Risk and risk management practices within Information system outsourcing.

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Abstract

Information systems (IS) outsourcing is one aspect of outsourcing, where service or activities of IS are contracted out to the third party management to obtain a required result. The most outsourced information systems (IS) function of higher learning institutions is information technology (IT) infrastructure, application management, and E-learning. Beside the advantages IS outsourcing brings, it faces risks and requires effective management from the outset of the outsourcing evaluation through the life of the contractual relationship. The aim of the thesis was to study the risks associated with IS outsourcing and the management of these risks within the context of private higher learning institutions in Ethiopia. The strategy of inquiry used is a case study strategy. For data collection, I interviewed ten individuals having important roles in the IS outsourcing process such as chief information officer, Chief Network Officer Chief Software Development Officer and also users and domain experts. The research employed a qualitative research method. For this reason, the research result largely drawn from the analysis of the interviews. After analysing the interviews, an inductive qualitative research approach was used to draw conclusions. A single case design and narrative approach was used for analysing the interview. Finally, findings revealed that even though the participants of the university understood what outsourcing IS is all about, the university does not have documented and structured outsourcing strategy program. The study help also discovering the fact that there are no risk management frameworks for IS outsourcing projects. IS outsourcing project is managed like any other system projects. In the private higher learning institution the achievements of service level agreement (SLA) requirements have a great importance in the performance monitoring of the outsourced IS functions. The participation of users with any type of IS outsourcing project is very high but the involvement of the top level management is unsatisfactory.

Keywords: Information systems (IS), Information technology (IT), Information communication technology (ICT), Service level agreement (SLA).
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List of Abbreviations

IS-Information systems
IT-information technology
SLA-service level agreement
ICT-Information communication technology
CSFs-critical success factors
ECAR-EDUCAUSE Center for Applied Research
ERP-enterprise resource planning
UU-Unity University
RFP-Research for proposal
1. Introduction

Today's education plays a major role for a country economic development and improvement in human well being. Cairncross and Poysti (2006), as global economic competition grows sharper, education becomes an important source of competitive advantage, closely linked to economic growth, and a way for countries to attract jobs and investment. However, there are many constraints on delivering education to the right people at the right time. Particularly in developing countries, there is frequently a shortage of qualified school teachers, people live in scattered communities in rural areas, money for books and teaching materials are scarce. These factors have encouraged an interest in the use of information and communication technologies (ICTs) to deliver education and training (Cairncross and Poysti, 2006). Like other developing countries, in Ethiopia the use of ICTs in education is one of the main governmental strategies in order to improve the quality of teaching and learning activities.

Due to the above reason, the government implements the ICT in education strategy and its corresponding action plan after the initiative forum called “a wider Ethiopian national education initiative” in 1994 (Hare, 2007, p.3). The strategy is built on three main streams: First, the National School net initiative: For instance, is aimed at the deployment and the exploitation of ICTs to facilitate the teaching and learning process within primary, secondary, technical and vocational schools. Second: The ICTs in Higher Education Initiative focuses on deploying ICTs within the universities, colleges, and research institutions. And, finally: The National ICT Education, Training and Awareness initiative promotes ICT awareness and literacy, lifelong and adult education, and distance and virtual education and learning. These three streams form the basis for the implementation of the strategy across the education sector.

As a result, higher learning institutions follow the trend towards the adoption of ICT as a means to support and facilitate the teaching and learning activities. For example, the ICT Development Office of the Addis Ababa University was established in the late 1996 in order to develop, deploy and manage ICT at the university and to support the university in its effort towards delivering quality education (Hare, 2007).

Unity University, HiLCoE School of Computer Science and Technology MicroLink college are some of the private learning institutions that use ICT as a means to facilitate their learning and teaching activities. Governmental universities take a big step in making ICT as one of its tools to achieve its educational objectives such as Jimma University, Mekelle University,
Haramaya University, Bahirdar University. For example Mekelle in University, Network Infrastructures (Intercampus connectivity, inter-building connectivity, and building data centers), e-administration and connectivity to the internet are some of the notable infrastructures (Behailu, 2005).

It is a fact that ICT brings numerous advantage to the organization and universities but the processes of designing, developing and implementing ICT are difficult and not straightforward. Organizations are faced with a challenge to operate in global markets and to compete with more and more competitors. While considering those facts different managers and organizational strategists are trying to find out the best way of organizing and managing ICT in a constantly changing environment. Because of this many organizations are considering one of the possible ways of organizing and managing ICT departments within companies i.e. Outsourcing all ICT department or some of ICT services to the external partners (Marco-Simo et al., 2007). Universities and colleges lie in this category and IS outsourcing has been also manifested in Universities and colleges.

Outsourcing does not come without risks. According to (Mulat, 2007), one of the main risks that are incurred when outsourcing is practiced is that, clients leave the supply of the product or service in the hands of someone whom they cannot control, contrary to controlling their own supply. Saravanja (2006), other major failures in outsourcing deals is due to a breakdown in the overall relationship between the stakeholders in the outsourcing agreement, which includes loss of shared vision, operational concern dominant, lack of good communication and customers are complaining not getting sufficient attention from provider.

Therefore, the core issue of this research is to address those risks and risk management practices within private higher learning institutions in Ethiopia while practicing IS outsourcing.

1.1 Reviews of the literature and previous research

Outsourcing has been used since the mid-twenties (Siakas and Balstrup, 2006), but it emerged as a popular operational strategy in the 1990s (Jiang and Qureshi 2006 cited in Duarte 2009), And the global IT outsourcing market has increased each year with a decreasing of the average size of individual contracts and the duration of contracts (Lacity et al., 2012).

Outsourcing denotes the shift that occurs when a business entity takes work traditionally performed internally and contracts with an external provider for the provision of the work (Karyda et al, 2006). According to (De Looff
1997:30 cited in Adeleye 2002, p.25), defined Information systems outsourcing as “the commissioning of part or all of the information systems activities an organization needs, and/or transferring the associated human and other information systems resources, to one or more external IS suppliers.” IS outsourcing has progressed to include many “higher order” functions, including software development, hardware maintenance, web hosting, e-commerce and remote data storage services (Karyda et al, 2006).

Early researches in outsourcing indicates that outsourcing is not a new phenomenon, for example the company Electronic Data Systems handled the data processing services for other businesses as early as 1963 (Agren and Winther, 2007). In this early stage of outsourcing, computer service companies were mainly used to run programs within the areas of financial and operational support, for example payroll and administration (McFarlan et al., 1995 cited in Agren and Winther 2007). One of the major turning points in the history of IS outsourcing experience was related to Eastman Kodak; at that time, Kodak made the decision to make a total IS outsourcing agreement with three large IS external service providers. According to (Dibbern et al 2004 cited in Dublin and Cranfield 2006), Kodak’s one billion outsourcing deals led to the widespread interest in outsourcing.

On the other hand, even if IS outsourcing is recognized as a potential source of competitiveness and value creation via decreasing costs, reducing delays in services, reducing equipment downtime, enabling access to new technologies and providing flexibility in positioning staff (Saravanja, 2006, Zakaria et al., 2008, Aubert et al., 1998), it is not a risk free activity. For example, (Aubert et al., 1998) has identified that, unexpected transition, management costs, lock-in, costly contractual amendments, disputes and litigation, service debasement, cost escalation and loss of organizational competencies as the most often cited undesirable outcomes of IT outsourcing. For these reasons, a number of risk management frameworks, theories and models have been developed in the past to overcome these undesirable outcomes of ISs outsourcing (Saravanja, 2006).

Equally, risk management has been a central concern of the IT industry for more than a century. However, risk management cannot be effective unless it is understood in all its dimensions and seen as intrinsic to projects, operations, and business strategics (Smith et al. 2001).

1.2 Statement of the research problem

(Forrester 2006 cited in Gonzalez et al., 2009) Estimates that the value of the worlds outsourcing market is 120 billion dollars per year. In addition 87% of
the companies interviewed by KPMG plan to maintain or increase their current outsourcing level and 42% of them thought that their outsourcing contracts improved their IS services.

IS are important for the operation of educational institutions in modern society. Moreover, a wide range of facts and researches confirm the status of ISs outsourcing as a growing, increasingly global phenomenon, which also covers a wide range of IS or IT related functions. Common IS outsourcing practices include IT infrastructure outsourcing (servers, communication networks, etc.), business process outsourcing (data entry, data process, etc), application development outsourcing, system integration outsourcing and so on (Li and Li, 2009). Including software development, hardware maintenance and constitutes a well-established and fast growing industry (Karyda et al., 2006). In spite of that, outsourcing is not a risk free activity, rather while practicing outsourcing, organizations may face problems and unexpected risks associated with outsourcing. Loss of control over the quality of the software and the project’s timetable, reduced flexibility, loss of strategic alignment, and lock-in are some of the notable risks associated with IS outsourcing (Apte 2000 cited in Adeleye 2002).

Emillia Kancheva (2002), inadequate service by contractors also can affect higher education institutions in many ways, such as inadequate teaching facilities and lack of skilled technical staff to manage the network, which could slowly affect the core areas of the institution itself due to inefficiency. Other research works also re-sound the same tone about outsourcing, outsourcing decisions and contractual arrangements of the type required by an IT outsourcing deal, do indeed entail risks. Therefore, like any other risky business ventures such as new product development, and capital investments, IS outsourcing requires proper risk assessment and risk management plan (Aubert et al., 1998). Saravanja (2006), much research has been carried out so far in this context and have contributed a lot towards the success of IS outsourcing.

A number of models and outsourcing frameworks have been also developed in order to manage IS outsourcing practices. In spite of this, little or no formal research work has been done (Mulat, 2007) in an understanding outsourcing trend in Ethiopia. Furthermore, as to the knowledge of the researcher, no researches could be found on risks and risk management practices of IS outsourcing especially ones delving into the perspective of private higher learning institutions (universities or colleges) as clients. It is certain that the adoption of ICTs is on the increase in Ethiopia, in line with the ICT Policy decision made by the government. Therefore, this gap initiates the researcher to conduct this research and investigate the risks and risk management practice
currently adopted by private higher learning institutions in Ethiopia in their IS outsourcing practice. Since good IS improve the quality of information available to decision makers at all levels about the state of the higher learning institutions (universities and colleges) and enables the higher institutions to meet the expectations of the technology, this research has a great significance towards identifying those hindrances and associated risks regarding the practice of IS outsourcing.

1.3 Aim, Objective and Research questions

The aim of this study is to investigate the risks associated with IS outsourcing and the management of these risks within the context of private learning institutions in Ethiopia. Based on the statement of the problem given above, the research question was:

**RQ**: How do private higher learning institutions in Ethiopia handle risks in relation to ISs outsourcing projects?

1.4 Delimitations/Limitations

This study has given a picture of one private higher learning institution in Ethiopia which is known by the name Unity University and analysed its risk management practice with regard to IS outsourcing. This study is based on a single case study, which will be more difficult to generalize. Since, the sample obtained during this study is too small; generalizing the research results to all private higher learning institutions in Ethiopia may not possible. This is mainly because case studies are usually based on small samples for in-depth study (Lau and Zhang, 2006) and the other limitation was outsourcing involves a vendor and client which is:

- A **vendor** (the term like third party, provider or supplier are identical to this one and it represents any IT organization that provides IT outsourcing services such as, project management, software development and network installation. All other commonly used terms such as third party, provider or supplier are identical to this one)
- A **client** (the term like the customer has the same meaning to the client and its represents any organization that transfers its in-house IT activities to an IT/IS supplier).

