and financial performance measures have you seen commonly captured in IMIT organizations?
Examples of quality and financial performance measures may include:
 - The delivery time for system development and implementation initiatives;
 - The response time to customer issues and operational requests;
 - Customer satisfaction levels with IMIT service;
 - The operational budget of health information technology operational contracts; and
 - The return on investment of health information technology solutions.
25. How do you think outsourcing compares to inhouse development, implementation and operations and maintenance? In terms of:
 - Quality of the development, implementation, operations and maintenance
 - Speed of the development, implementation, operations and maintenance
 - Financial aspects
26. What do you think are strengths and weakness of outsourcing? (these can be ranked)

Thank you very much for your participation in this study. Do you have any additional comments you would like to discuss or questions you would like to ask?