However, the results of this research are only one side of the story, from the service receiver’s perspective that is the private learning institution is considered as a client.
1.5 Disposition of the Thesis

- In the **first chapter** an introduction and a related study of this research has been provided followed with the purpose of the thesis and research problems, research question.

- **Chapter two** presented an overview of ISs outsourcing and there by presents the benefits and objective of outsourcing, trends of IS outsourcing in higher learning institutions, and IS outsourcing critical success factors (CSFs). Furthermore, the risks involved in IS outsourcing, the management of IS outsourcing risks, and the concept and components of risk management is described. Having discussed the general overview of IS outsourcing and risk management practices in outsourcing of IS.

- **Chapter three** is about the method, which includes research approaches and the method of data collection. It starts with a research approach explanation, and explains in detail the research type, research site in this research, which is followed by participants, researcher role, data collection method, interview questions and data analysis. Moreover, the validity of the research is discussed, and some ethical considerations are mentioned.

- **Chapter four** deals with the results of the case study findings were fully explained. Direct quotations from the interview have been used.

- **In chapter five** there is discussion of findings. This chapter creates the basis for conclusions and recommendations.

- In the **final chapter** of the thesis is all about conclusions, recommendations, contribution and also include the future study of the research.
2. Background/Theory

The purpose of this chapter is to provide a review of the literature IS outsourcing and IS outsourcing risk management practices.

2.1 Information System Outsourcing

The term “Outsourcing” is the process of shifting or externalizing tasks and services previously performed in-house to outside vendors (Beaumont and Sohal 2004 cited in Beaumont 2006). In its strongest form it means, passing ownership and control of functions previously performed in-house to an outside contractor (Beaumont and Sohal 2004 cited in Goonetilleke 2012).

“Outsource” is also known as “external source”. It is a management approach that allows delegates to an external agent the operational responsibility for processes or services previously delivered by an activity. It can be defined as “the purchase of a good or a service”. The two main actors of outsourcing processes are the “outsourcer” and the “outsourcer”. The “customer”, outsources his/her requirements, while the second, the enterprise, delivers outsourced services (similar to the terms supplier or vendor) (Franceschini et al, 2003 cited in Goonetilleke 2012, p. 13).

“Outsourcing refers to the use of an external provider of goods or services instead of having recourse to internal resources to provide the same goods or services” (Radu and Ramona, 2010, p.80). “In the IT world, outsourcing means turning over a firm’s computer operation, network operations, or other IT functions to a provider for a specified time” (McNurlin and Sprague, 2006, p.8). It reflects the use of external agents to perform one or more organizational activity (Kehal and Singh, 2006), and it is not specific to IS. As a result, numerous definitions for the term “outsourcing” have been stated in the past. However, outsourcing in its most basic form was conceived as, contracting out the procuring of service or products from an outside supplier or manufacturer rather than having them provided by in-house facilities (Aubert et al. 1998).

Correspondingly, precise definitions of IS outsourcing differs in the literature; traditionally it referred to the conditions under which the organization’s data were processed at an external computer service bureau (Fink 1994 cited in Gulla and Gupta 2009) Now, however, it can mean much more and the current state of outsourcing is vastly different from its traditional forms. Factor (2001), has given a good overview between traditional (legacy) and modern IS outsourcing paradigms.
Legacy Outsourcing
- Numerous computer platforms
- Proprietary (mostly incompatible architectures)
- Domination by the mainframes
- High cost, low quality networking
- In house software development and limited availability of packaged software

Modern Outsourcing
- Converging computing
- Open architectures
- Distributed computing
- Low cost, high quality networking
- Mostly packaged software

Figure 1. Legacy and Modern Outsourcing (Source: Adapted from Factor, 2001)

However, though there are small different aspects considered in all the definitions, there seems to be a general agreement about outsourcing is a process of carrying out of IT functions by third parties. To list a few of them:

Information systems outsourcing, or IS outsourcing, is the practice of turning over part or all of an organization’s IS functions to external service providers (Grover and Cheon 1996 cited in Li and Li 2009, p. 3)

“Information System (IS) Outsourcing means that the physical and/or human resources related to one organization’s Information Technologies (ITs) are supplied and/or administered by an external specialized provider” (Enrique et al, 2002, p. 3).

“Information system (IS) or information technology (IT) outsourcing can be defined as the transferring of an IS/IT function that was previously carried in-house, to a third party provider” (Mulat, 2007, p. 24).

In addition to these definitions of outsourcing, many authors also describe various outsourcing arrangements or options. For example, based on how many clients and vendors are involved in the outsourcing relationship, Gallivan and Oh (1999) identified four classes of outsourcing relationships, which is summarized in the following table;
### Table 1. Outsourcing Relationship Classification (Based on: Gallivan and Oh, 1999)

<table>
<thead>
<tr>
<th>Outsourcing relationship</th>
<th>Number of clients</th>
<th>Number of vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Dynamic</td>
<td>One client</td>
<td>One vendor</td>
</tr>
<tr>
<td>Multi-Vendor</td>
<td>One client</td>
<td>Many vendors</td>
</tr>
<tr>
<td>Co-sourcing</td>
<td>Many clients</td>
<td>One vendor</td>
</tr>
<tr>
<td>Complex</td>
<td>Many clients</td>
<td>Many vendors</td>
</tr>
</tbody>
</table>

Other authors have also categorized the variety of outsourcing contact options. Pandey and Bansal (2003) used the following taxonomy to capture the range of outsourcing contact options:

(a) **In-sourcing** - organizations use their own IT department to take the responsibility.

(b) **Value-added outsourcing** - the organizations enter into a close and strategic alliance with the supplier.

(c) **Short-term outsourcing** - the activity is outsourced for a short period

(d) **Long-term outsourcing** - the activity is outsourced to a vendor for a long period of time.

(Dibbern et al. 2004 cited in Smuts et al. 2010), Defines four types of fundamental parameters that determine the kind of outsourcing arrangement that a firm may enter into: degree (total, selective and none); mode (single vendor/client or multiple vendors/clients); ownership (totally owned by the company, partially owned, and externally owned;) and time frame (short term or long term). As illustrated in table 2, the combination of specific instances of these parameters yields different types of outsourcing arrangements such as joint ventures, facilities sharing, spin off, etc.,


<table>
<thead>
<tr>
<th>Degree</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>Spain-offs</td>
</tr>
<tr>
<td></td>
<td>(Wholly owned subsidiary)</td>
</tr>
<tr>
<td><strong>Selective</strong></td>
<td></td>
</tr>
<tr>
<td><strong>None</strong></td>
<td>In-sourcing/Back-sourcing</td>
</tr>
</tbody>
</table>

Table 2: Types of Outsourcing Arrangements (Source: Dibbern et al. 2004 cited in Smuts et al. 2010)

Correspondingly, there are many reasons why a company may choose to outsource. That is why numerous motivations have been reported behind the adoption of IS outsourcing arrangements in the literature. For example, Karyda et al. (2006) cited in (Mulat, 2007). Argued that, the reasons for which companies turn to IS outsourcing are primarily financial: they include expectations of improved rate of returns on investments (ROI), reduced cost and economies of scale that could not be realized internally.

IT outsourcing is driven by cost concerns (Gottschalk and Solli-Saether 2006 cited in Perunović and Pedersen 2007) and the explanation from most studies support this (Siakas and Balstrup, 2006; Agren and Winther, 2007).

Brandas, Ioan and Brandas, Claudiu (2007) also emphasized that the appeal to an outsourcing operation in order to keep up with the technological innovations is often motivated by a financial reason. Even though, only a small amount of IS outsourcing studies have been conducted and reported in developing countries, a study of IS outsourcing in the public sector in Kuwait has found the reasons for outsourcing to be cost savings and lack of required skills (Khalfan and Gough, 2001).

Contrary to this, the outsourcing motivation behind higher learning institutions is not cost saving. According to the survey made by Phipps and Merisotis (2005), many of the respondents indicated that since, unlike business, the academy is not influenced by the profit motive, service improvement can stand...
alone as a reason for outsourcing, but cost would generally need to be at least equal to current cost.

Equally, according to the EDUCAUSE Center for Applied Research (ECAR, 2002) the primary reasons to outsource IT functions in higher education in the US and Canada are reported to be: the lack of critical in-house IT skills; lack of access to more advanced technologies; and operating inefficiencies, while cost savings is not the most important reason to outsource IT functions.

In Ethiopia, the most cited reason behind IT outsourcing is not cost saving. According to the survey done by Mulat (2007) the most expressed reasons for IT outsourcing are improving service level, acquiring innovative ideas, allowing more focus on core business, increase flexibility to meet changing business conditions, and lack of internal expertise, while cost savings was the least expressed reason for outsourcing IT services. To bring these together, Kremic et al. (2006) Identified three major categories of motivations for outsourcing: cost, strategy and politics. While the first two commonly drives outsourcing by private industry, political agendas often drive outsourcing by public organizations.

2.2 Information Systems Outsourcing Trends In Higher Learning Institutions

ICT has potential values across every sector, in both public and private enterprises, and at multiple levels. Universities and college also fall into this category, a survey of colleges and universities by the EDUCAUSE Center for Applied Research (ECAR, 2002), reveals that a number of factors will drive substantial growth in IT requirements in higher education, including:

- The transition to enterprise resource planning (ERP) software to link administrative, financial and student-related records electronically;
- Internet-enabled interactive distance learning systems requires new IT capabilities, including enterprise Web portals for course management and student/faculty electronic interaction;
- Continued interest in and demand for postsecondary education by individuals, corporations and government; and
- The continued pace of change in technology, including advance in speech recognition, video processing, collaborative working, advanced simulation, electronic books, and internet-enabled handheld devices.

Besides, the need for more and better technologies in the public and private sector raises the question where these technologies will come from and who will implement them (Gramatikov, 2002). To brace this idea Kremic et al.
Stressed that public sector services in many areas confront new challenges as cost pressures increase not only in the private sector but also in the public sector. Therefore, IT outsourcing has also been manifested in higher learning institutions.

The survey made by the EDUCAUSE Center for Applied Research (ECAR, 2002, p. 1) the truth about the practice of IS outsourcing in higher learning institutions.

“Outsourcing is a familiar practice to higher education institutions. More recently, with the emergency of reliable and secure high-speed networking and of Web-enabled services, IT outsourcing and the use of application service providers (ASPs) have become ways in which higher education institutions can meet IT resource demands.”

Furthermore, EDUCAUSE Center for Applied Research (ECAR, 2002) highlighted a number of findings about IT outsourcing and use of application service providers (ASPs) in higher education, often in comparison to the commercial and government markets. As explicitly stated in the report;

*IT outsourcing is growing more slowly in higher education than in commercial and government markets: IT outsourcing activity in higher education was estimated to have been $782 million in 2001, compared to $57 billion for the U.S. commercial sector and $6.4 billion to the U.S. federal government.*

A reluctance to consider IT outsourcing as a source of potential staff reductions, unclear outcomes from prior IT outsourcing initiatives, complex decision making structures, the comparatively small size of the higher education market and the lack therefore of vendors with significant industry-specific expertise are the major factors that stalling IT outsourcing in higher education. Compared to commercial sector and federal government, higher education institution IT outsourcing engagements appeared to be characterized by a lower level of competitive bidding, detailed negotiations and project management/performance terms and conditions, and the most heavily weighed criterion in vendor selection capability. Finally, the most outsourced IT function of higher education are IT infrastructure, application management, and E-learning while business process operations and distributed services are least likely IT functions to be outsourced by higher education.

### 2.3 Information System Outsourcing Decision Process

Klepper and Jones (1999) emphasized the need to address several critical issues in the course of outsourcing process in order to achieve success;
including identifying potential organizational problems, factoring in human resources and behaviour, considering asset transfers and authorities, establishing and negotiating contracts, and overcoming political obstacles. Blumberg (1998) also emphasized that, the issue of outsourcing and downsizing is much more complex than most authors and speakers on the subject have described. It is not simply a matter of deciding whether to outsource or not, rather the question of outsourcing requires the firm and its consultants to carry out a full strategic assessment and evaluation in which a number of factors must be considered; including, but not limited to:

- **The importance of service to the organization’s customers and users.**
- **The market or use the community’s observed perception of the vendor’s service quality and responsiveness.**
- **The current level of service efficiency and productivity compared to other equivalent service organizations in the market.**

As a result to identify whether or not outsourcing is appropriate. Several outsourcing decision-making processes, frameworks and models has been developed in the past (Saravanja, 2006). For instance, (Pati and Desai 2005 cited in Lau 2009), proposed the following outsourcing decision framework to explore the variables that impact on strategic outsourcing decisions.
As it can be depicted from figure 2, the model shows the structural relationships of the variables. The model illustrates the combination of internal capability, IT service opportunity and potential strategic business value that leads to an IT outsourcing decision. The relationship can be summarized as that an organization matches its internal capability against an IT service opportunity and the potential strategic business value that can be obtained from the engagement to make the decision as to whether the service is worthy of outsourcing or should be retained for in-sourcing. In addition, (Pati and Desai 2005 cited in Lau 2009), stressed that understanding of these strategic relationships is vital before an organization decides to outsource, as the decision domain has shifted primarily from cost cutting to the engagement of a strategic nature.

On the other hand, several authors have also adopted a variety of theoretical lenses to explain the phenomenon of outsourcing. After conducting an extensive literature review, (Gottschalk and Solli-Seather 2006 cited Perunović...
and Pedersen 2007), identified a total of eleven IT outsourcing management theories.

The following is possibilities and limitations in IT outsourcing based on theories (Source: Gottschalk and Solli-Seather 2006 cited Perunović and Pedersen, 2007 and Gottschalk and Solli-Seather 2010).

<table>
<thead>
<tr>
<th>Theory</th>
<th>What should be outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of core competencies</td>
<td>All IT functions, which are peripheral to the company’s production of goods and service for the market.</td>
</tr>
<tr>
<td>Resource-based theory</td>
<td>All IT functions where the company does not have sufficient strategic resource to perform in a competitive way. Strategic resources are unique, valuable, difficult to imitate, exploitable and difficult to substitute.</td>
</tr>
<tr>
<td>Transaction cost theory</td>
<td>All IT functions where benefits for the company are greater than the transaction costs. Benefits include increased revenues and reduced costs.</td>
</tr>
<tr>
<td>Contractual theory</td>
<td>Only IT function where the company can expect and secure that vendor and customer will have the same contractual behaviour. Common contract behavioural patterns include role integrity, reciprocity, implementation of planning, affectation of consent, flexibility, contractual solidarity, reliance, restraint of power, proprietary of means and harmonization with the social environment.</td>
</tr>
<tr>
<td>Neoclassical economic theory</td>
<td>All IT functions which an external vendor can operate at lower costs than the company.</td>
</tr>
<tr>
<td>Theory</td>
<td>Only IT functions where</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Partnership and alliance theory</td>
<td>the company can expect and secure a partnership and alliance with the vendor that imply</td>
</tr>
<tr>
<td></td>
<td>interdependence between the partners based on trust, comfort, understanding, flexibility,</td>
</tr>
<tr>
<td></td>
<td>cooperation, shared values, goals and problem solving, interpersonal relations and regular</td>
</tr>
<tr>
<td></td>
<td>communication.</td>
</tr>
<tr>
<td>Relational exchange theory</td>
<td>Only IT functions, where the company can easily develop and secure common norms with</td>
</tr>
<tr>
<td></td>
<td>the vendor. Norms determine behaviour in three main dimensions: flexibility, information</td>
</tr>
<tr>
<td></td>
<td>exchange and solidarity.</td>
</tr>
<tr>
<td>Social exchange theory</td>
<td>Only IT functions where each of the parties can follow their own self-interest when</td>
</tr>
<tr>
<td></td>
<td>transacting with the other self-interested actor to accomplish individual goals that</td>
</tr>
<tr>
<td></td>
<td>they cannot achieve alone and without causing hazards to the other party.</td>
</tr>
<tr>
<td>Agency theory</td>
<td>Only IT functions where the agent (vendor) and the principal (client) have common</td>
</tr>
<tr>
<td></td>
<td>goals and the same degree of risk willingness and aversion.</td>
</tr>
<tr>
<td>Theory of firm boundaries</td>
<td>All IT functions that satisfy several of the other theories, mainly resource-based theory</td>
</tr>
<tr>
<td></td>
<td>and transaction cost theory.</td>
</tr>
<tr>
<td>Stakeholder theory</td>
<td>Only IT functions where a balance can be achieved between stakeholders. Stakeholders</td>
</tr>
<tr>
<td></td>
<td>relevant in IT outsourcing include business management, IT management, user management</td>
</tr>
<tr>
<td></td>
<td>and key IT</td>
</tr>
</tbody>
</table>
personnel of the client, and business management, customer account management and key service providers at the vendor.

However, success in outsourcing is not dependent on the right decision made to outsource (pre-outsourcing decision). Chou and Chou (2008), a decision to outsource is the first phase in the ISs outsourcing life cycle in which the organization determines the need for IS outsourcing and conducts a careful outsourcing plan. The success of IS outsourcing is also dependent on creating a win-win situation that requires clearly defined expectations and flexibility on the part of both parties. Burkholder (2006), underlined the importance of appropriate contract type, once the decision to pursue an outsourcing project has been made; the acquisition strategy requires the use of an appropriate contract type that provides an incentive to the vendor to continually improve service and to work with the outsourcing organization as a team. After carefully examining the content of stages proposed on outsourcing process frameworks in the literature, (Perunović and Pedersen, 2007), aligned the frameworks and grouped the stages in the following sequence: preparation, vendor(s) selection, transition, managing the relationship and reconsideration. A more detailed insight into the contents of the phases is given below.
<table>
<thead>
<tr>
<th>Phase</th>
<th>Key activities</th>
<th>Some key issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Strategy, sourcing options, approach, configuration, screening of potential vendors, preferred relationship, preferred length of the contract, Drafting the SLA</td>
<td>Underlining philosophy, why and what to outsource, big bang, incremental, piecemeal, many suppliers, preferred suppliers, prime contractor with subcontractors, sole supplier (one stop shop), contractual or collaborative.</td>
</tr>
<tr>
<td>Vendor(s) selection</td>
<td>Announcing outsourcing, choose the vendor, negotiating, finalizing the contract.</td>
<td>RFP, evaluation, creating a win-win situation, type, flexibility and content of the contract.</td>
</tr>
<tr>
<td>Transition</td>
<td>Defining communication and exchange of knowledge and information, transferring assets, people, information, knowledge, hardware, software.</td>
<td>Change management reengineering, adopting organizational structure and processes.</td>
</tr>
<tr>
<td>Managing relationship</td>
<td>Type of relationship, maintaining relationships, handling meetings and communicating, performance monitoring and evaluation applying incentives and penalties, solving problems, re-negotiating and managing variations, managing success factors</td>
<td>Reciprocal, client dominant, vendor dominant, preferred vendor, contracts, trust hostages, economic factors, character of the exchange, co-operation between buyer and supplier distance between buyer and supplier</td>
</tr>
</tbody>
</table>

Table 3: Key activities and issues within the phases of the outsourcing process (Source: Perunović and Pedersen, 2007).
Emillia Kancheva (2002) identified five different phases of the outsourcing process cycle within a higher education institution based on a survey done by ECAR.

![Diagram of IT outsourcing process cycle in higher education](image)

**Figure 3:** IT outsourcing process cycle in higher education (Source: Emillia Kancheva Kancheva, 2002).
The following is the summary of IT outsourcing process in higher education
(Based on Emillia Kancheva, 2002)

<table>
<thead>
<tr>
<th>Phase</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT problem identification and evaluation</td>
<td>Determine the IT functions which can be managed more efficiently through outsourcing and performing risk and benefit assessment on it.</td>
</tr>
<tr>
<td>Consensus building</td>
<td>Reduce resistance towards the outsourcing decision by building consensus with all affected by it and including them in the process. Study on state and local policies regarding outsourcing.</td>
</tr>
<tr>
<td>Planning and vendor selection</td>
<td>Plan implementation schedule by evaluating the operation timing and duration. Select vendor carefully by ensuring that their capabilities and experience meets institution needs.</td>
</tr>
<tr>
<td>Implementation</td>
<td>Prepare the Service Level Agreement (SLA) along with the contract. Responsibilities of both parties should be clearly identified and understood by both sides.</td>
</tr>
<tr>
<td>Post implementation assessment</td>
<td>Progressively evaluate the outsourcing execution and region according to contract specification should the implementation deviates from its target.</td>
</tr>
</tbody>
</table>

2.4 Information System Outsourcing Critical Success Factor (CSFs)

Most research findings indicated that IS/IT outsourcing is not a cure-all solution, and careful attention and evaluation are needed to ensure organizational success. In addition, there are several important factors that govern successful and less successful outsourcing decisions. For instance, Lin et al. (2007) Outlined the following points as the major blocks of successful IS outsourcing ventures:
The focus of service level agreements (SLAs)

Contract negotiation

Risk assessment/management

Contract negotiation

Risk assessment/management

Relationship and contract management

Determination of objectives

Vendor selection

Outsourcing contracts

Psychological contract

The focus of service level agreements (SLAs): a Service Level Agreement is a legal document within (or attached to) an overall master contract for an outsourcing agreement. SLA contains a description of the service to be provided and states that service level specifications, which clearly describe the level of performance and results the client expects to receive from the service provider.

A robust SLA must be well defined and balanced between the outsourcing organization and the contractor. In addition, the more complete the SLAs, the smaller the probability that costly renegotiations will be needed.

According to Hayes (2011):

... The SLA defines the boundaries of the project in terms of the functions and services that the service provider will give to its client, the volume of work that will be accepted and delivered, and acceptance criteria for responsiveness and the quality of deliverables.

This agreement is likely to address two main functions to:

1. Set out clearly the parties’ obligation to each other; and
2. Allow the parties to evolve service provision over time and to end the relationship rationally.

Contract negotiation: the decisions made during the contract negotiation process have profound, long-term consequences. The key to a good contract is clarity, and it is also important to tighten up the contract to ensure it considers new technologies. Successful contract negotiation is dependent upon;

- Careful selection of contractor/technology;
- Knowing the main features and benefits needed by the outsourcing organization;
- Knowing whether or not the outsourcing contractor is able to bring valuable and unique competencies;
Understanding how much bargaining power the outsourcing organization has.

**Risk assessment/management:** Proper risk assessment and management are critical to minimize the problems of embedded contract mentality. Risk assessment should be carried out before the signing of the IS/IT outsourcing contract and risks should be managed carefully throughout the life of the contract.

**Relationship and contract management:** Another key to successfully managing an outsourcing relationship is the ability to communicate status, monitor and evaluate performance, and document results. In addition, a well-managed outsourcing relationship can enhance the outsourcing organization’s ability to manage and evaluate the contract.

**Determination of objectives:** The outsourcing decision should be the first step for successful outsourcing process. Deciding the outsourcing objective is important since it is a very fundamental step, on which others depend. The terms of the contract, and the type of the relationship between the organization and its vendor (s) should be determined according to this initial objective.

**Vendor selection:** depending on the outsourcing objective, selecting potential vendors with different characteristics has also a paramount significance for the success of IS outsourcing projects. Outsourcing organization and its vendor (s) should have the right mix of competencies, know-how organizational culture and work practices.

**Outsourcing contract:** Well-managed contract is another important building block of successful outsourcing arrangements. Organizations should measure everything during the baseline period and not to sign incomplete contracts, since vendor (s) charge an extra fee for the services not covered in the contract. Furthermore, the outsourcing contract should include “service level measures” to clarify what is expected from the vendor(s).

**Psychological contract:** Outsourcing relationship is an inter-organizational relationship including at least two different organizations. Outsourcing parties use “written contract” to manage this relationship, but the psychological contract should not be ignored for successful outsourcing arrangements as well. Unlike a formal written contract, “psychological contract consists of unwritten and largely unspoken sets of congruent expectations held by the transacting parties about each other’s prerogatives and obligations.”
Organizations Issues: Managing the internal personnel properly during and after the outsourcing process should be another main concern of the organization. Even if all previous steps are planned and taken successfully, organizational problems can cause the failure of the outsourcing process.

Mesnita and Dumitriu (2006) also identified, understanding company goals and objectives, strategic vision and plan, selecting the right vendor, ongoing management of the relationships, a properly structured contract, open communication with affected individual/groups, senior executive support and involvement, careful attention to personnel issues, and short-term financial justification as the most important factors that govern successful and less successful outsourcing decisions.

2.5 Risks Associated With IS Outsourcing

IS outsourcing is a managerial decision that entails various risks and problems (Gonzalez et al., 2005). That is why numerous authors have identified various risks associated with IS outsourcing practices. Similarly, IS managers and researchers traditionally defining risk only in terms of negative consequences. However, viewing risk as something more than a hazard is highly applicable to risk management in IS (Smith et al., 2001). Anne and Brian (2007) classified the risks of outsourcing into five types as it is summarized in the following figure:

<table>
<thead>
<tr>
<th>Type of risk</th>
<th>Possible outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial risks</td>
<td>Risks of cost blowouts, failure to obtain expected savings.</td>
</tr>
<tr>
<td>Performance risks</td>
<td>The firm might not get the services it pays for at the quality level it needs.</td>
</tr>
<tr>
<td>Strategic resource risks</td>
<td>The risk of losing organizational knowledge/key competencies.</td>
</tr>
<tr>
<td>Lock in risks</td>
<td>The strategic consequences of having no alternatives to an unsatisfactory vendor.</td>
</tr>
<tr>
<td>Operational risks</td>
<td>Risk of IT failure, reduced customer service, or harm to organizational resources.</td>
</tr>
</tbody>
</table>

Figure 4: Risk of outsourcing and possible outcomes (Adapted from: Anne and Brian, 2007).
This has because of clients left the supply of that product or service in the hands of someone whom they cannot control, contrary to controlling their own supply (Benvenuto, 2005).

According to Wright (2004), total dependence on the services provided by the third-party outsourcing firm can become a major problem for organizations. Upon entering the outsourcing relationship, the organization turns over all control of its information systems to the outsourcing firm.

As a result, the organization’s IT functions cannot be executed, nor can changes in technology be made, without the cooperation and participation of the outsourcing firm. Loss of shared vision, operational concern dominant, and lack of good communication are also other major failures in outsourcing deals due to a breakdown in the overall relationship between the stakeholders in the outsourcing agreement (Quinn, 2000).

After reviewing a number of empirical literatures, Aubert et al. (1998) identified the following main undesirable outcomes that may result from an IT outsourcing deal.

- **Hidden costs**: Hidden transition costs and management costs, hidden service costs.
- **Contractual difficulties**: Costly contractual amendments, disputes and litigation, difficulties in renegotiating contracts, lock in.
- **Service debasement**: Diminished quality of service, increased costs of services.
- **Loss of organizational competencies**: Loss of IT expertise, loss of innovative capacity, loss of control of the activity, loss of competitive advantage.

Gramatikov (2002) argued that lack of motivation, formalism, and political bias are also some unique aspects that can contribute to the failure of IS outsourcing projects in public organizations and can attributed to either the administrators or the policy decision makers, in the case of outsourcing decisions.

On the other hand, there are also some common challenges that the outsourcing vendor may not be able to achieve the desired benefits. According to Benvenuto (2005), this may include understanding the hidden risks, meeting operational performance targets, achieving end-user satisfaction and achieving the promised cost savings.

Furthermore, as shown by (Lacity and Willcocks 1995 cited in Moghimi 2006), the unique, different nature of IT usually places customers in a
disadvantageous position with respect to IS outsourcing providers, due to the following reasons:

- IT evolves so fast that the degree of uncertainty accompanying every outsourcing decision is very high;
- IT is involved in every business function, which is why an idiosyncratic knowledge of the organization is required to carry out many IT activities; and
- The costs derived from replacing one IT provider for another are very high, which is why fostering competition to discourage provider’s opportunism is complicated.

Therefore, it is important to understand, quantify and manage all these elements through the outsourcing duration. Since, like any other innovative method of management, if not structured and managed properly; outsourcing can result in a number of inefficiencies and problems.

2.6 Risk Management and Information System Outsourcing

Outsourcing is the process of contracting out full or part of IS functions or services to a third party. Thus, analysing outsourcing risk and taking appropriate risk mitigation action in any outsourcing projects is important (Lin et al., 2007).

As a result, risk assessment should be carried out before the signing of the IS/IT outsourcing contract and risks should be managed carefully throughout the life of the contract. The concept of risk management has evolved in many years where in many definitions were cited in the literature that aimed to explain the concept of risk management. For instance, Stoneburner et al. (2002) defines the term risk management as a systematic application of management policies, procedures and practices to the tasks of identifying, analysing, assessing, treating and monitoring risk. The Canadian Institute of Chartered Accountants, (Information Technology Advisory Committee, 2003) also noted the process of risk management as the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.

Therefore, as it can be simply understood from these two definitions, the underlying notion or objective of good risk management is to add maximum sustainable value to all the activities of the organization. It marshals the understanding of the potential upside and downside of all those factors, which
can affect the organization and it, increases the probability of success, and reduces both the probability of failure and the uncertainty (Stoneburner et al., 2002) By enabling the organization to accomplish its objective through the following three enabling attributes:

- By better securing the IT systems that store, process or transmit organizational information;
- By enabling management to make well-informed risk management decisions to justify the expenditures that are part of an IT budget; and
- By assisting management in authorizing (or accrediting) the IT system on the basis of the supporting documentation resulting from the performance of risk management.

On the contrary, without risk management organization or project managers spent, more effort in correcting problems that could have been avoided sooner, success and failure can occur without warning, and decisions are made without complete information or adequate knowledge of future consequences (Smith et al., 2001).

As stated by Benvenuto (2005, p. 2) “The product or the service can be outsourced, but the risk cannot”. Therefore, the outsourcing organization should ensure proper controls are in place to deal with the identified risks. For example, the outsourcing organization should ensure that staff involved with the outsourcing contract is able to evaluate and manage outsourcing relationships and performance in order to avoid the embedded contract mentality.

The Monetary Authority of Singapore (2005) guideline publication on outsourcing risk management also stressed that organization's board and senior management would need to be fully aware of and understand the risks in an outsourcing and their impact on the institution. Furthermore, a framework for systematic risk evaluation should be established and it should include the following steps:

- Identification of the role of outsourcing in the overall business strategy and objectives of the institution, and its interaction with corporate strategic goals;
- Comprehensive due diligence on the nature, scope and complexity of the outsourcing to identify the key risks and risk mitigation strategies;
- Analysis of the impact of the arrangement on the overall risk internal expertise and resources to mitigate the risks identified; and
Analysis of risk-return on the potential benefits of outsourcing against the vulnerabilities that may arise, ranging from the impact of temporary disruption to that of an unexpected termination in the outsourcing, and whether for strategic and internal control reasons.

According to Aubert et al. (2001), risk analysis is also another important contributor towards outsourcing success. This becomes particularly present when identifying and implementing risk mitigation instruments such as the outsourcing contract. Therefore, a combined view of the activities associated with risk identification and assessment in the design of risk mitigation instruments can be contributed to an enhancement of the overall quality of an outsourcing deal.

Aubert et al. (2001) adopted a managerial perspective of risk and outline that a risk analysis requires questions to be addressed; a) What can happen? b) How likely is this outcome? c) If it does occur, what are the consequences? Using this definition, risk analysis compromises all activities taken to answer these questions. To perform these activities on a high quality level, appropriate staff has to be assigned for risk analysis. This takes up the proposition that building and retaining human resources capabilities is critical when managing risks.

Besides, the risk management process not only includes identifying and assessing the risks in terms of its impact but also involves developing suitable mitigation strategies, monitoring and communicating to control the risks and deal with it proactively. Project risk management handbook (2003) proposed the following project risk management framework.
Figure 5: Project Risk Management Process (Source: Adopted from Project Risk Management Handbook (2003) and Australian/New Zealand Standard on risk management no 4360 (2004)

However, even if risk management is a central part of any organization's strategic management, because of the multi-faced nature of risks associated with IT a “one size fits all” risk management guideline is not a good practice; According to Fabian et al. (2007), this is more specifically difficult in IT project risk management practice. Since, a large number of risk management best practices are established, different organization view risk differently, and different individuals have differing scope to manage IT risks, the responsible IT professional with respect to the assessment and management of IT risks will
depend on the organization within which they are working and on the role, they play within that organization.

On the other hand, most of the literature on risk management is clear and unambiguous about the importance of risk identification, risk assessment and risk control in any risk management practices (Smith et al., 2001) Termed as general steps of risk management. For the purpose of this research, these three (i.e risk identification, risk assessment and risk mitigation) general risk management steps are considered.

### 2.6.1 Risk Identification

Risk identification determines what might happen that could affect the objectives of the project, and how those things might happen. The risk identification process must be comprehensive, as risks that have not been identified cannot be assessed, and their emergence at a later time may threaten the success of the project and cause unpleasant surprises (Project Risk Management Handbook, 2003).

Fabian et al. (2007). Stated that risk identification approaches that are normally adopted in IS risk identification process should include;

- **Judgment** – individuals or groups follow a process aimed at helping them identify those unplanned events, which put the ability to meet objectives at risk.
- **Scenarios** – Qualitatively different alternatives are examined. Often used to examine corporate strategies and their associated risks. Particularly useful in the face of possible discontinuities.
- **Model**- A model is developed for the activities under review with a view to mathematically identifying risks. Used widely in the financial industry, but only selectively in the IT industry.
- **Check List** – A checklist or taxonomy of possible risks is examined to identify the risks facing the activities under review. Can be a useful starting point, but some customization is usually required.

### 2.6.2 Risk Assessment

Risk assessment is the overall process of risk analysis and risk evaluation. Its purpose is to develop agreed priorities for the identified risks (Project Risk Management Handbook, 2003). However, the challenge for IS managers is to
determine how much risk they are facing with an initiative and to assess whether or not this level of risk is appropriate for their business. According to Benedikt and Frank (2009), four general approaches have been employed to respond to events that threaten achieving the organization’s objectives. (a) Tolerate Risk (acceptance) - The organization may decide that it will just tolerate the risk. Often this will happen when the consequences are relatively easy to tolerate, or the cost of doing anything meaningful about the risk is too high. (b) Transfer Risk (sharing) - This is a transferring or sharing risk to another entity. However the challenge in any effort to transfer or share risks is to make sure that the entity to whom the risk is being transferred is both ready and able to assume that responsibility. (c) Reduce Risk (reduction) - This requires that the activity giving rise to the risk be changed to reduce the risk or that other actions be taken which will reduce or counterbalance the risk. (d) Eliminate Risk (avoidance) – The organization avoids performing the activity which gave rise to the risk but this is not a widely applicable response since any valuable activity will give rise to some risk.

According to the Project Risk Management Handbook (2003) risks assessment process has two basic components/activities (i.e Risk analysis and risk evaluation). While risk analysis is the systematic use of available information to determine how often specified events may occur and the magnitude of their consequences, risk evaluation is the process of comparing the estimated risk against given risk criteria to determine the significance of the risk. Furthermore, the risk assessment process should:

- Determines the consequences of each risk, should it arise;
- Assesses the likelihood of those consequences occurring;
- Converts the consequence and likelihood ratings to an initial priority for the risk ; and
- Develops agreed risk priorities and inherent risk levels.

2.6.3 Risk Control /Mitigation

Once risks have been identified and an appropriate level of exposure agreed on, the final step in risk management is to determine what to do about each risk. Thurston and Davis (2000, p. 6) define the term risk mitigation as: “...The process of formulating, selecting and executing strategies designed to economically reduce risk, and monitoring the effectiveness of those strategies”. Risk control is mitigation strategy, which requires an action to reduce, eliminate or avert the potential impact of risks.
2.7 Theoretical Framework

The background/theory presented above has helped me on how to conduct this research. The following theoretical framework was created before the actual phase of data gathering, later it helped me as a guide for data collection.

- The framework contains a measurement unit (i.e. *Outsourcing strategy, stakeholders in outsourcing projects, the impact of outsourcing, and risk management methods*) (Spastically, contract management, issue resolution and performance measuring) were taken from the instrument used to assess the risk management practice in the IS outsourcing practice, shown in **figure 6**, this figure illustrates the risk management practice in the IS outsourcing practice, must be read and understood from bottom to top.

- *Outsourcing strategy*, part was used to investigate the availability of an outsourcing strategy.

- *Stakeholders in outsourcing projects*, helpful in order to get an idea about the participation of different stakeholders in the information system outsourcing project.

- *The impact of outsourcing*, to identify outsourcing might have both negative and positive impacts for higher learning institutions.

- *Risk management methods*, Once the outsourcing decision has been taken it becomes necessary, to justify the decisions; identify the risks, plan for evaluating the performance of the vendor, set the criteria for selecting vendors, set the criteria for resolving disputes and as well as define how to manage the contract afterward. The activities are important as they help in finding out the possible difficulties that may arise during implementation and the definitions of strategic objectives.
By considering our framework, for the purpose of this research, the interview guide questions which are found in Appendix A were developed from a prior study by Adeleye (2002) in which he investigates information system outsourcing risk management practices in Nigerian banks. The instrument was refined based on the Canadian Institute of Chartered Accountants (2005) guideline, “20 questions directors should ask about IT outsourcing”. The interview question contains four dimensions for risk management practices that are deemed significant in investigating the risk management practices of the higher learning institution within IS outsourcing practice.
3. Methods

This chapter presents a description of the research settings. In addition, it presents the theoretical lens that guides the research, the research method, strategy of inquiry, data collection and analysis procedures. Further, it presents the methods that have been used to maintain the reliability and validity of the research. Finally, it ends with discussing some ethical considerations of this research.

This research concerns qualitative approaches. According to Creswell (2009), Qualitative approach exploring and understanding the meaning individuals or group ascribes to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participants setting, data analysis building inductively from particulars to general themes, and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure.

Qualitative research will provide a deeper understanding about the phenomena under deeper investigation, using tools like open interviews about a matter to acquire more detailed information, to define and explain the problem. As mentioned by Creswell (2009) a qualitative study is defined as an inquiry process of a complex, holistic picture, formed with words, reporting detailed views of informants.

It is evident that the strength of qualitative research method is its ability to provide complex textual descriptions of how people experience a given research issue. In addition, it provides information about the “human” side of an issue - that is the often contradictory behaviours, beliefs opinions, emotions and relationships of individuals (Lazaro and Marcos, 2006). Due to these underlining statements, it is obvious that a qualitative research method is suitable to answer the our research question stated earlier.

In this study risks associated with IS outsourcing practices were analysed. On the other hand, analyses of how risks associated with IS outsourcing practices are managed by the private higher learning institution in its IS outsourcing was carried out. In addition, the study followed an inductive approach, which reasons the work from specific to broader generalization and theories (Burney, 2008) and enables a causes-effect link to be made between particular variables without an understanding of the way in which humans interpreted their social world.
3.1 Strategy of Inquiry

The strategy of inquiry that used for this study was a case study. According to Creswell (2009) there are a number of research methodologies that are applicable for qualitative research paradigm. Among these, ethnography, case study, ground theory, Phenomenology and narrative are at the leading front methodologies used in qualitative research approaches. A case study research is useful when a phenomenon cannot be studied outside the context in which it occurs or where the boundaries between phenomenon and context are not clearly evident. In Case studies researcher explores in-depth a program, event, activity, process, or one or more individual (Creswell 2009).

Many researchers mentioned that case study research method is particularly well suited to IS research, since the object of the discipline is the study of IS in organizations, and interest has shifted to organizational rather than technical issues (Myers, 1997). This research paper also adopted the case study approach, since a case study method enables the “reality” to be captured, the research will be more interpretive and critical.

In respect to the aim of this study, this research aims to investigate risks associated with IS outsourcing and the management of these risks within the context of private learning institutions in Ethiopia, therefore a single-case study strategy is the most appropriate for this research to gain deeper insights of IS outsourcing, risks and risk management practice, where these facts and events can be expanded and investigated in further research and different cases in order to generalize the findings.

3.2 Case Study Environment

This study has given a picture of the one private higher learning institution in Ethiopia named Unity University and analysed its risk management practice with regard to IS outsourcing.

Unity University (UU) is the only Private University in Ethiopia. It offers programs and researches, which lead toward degrees in different fields of studies. It was beginning to establish in the year 1991 as a language school offering courses in English, Arabic and French, but later the same year a preparatory program for the Ethiopian School Leaving Certificate Examination (ESLCE) was also on offer and in 1994 a certificate program in basic law was launched and subsequently upgraded to a diploma program. During 1997 to 1999, during which time diploma programs in Accounting, Marketing, Business, Personnel Administration and Secretarial Science were launched and March 1998 the Vocational Institute became Unity College (UC), then in
August 2002, Unity College was officially renamed Unity University College. Finally by the year September 2008, because of the university fulfilled the requirement for university, the institution has finally been promoted to university level and becomes Unity University which is the only private owned university in the country. The university was the first private university in the country to offer postgraduate programs (Business Administration (MBA) and Development Economics (MA)). The University has two main campuses, the Gerji campus is located in the capital city of Ethiopia which is Addis Ababa a place called Gerji, this campus is Unity's largest campus and Nazareth Campus is in Nazareth, a town 100km south of Addis Ababa.

The university has organized an ICT Office, reporting to the office of the president, which oversees and coordinates all ICT activities throughout the university including ICT departments in TVET level. On the application side, the University uses the student record system. Internet and email services constitute the major part of the network service. Both services are fully managed by the full time ICT staffs of the university.

Since Unity University establishment ICT Office has been working closely with different sections of the university to create awareness of ICT, to introduce new technologies into the university and most importantly, to help students acquire basic computer skills, which is required in the market. Apart from these activities, the computer center is highly involved in developing specifications for purchase orders of computers and accessories, troubleshooting and maintenance of equipments and purchase of software required for the academic and administrative tasks. The main mission of the office is to develop state-of-the art ICT infrastructure and provide superior quality services whereby the teaching, research and services efficiently and effectively.

Additionally Unity University has taken the first step by starting the first of its kind ICT show called Click Ethiopia, which is a weekly educational and entertainment-oriented program prepared by Unity University in collaboration with Ethiopian Television. Click Ethiopia strives to increase public awareness in the sphere of ICT (Information and Communication Technology) by disseminating contemporary ICT issues. The program is prepared from a pool of 16 ICT experts of the Unity University and its own professional studio. It interactively works with the general public through different media including Internet, email, post, and telephone. The aim of the show is to educate the general public about ICT in an educational and entertaining-oriented manner. Teach the society about ICT with a fun tutorial to a whole part of the society. Previously, the university outsourced its registrar system and network infrastructure for local service provider and plan to outsource other IT
functions in the near future. The university has also plans to extend the ICT infrastructure and services to fully integrate the teaching-learning activities, research undertakings and service provisions. The University introduces new technologies such as E-learning and utilize ICT for income generations.

3.3 Participants

The participants in this research were users, the strategic managers who are involved in the outsourcing decision-making process in the university, and committee members who are working in association with the outsourcing service providers. In order to determine the sample population for this study, a purposive/Judgmental sampling technique was used. Barreiro and Albandoz (2001, p. 4) define purposive sampling as follows:

“It is the one in which the person who is selecting the sample is who tries to make the sample representative, depending on his opinion or purpose, thus being the representation subjective.”

Therefore, the motivation for using purposive sampling technique, as opposed to any other sampling techniques comes from the data gathering that, not all private higher learning institutions will have equal experience with regard to ISs outsourcing and some of the private higher learning institutions will not practice any IS outsourcing at all. Since, one of the basic advantages of a purposive sampling technique is that it enables the researcher to neglect the non-significant representative of the population under study (Lisa 2008 cited in Palys 2008), after collecting pre-information about some universities and college; Unity University has been selected purposely to conduct this research.

In this research, Unity University was investigated in accordance with its risk management practice in its ISs outsourcing practice. The sample size was limited to one, because taking more than one private higher learning institution is more likely time consuming. It is obvious that, taking only one private higher learning institution is not possible to get the desired output of the research within the given time frame. The primary data collection instrument used in this research was depth interviews, which also requires a lot of time to investigate each respondent and the environment under study.

3.4 Researcher Roles

The author of this thesis is a Master student at the School of Computer Science, physics, and Mathematics in Linnaeus University, who is a citizen of Ethiopia and also have a Bachelor Degree with management information systems (MIS)
and a Diploma in business administration from Unity University. As researcher mostly interpreted and analysed the data that I have gathered through interviews. I have ensured that all participants have the right to willingly participate in interview questionnaires, and before the beginning of the interview I have told them that they have the right to cancel the interview at any time. As Creswell 2009, strategies have been used to validate the findings with the end purpose of creating reader confidence in the accuracy of the research findings.

3.5 Data Collection Methods

A case study method with interviews and collected documents (data) can provide real-world insights about the subject under study compared to other methods like paper-and-pencil questionnaires, mailed questionnaires and electronic questionnaires (Kin, 2007). The research instruments for this research were based on the above premises. The primary activities in the data collection stage were determining which Private higher learning institution (university or college) should be carried out in this research. As a result, the researcher wanted to know about, their experiences on IS outsourcing. First, a search for information about this practice on their official web sites, the researcher get their mission and vision descriptions with some extra statements but nothing more about their IS outsourcing practice. In addition, I search for information about the practice informally from friends, and researcher found a lot of information from five private learning institution. Lastly, by taking this information as initial account, interviews were conducted by telephone (by using webcall direct with Amharic language) with IT department of five private higher learning institutions, whose names and addresses had been collected from various sources of information. Then they were informed about the study and asked whether or not they practiced ISs outsourcing. Four of the private higher learning institutions said that they outsourced some of their IS services in the past, while one did not outsource any IS. After having this information, among those private higher learning institutions Unity University was chosen for the purpose of this research, because from the information gathered, Unity University have comparatively better outsourcing experience, significant contracts, and a history of ICT utilization and adoption in the teaching learning activities.

The primary data was collected through semi-structured interviews in order to provide the flexibility necessary to obtain valuable qualitative data, while focus on the specific research questions. The interview question contains four dimensions of risk and risk management practices (i.e. Outsourcing strategy, stakeholders in IS outsourcing project, the impact of outsourcing and risk management practices) that are deemed significant in investigating risks and
risk management. The secondary source was books, journals, articles, websites and other documents.

After sending several email invitations (the email address was found with the help of a friend), suitable times and dates for the interviews were arranged. These interviews were conducted by using webcall direct (with Amharic language) and its were one-on-one interviews where each participant was interviewed separately, this is because the advantage was that it brings out the views and opinions easily (Creswell, 2009, p.181). While doing the interview, the participants were told they have a right to cancel the interview at any time, and also given the opportunity to ask questions and have them answered by the researcher, and also with the willing of a participant the interview were recorded by a voice recording device. After that, the recordings the interviews were transcribed. Furthermore, these transcriptions were sent and also I conducted follow-up interviews to make sure that’s whether the transcription is similar to what the participants have said in order to check the validity. Each interview started with a brief introduction about the research and its aim. Each interview lasted for about 35 to 40 minutes. A total of 10 respondents were interviewed-most of who are committee members that were involved in the first outsourcing process and manage the contract afterward. These individuals were also concerned in the requirement definition and bid preparation (Request for proposal preparation) process of the outsourced IT functions. However some committee members that were involved in the outsourcing decision process in the past were not currently available in the institution, the number of target respondents in the institution was very few and some of the target respondents had other commitments that may have been on a higher priority than supporting student research projects

The number of respondents in the institution and the outsourced IS functions are summarized in the following table.

<table>
<thead>
<tr>
<th>Name of higher learning institution</th>
<th>Number of respondents</th>
<th>Outsourced IS function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unity University</td>
<td>10</td>
<td>Register system, network infrastructure, finance system and wireless technology</td>
</tr>
</tbody>
</table>

Table 4: Outsourced IS functions and number of respondents
The respondents included chief information officer, Chief Network Officer, Chief Software Development Officer and other member of the outsourcing committee such as users and other domain experts.

In the case the researcher conducted semi-structured interviews with various members of the decision-making units. Participants were asked about the major issues relating to IS outsourcing to outside service providers. They were asked about the outsourcing strategy, the impact of outsourcing, stakeholders in the outsourcing process, the process of risk management (i.e. Contract management, issue resolution and performance monitoring) approaches.

3.6 Data Analysis

There are many different methods of analysis in qualitative research; however, the three common approaches are hermeneutics, semiotics and approaches that focus on narrative and metaphor. Furthermore, the common thread is that all qualitative method of analysis is concerned primarily with textual analysis (whether verbal or written) (Patton, 1987).

Similarly, the findings of this research were introduced as a narrative. Narrative is defined by the Oxford English Dictionary as “Spoken or written account of connected events in order of happening.” The narrative provides a textual description of the key results and findings, which includes important quotes from the interview. Furthermore, the main results and the findings of the interviews were summarized in the form of concept map. Thus, the concept map allows (Lanzing, 1997) understanding the relationship between ideas by creating a visual map of connections, separate concept maps were produced to represent the main information gathered from the interviews.

The data analysis procedure for this research adapted the following five basic steps of qualitative research analysis, which was proposed by Beverly and Wong (2007). According to Beverly and Wong, data collection, note taking, coding, sorting and writing are the basic steps in any qualitative research analysis.

**Data collection**: through semi structured interviews, primary data were gathered from a higher learning institution in relation to the University ISs outsourcing risk management practices. To guide and stimulate the thinking of the participants of the interview, prior to the meeting through email address participants were given a copy of the interview questions outlining four dimensions of risk and risk management practice in ISs outsourcing.
Note taking: In order to get the main ideas of the interview results, notes were taken during data collection.

Coding: Themes (concepts that explain how ideas or categories are connected), illustrative quotes (verbatim or identical text that exemplifies a particular code or theme), and potential themes or relationships between categories that helps to answer the predetermined research questions were highlighted, categorized and identified.

Sorting: After getting a point of diminishing returns in the collection and interpretation of data that signals completion, codes, illustrative quotes and concepts were combined and arranged into the outline of a narrative that explains the findings and the result of the research.

Writing: This is the final step where, the findings were introduced as a narrative.

3.7 Validation and Reliability Strategies

As Creswell (2009) explained that the validity of the qualitative research means that the researcher checks for the accuracy of the findings by employing certain procedures, while the reliability of the qualitative research indicates that the researcher’s approach is consistent across different researchers and different projects. As stated in (Creswell, 2009) the strategies are:

- After transcription of all data the researcher conducted follow-up interviews to make sure that’s whether the transcription is similar to what the participants have said.
- Multiple data sources have been used to collect and verify data, ranging from interviews. I have made a cross examination of our findings by first gathering data from multiple sources. Different sources converge to similar findings, so this adds to the validity of the research.

3.8 Ethical Considerations

In our research the participant's name was not mentioned explicitly in the analysis and the discussion part of the thesis. No personal information about any of the participants was disclosed during the research, interviews were kept strictly confidential and the information provided during the interviews didn't disclose to anyone or used for any other purpose than the research itself. The information provided by the higher learning institution and staff will be secret and will not be disclosed to anyone or used for any other purpose than the research itself. Additionally I have been considering the following components in order to make our research ethically valid (Callahan and Hobbs, 1998).

- **Disclosure:** All participants have been informed as fully as possible of the nature and purpose of the research, the procedures to be used. I have had a statement that explains procedures in place to ensure the
confidentiality and anonymity of the participants. The document makes it clear whom to contact with questions about the research study and research participants' rights.

- **Understanding:** I have made sure that participants understand what has been explained and must be given the opportunity to ask questions and have them answered by the researchers.

- **Voluntariness:** The participant's consent to participate in the research has been voluntary, free of any coercion or promises of benefits to result from participation.
4. Finding and analysis

This Chapter presents the results of the research analysis. Direct quotations from the participants have been used.

In this section specific results were interpreted; as a researcher I focused on each unit of analysis (measurements). Furthermore, I focused especially on those influences on the private higher learning institution IS- outsourcing decision that came from individuals, groups and the entire organization because of our interest in understanding the practice in which the decision took place. Since this is an exploratory research, the research would not give statistical information about each component in which it determines the success of IS outsourcing. Additionally the results and the findings were summarized in the form of concept map. Thus, the concept map allows understanding the relationship between ideas by creating a visual map of connections, separate concept maps were produced to represent the main themes of the information gathered.

4.1 Outsourcing Strategy

In this section of the interview guide question was designed to investigate the availability of an outsourcing strategy and the components of the outsourcing strategy in the university. As a result, respondents were asked the following questions.

(a) Does the University have an explicit outsourcing strategy? If not, does the university intend to put in place an outsourcing strategy? Why?

Given the level of use of IT in the higher learning institution, and the practice of outsourcing it is surprising to find that the university does not have any explicit IS outsourcing strategy. One of the respondents mentioned that:

“... As for me it is better to say there is no any defined outsourcing strategy so far but depending on any outsourcing initiative/request the strategies will be planned or adopted in which the environment may affect the required outsourcing strategy.”

Other respondents also answered that here is no any defined IS system outsourcing strategy so far but depending on any outsourcing initiative/request the strategies will be planned or adopted.
(b) Is any IS functions the University currently outsources or are contracted to do so in the near future? If yes what was/is the outsourcing process that the university follows?

Most respondents revealed that, there is a high intention to acquire new IS through outsourcing. The possible explanation for this can be the fact that the higher learning institution intends the outsource a new IS soon is derived from the belief that technology is the driving force in the education equally with the business sector. While answering the outsourcing process followed by the University respondents stated that, the outsourcing process begins with an initiation by user departments, ICT office, or in some cases by external consultancies to implement technological solutions for managing different functions. A committee is established to capture the entire requirement both from the user departments and from the ICT office including other domain of experts. Based on the requirements, the established committee members prepare a document called a Request for Proposal (RFP). On receiving the proposals, the committee members examine the quote proposed and select one vendor, which is most technical effective along with other benefits. Then, on the basis of the requirements, the vendor and the client prepare the SLA document which technically describes the expected outputs of the project and the quality of each requirement. The process then goes to the next step of negotiation and the contract is signed with the selected vendor.

Figure 7: Concept map of IS outsourcing decision process.
(c) Does the university have an ICT policy statement for IS? If yes, to what extent are the university using this policy in the outsourcing process?

All respondents agree that having an ICT policy in place is quite necessary and important not only for IS outsourcing but also in every ICT related practices of the office in particular and for the higher learning institutions in general. However, due to highly bureaucratic decision-making processes in the higher learning institution the ICT policy cannot come into existence. In the same line, one of the respondents strictly stressed that because of the lack of ICT policy in the university different units of the university adopt their own IS and asked:

“... If different units of the university bought their own IS without consulting the ICT office, what is the role and responsibilities of the office with respect to ICT?”

However, currently the ICT office developed a draft ICT policy, which articulates policy guidelines and describes critical areas for the development and application of ICT in the University as partial requirement of the implementation of the ICT part of the Business Process Reengineering (BPR) in the university and all respondents hope that it will be accepted.

4.2 Stakeholders In Information System Outsourcing Project

In order to get an idea about the participation of different stakeholders in the IS outsourcing project, specific questions to evaluate the contribution of various stakeholders and their influence over the process were included in the interview question guide.

(a) In the University outsource IS functions, who is/was a most important person in making the outsourcing decision?

The respondents argued that at the very beginning of the outsourcing projects the top-level managements are responsible to approve the outsourcing initiation. However, after the initiation is approved, the management of IS outsourcing is heavily dependent on collaboration and consensus among committee members Multi-layered influences include affected users, process owners, divisions and departments and technical/domain experts.

The Integrated Budget and Finance IS (IBFIS) project is an ongoing automation outsourcing project in the University. In this regard, a project team comprising five professionals was established, out of which four have expertise
in IT and one having expertise in the domain area, has been put in place. The project team works hand-in-hand with the vendor and users (employees in the budget and finance office) to achieve the desired goal. Figure 8, shows the structure of the project office.

![Project Team Members (IBFIS Project)](image)

Figure 8: Project Team Members (IBFIS Project).

(b) Does the university involve users in the acquisition process? If yes to what extent?

Respondents unanimously agreed that there is an involvement of user departments in the acquisition process and indicated that users are the most valuable assets in any IS outsourcing practice. As one of the indicated:

“...Since the intended IS function/service has been developed for various user departments of the university, they have a considerable involvement starting from the beginning steps of the requirement analysis to performance evaluation/system testing”.

(c) What is the role of top-level management in the IS related decision-making process?

The participants complained mostly about the limited and unsatisfactory participation of the top-level management in IS outsourcing practices. However, not all respondents reported this level of “unsatisfactory” but many
felt that the participation of the top-level management is less. One of the respondents said that:

“...When you come to the support of the top level management, it is very limited and can say that it is below satisfactory, not only in IS outsourcing practice but also in the overall ICT related support. They are not playing the expected role”.

4.3 Impact of Outsourcing

(a) In which ways do you think outsourcing could affect the university?

Participants recognized that outsourcing might have both negative and positive impacts for the higher learning institution. However, outsourcing decisions are strongly influenced by the expected benefits in the University.

(b) Can you list the potential benefits with outsourcing?

As it is shown in figure 9, Participants answered that improved service availability, access to new technologies solving management problems, better utilization of staff, knowledge sharing/transfer, improved management IS and greater efficiency, (for example, speed in network traffic) appeared as having a positive impact in the private higher learning institution outsourcing practice. One respondent in also argued that:

“Outsourcing has an impact on budget proven formulas, for example costs are highly priced with regard to the university but when you come to the local company there will be proven software relatively with considerable costs”.

However, cost saving was expressed as the lowest impact by other respondents, while; shortage of internal staff seems to be the most important determinant of IT outsourcing.

(c) What perceived risks are in IS outsourcing? Why?

As it shows in figure 9, Problems with regard to security, retaining loyalty of existing staff, vendors unwillingness to transfer knowledge, inability to get user requirements, inability to increase reliance on the contractor, promptness of attending the possible problems, guaranteeing the loyalty of staff of the vendors, dependency and possible delay, vendors inability to meet deadlines, introducing a legal loophole, and delay in fault resolution, are all considered by the respondents to be point of risks attributable to outsourcing.
Impact of outsourcing

**Benefits**
- Access to new technologies
- Reduced time
- Cost saving
- Improved MIS
- Improved efficiency
- Knowledge sharing
- Access to external staff
- Improved service quality

**Risks**
- Legal loop-hole
- Lack of reliance
- Inability to get user requirements
- Possible delay
- Security problems

Figure 9: Concept Map of Impact of Outsourcing.


4.4 Risk management (Contract Management, Issue Resolution and Performance Monitoring)

Once the outsourcing decision has been taken it becomes necessary, to justify the decisions; identify the risks, plan for evaluating the performance of the vendor, set the criteria for selecting vendors, set the criteria for resolving disputes and as well as defined how to manage the contract afterward. The activities are important as they help in finding out the possible difficulties that may arise during implementation and the definitions of strategic objectives.

To examine these aspects, data were collected from three different areas of risk management practice in IS outsourcing projects (a) Contract management (b) Issues resolution and (c) Performance monitoring.

(a) Does the University have risk management procedures or guidelines for the outsourcing of IS? If none how are the risks identified and assessed in the decision making process?

The respondents answered that there is no an explicitly structured risk management procedures or guidelines for the outsourcing of IS in place. As one of the respondents explained that:

“The risk management process followed in their information system outsourcing is a general project risk management approach”.

Thus, IS outsourcing project is managed like any other system projects, there is no any special framework for IS outsourcing projects.

However, most of the participants have quoted intuitive assessments and prior experience as a means of identifying and managing risk. What this implies is that managers do not have a strategic view of IS.

(b) Has the University engaged any external support e.g. Consultancy, software house etc., in outsourcing its IS? If not, why not?

The respondents disagree in involving third party consultants in the IS outsourcing project. The respondents with this respect revealed two major reasons.

- Since, higher learning institutions are the house of experts and have many experienced people it can utilize its own domain expertise.

- Second, since, service provider organizations have their own consultants there is no need to engage to a third party advisor.
Does the University determine the training needs of users before and after the outsourcing of an IS? If not, why not?

Training needs users and executives are determined by the higher learning institution. However, most of the respondents said that the training need of users is done after outsourcing. Furthermore, the vendors, vendor partners or consultants could do this training at an external location or internally. When asked if they consider the training effective, one respondent said: “No, not deep enough”. Another respondent, when asked the same question said: “It is not since the training is not continuous”, along the same line another respondent said: “not effective because it is an introductory or a sensitivity training”.

What are the previous trends in outsourcing of IS? Are they success/failure?

Regarding the previous status of the outsourcing projects the research revealed both success and failure stories. One of the respondents presently does not have an active role in outsourcing projects. However, the respondent was part of the outsourcing deal where in the network infrastructure project of the university was outsourced to a vendor. He argued that,

“...Even if there was no a clever risk management practice, we were working in collaboration and all the committee members and the vendor team were meeting and discussed about the progress of the project. As a result, it was a successful project”.

However, most of the respondents felt that the previous outsourcing practice of the university was both failure and success.

What are the most critical factors that should be considered in choosing an ISs vendor?

As to the interviewee choose outsourcing providers, the following two evaluation criteria are the most adopted techniques in the Higher Learning Institution:

- Technical vendor aspect

This technical assessment accounts around 70% of the overall assessment of the vendor. The possible explanation for this can be, first and for most, the vendor should be able to meet all the requirements of the RFP document. With this underlining notion the coming vendors are examined and assessed
whether they can meet all the technical requirements or not. As it is shown in figure 10, The technical assessment also includes the technological capacity of the vendor, the overall service quality of the vendor (quality standard).

- Nontechnical vendor evaluation aspect

The non-technical vendor evaluation method accounts the remaining 30% of the evaluation criteria. As it is shown in figure 10, this is mainly for the assessment of the non-functional assessment of the vendor, including: Finance capacity that refers the vendor's financial capability to carry out the outsourcing, Legality for the Bid: whether its legal or not, Previous experience and validity of presenting references, Staff composition (Educational background of the staff).

Figure 10: Concept Map of Vendor Selection Criteria
(f) Do you think that effective accountability and process exist to monitor and manage the relationship with the service provider, to maintain good communication between the practices, to ensure mutual understanding of service needs and service quality, and to resolve issues that may arise from time to time? If not, why not?

The respondents were very clear about the importance of managing the relationship with the service provider. However, respondents argued that there is no such detail communication mechanism except that of the SLA and the contract negotiation. Everything will be resolved and managed based on the agreement they have during the contract negotiation. One of the respondents said that:

“After a contract agreement is signed and we come into negotiation, a joint project plan will be developed. This project plan is used to solve confusing issues (we can say some minor problems more over the concern of this contract and negotiation)”.

(g) Does the University have any specific points concern, perceived potential problems or areas of possible conflict?

Participants indicated that, in addition to the positive side of outsourcing, outsourcing could also cause some negative side effects and inherent problems. As a result, there are some problems posed challenges and concerns when managing IT outsourcing. The interviewee cited a number of points.

Most of the participants were revealed two major potential points of concerns (i.e. Users and vendors), with regard to user/departments, respondents mentioned that users will not able to clearly define the requirement and while the project is in progress they will come up with some additional requirements which leads the University and the vendor to reconsider the requirements and this may have a great contribution for the delay of the project. One Participant said that;

“Most of the problems that we have face is that user departments can’t able to define a clear requirement which has a great impact on the definition of the service level agreement since the service level they require and the type and the function of the service is not clearly defined it is difficult to meet the expected objectives”.

As a result, the first point of concern reported by respondents was related to requirements. Most of the respondents identified several reasons why requirements definition receives a high-level attention in outsourcing
arrangements. Sometimes they had no practical experience of the features a new IT system or service was to provide, particularly if these involved novel technologies.

Participants also claimed that the user departments knew at an abstract level what was needed, but could not articulate the detailed requirements and performance level expected because they no longer had staff experienced at an operational level with the technologies.

Second, respondents revealed that, opportunism behaviour on the part of the vendor is likely to occur. Opportunism includes making unrealistic or untrue representations about vendor capabilities in the proposal phases of the process and shirking under the terms of the contract once the contract has been executed. One of the respondents said that:

“Performance of the vendor will not be the same as it is expressed in the paper. When we assess vendors to outsource, our network-infrastructure we have got a number of false stories on their proposal about some vendors. For example, one vendor has been clearly cited a number of reference organizations/sites it successfully implements their network infrastructure. However, when we conduct a site visit none of the organization has any agreement with the vendor; even they didn’t know its existence”.

Another respondent also revealed that, security is the major concern of the university in its IS outsourcing practice. As a reason, the respondent explained that:

“... Even if some failures can be tolerated, there are also some malfunctions that will not be tolerated at all and since the organization is an educational institution there is a great deal of security”.

(h) Do you think that, the University has clear objectives and reliable measures of performance and operating to benchmark the service provider’s performance and assess the quality and cost of the service delivered? If yes, what are they?

Respondents identify the issue of the vendor’s performance being measured mostly against the technical aspects mentioned in the contract SLA.

(i) What are the mechanisms that the University follows to manage the progress of outsourced IS?
In the case study environment, no formal IS/IT investment evaluation methodology was mentioned by any of the participants. Instead, several participants clearly indicated that there was a pre-agreed set of evaluation and control mechanisms in the SLAs within the outsourcing contracts, such as metrics, reports, reviews and regular meetings.

When asked if a qualitative criteria is being included SLA and measured the performance against these criteria, one respondent said:

"The use of scorecards and other quantitative contract evaluation mechanisms within the SLA was used in measuring and monitoring the performance of the results while they outsourced their network infrastructure."
5. Discussions

This Chapter presents the discussion of the research findings. To interpret the findings I use the risk management practice in the IS outsourcing practice framework in order to assess the risk management practice in the IS outsourcing practice. The findings will be discussed based on the theoretical Framework and supporting literature.

The origin of the questions that are included in this chapter are interview questions which can be seen from appendix A.

5.1 Outsourcing Strategy

In this section of as the participants mentioned there is no any IS outsourcing strategy so far but depending on any outsourcing initiative/request the strategies will be planned or adopted. Similar finding has also found by Adeleye (2002) in which he investigates information system outsourcing risk management practices in Nigerian banks, the finding revealed that although managers of commercial banks in the country understand what outsourcing information system is about, a significant proportion of the commercial banks have no documented and structured outsourcing strategy or/and policy, program and procedure. However as it was stressed by many authors, not having a strategy may affect the overall organization strategy and affect other categories of risk. Berbee (2005) stressed the importance of outsourcing strategies and proposed that, an outsourcing strategy permit to answer the following questions:

- What does the organization expect out of the outsourcing agreement and what will the results of the agreement be?
- What is the basic reason (reasons) for pursuing an outsourcing contract?
- Who will manage the agreement and how will it be managed?
- How will the relationships enable the business?

Vanlandingham and O’Keeffe (2004), also emphasized that lack of a rigorous strategic sourcing methodology presents significant risks to an organization. Such as, inconsistent sourcing and selection criteria, lower quality, higher pricing and loss purchasing leverage.
As respondents revealed that, there is a high intention to acquire new IS through outsourcing, the possible explanation for this can be the fact that the University intends the outsource a new IS soon is derived from the belief that technology is the driving force in the education equally with the business sector.

In addition, to remain viable, higher learning institution will have to take advantage of the IT revolution made available through outsourcing. This is because IT is a specialized field, which is emerging, technical and Ethiopia, being a developing country, lacks the human resources and infrastructure to provide these in-house.

As mentioned in the finding due to highly bureaucratic decision-making processes in the higher learning institution the ICT police cannot come into existence. According to (Quaryle 2001 cited in Adeleye 2002), having a policy in place would help control purchasing and put in place contingency plan, while not having a policy can lead to an unfulfilled aims and objectives. Similarly, a number of problems were revealed by the respondents, which can be generalized as follows:

- Redundancy and lack of standardizations.
- Lack of common understanding between the ICT office and other units of the university.
- Conflicts in roles and responsibilities with regard to ICT

5.2 Stakeholders In Information System Outsourcing Project

Most participants mentioned that the unsatisfactory participation of the top-level management in IS outsourcing practices. Nevertheless not all respondents mentioned this level but many felt that the participation of the top-level management is minimal. While the involvement of the top management of the higher learning institution is minimal in the outsourcing project, the higher involvement of users is possibly caused by the believed that the success of an IS depends not only on making a decision and developing the right IS but also on the suitability for its users.

According to Baker Enterprise Consultant (2007), the involvement of top-level management in IS outsourcing is critical. At the higher levels of organization, it is always desirable to get an executive support, and in cases that involve organizational politics such support is significant.
Gottschalk and Solli-Sæther (2005), also emphasized that the outsourcing partnership has a much greater chance to flourish with the support of a C-level executive and an outsourcing initiative needs the support of people high enough to establish and enforce policies and procedures, and act as arbitrator and tiebreaker. For this reason, the relationship must be sponsored by an influential champion to see the opportunities that a high-value partner can capture.

5.3 Impact of Outsourcing

As to the finding outsourcing might have both negative and positive impacts for the private or government higher learning institutions however, different organizations may outsource for different reasons, but it is important for higher learning institution to recognize the difference in reasons when assessing the impact of outsourcing.

Respondents listed the potential benefits with outsourcing but, cost saving was expressed as the lowest impact by other respondents, while; shortage of internal staff seems to be the most important determinant of IT outsourcing. This finding is consistent with the study conducted by the ECAR (2002) which reported that the reason given most often by higher institutes for IS outsourcing was that lack-of critical in-house IT skills.

5.4 Risk Management (Contract Management, Issue Resolution and Performance Monitoring)

As to the respondents, IS outsourcing project is managed like any other system project. However, most of the participants have quoted intuitive assessments and prior experience as a means of identifying and managing risk. What this implies is that managers do not have a strategic view of ISs. There are various other methods suggested by researchers, which include organizing brainstorming sessions with the managers to discuss the problems in-depth and provide solutions, conducting structured interviews to initiate a risk revealing discussion and at times to use expert computer-based systems or outside specialists or consultants, thus bringing in additional experience in the field of concern.

As to interview respondents disagree in involving third party consultants in the IS outsourcing project. However, the management of vendors is a specialized job, which requires a certain amount of skill and commitment on behalf of the organization it is not recommended to be dependent only on the service providers’ consultants.
The higher learning institutions supplier/vendor selection criteria consistent with the proposed decision making framework for an effective IT outsourcing supplier evaluation by Buyukozkan and Ersoy (2009) which emphasized six evaluation criteria; technological capability, profitability of supplier, relationship closeness, total cost, service quality, reputation of supplier. Since selecting the right vendor is one of the main critical success factors (Embleton and Wright, 1998) for successful IS outsourcing projects, the purpose of IT outsourcing supplier selection is to determine the optimal service provider who offers the best all around each criterion.

As the respondents argued that there is no such detail communication mechanism except that of the SLA and the contract negotiation. Everything will be resolved and managed based on the agreement they have during the contract negotiation. Agren and Winther (2007), have also found similar finding while they investigated the changing role of the internal IT function when IT services/capabilities are outsourced to one or more external vendor, that the contract and SLA was found to only be factors making the outsourcing possible. The major causes of these problems were lack of detailed requirements from the beginning, lack of detail in the SLAs.

However, sweet et al (2000) stressed the importance of strong relationship management and issues resolution approach. After the client decides to outsource a specific application, client and provider together should design an approach to governing the relationship. This goes beyond the mere performance of contractual obligations and should focus on proactive and collaborative management of the relationship, the evolution of services provided, communication processes, performance review standards, and overall relationship management. Bays (2004) also proposed the issue resolution process should consist of the following steps:

- Each issue would be determined by the vendor staff and the company staff person responsible for the delivery of the program component and for each issue, the IT/Business Process staff and the vendor staff should jointly determine the persons responsible for resolving the issue and the resolution date.
- Each party should be informed of their responsibilities and give confirmation of resolution date.
- The most appropriate level of management should resolve issues depending on the nature of the issue. Unresolved or open issues that are past the due date should be escalated to the company’s Vendor
Manager and the vendor’s Program Manager during regularly scheduled status meetings.

As mentioned in the finding section respondents identify the issue of the vendor’s performance being measured mostly against the technical aspects mentioned in the contract SLA. This is consistent with Yu and Cheng (2007) in which they proposed effective SLAs can be used to identify the expected results and the measures by which both parties will evaluate performance. However, depending only formal control would not be efficient as governing the relationship in the partnering way to control opportunistic behaviours and to form a relational commitment. As a result, relational governance is another endogenous mechanism that can enhance exchange performance by embedding private and public information flows in a matrix of social ties rather than by resorting to contract or its enforcement by a third party (Steven et al., 2009).

Furthermore, performance monitoring and improvement procedures ensure that performance standards are being met through effective performance measurement and reporting Goolsby (2001) and successful performance management with a supplier depends on a clear understanding of the nature of the processes before they are outsourced.

Concerning the following question that was asked during the interview, ” What are the mechanisms that the university follows to manage the progress of outsourced IS?”, Several participants clearly indicated that there was a pre-agreed set of evaluation and control mechanisms in the SLAs within the outsourcing contracts, on the other hand when asked if a qualitative criteria is being included SLA and measured the performance against these criteria, what have been said by the participants, the result is also consistent with the findings of Ngwenyama and Sullivan (2006), the fact the private -sector organizations had to follow governmental contract guidelines had effectively stopped the adoption of a formal IS/IT investment evaluation methodology. As a result, private organizations were unable to get a more balanced and truthful picture of the performance of their contracts.

Furthermore, as it was expressed previously, besides the concern for commitment to monitor the performance on the part of universities, SLA is another major challenge and concern facing the IT department in terms of outsourcing. In many cases, there are ambiguity, unclear and incomplete specifications as to the provision of an acceptable level of service. As a result, being dependent only on the SLA as major performance measurement criteria, cause the inability of the department to hold the vendor liable for any new problems.
6. Conclusions

This chapter concludes with the main results and messages of the research in addition it answers the research question raised at the beginning of this study and finally, the research ends with recommendations, contribution and future research that can be done.

The purpose of this research was to investigate the risk management practices of the private higher learning institutions in Ethiopia in their IS outsourcing practices. As a result, the research investigates the outsourcing process, risk and control practices being followed by Unity University. Concerning the outsourcing strategy as it was revealed by most of the respondents, the university does not have an explicit outsourcing strategy for IS outsourcing projects. Rather, the outsourcing strategy of the University developed is variable based on the different types of IS outsourcing projects. On the other hand, most of the participants revealed that there is a high intention to acquire new IS through outsourcing. However, while asking about the implication of the University to put in place an outsourcing strategy or an ICT policy, even if the department needs to adopt the ICT policy, due to highly bureaucratic decision-making processes in the higher learning institution the ICT police cannot come into existence. In line with this, there were also a number of problems mentioned by respondents due to the lack of proper ICT policy, including lack of proper control, redundancy, conflict in responsibilities etc. Along the same line, the higher learning institution does have totally outsources its ISs or ICT related activities to external service providers. As a result the outsourcing approach can be termed as ‘selective outsourcing’ in which the institution outsource some part of IS functions while another part of the IT functions remains within the institution. This is because of that, lack of internal skill in some areas of IS (such as software development and network infrastructure implementation) is the first reason for the university to outsource some of it IS.

As to stakeholders in IS outsourcing project, participants in the university revealed that the participation of users in any type of IS outsourcing project is very high while the involvement of the top level management is termed as “unsatisfactory”. Furthermore, the management of IS outsourcing is heavily dependent on collaboration and consensus among committee members.

On the other hand concerning the impact of outsourcing participants recognized that outsourcing might have both negative and positive impacts for higher learning institutions. However, outsourcing decisions are strongly influenced by the expected benefits in the University. Improved service availability, access to new technologies, better utilization of staff, knowledge
sharing/transfer, improved management IS and greater efficiency, for example speed in network traffic appeared as a positive/benefits of outsourcing. While security, retaining the loyalty of existing staff, inability to get user requirements, inability to increase reliance on the contractor, promptness of attending to possible problems (example, introducing a legal loophole), and delay in fault resolution, are considered by the respondents to be the point of risks attributable to outsourcing.

Finally as to risk management, it was revealed by most of the respondents in that the university has no structured risk management procedures or guidelines for the outsourcing of IS in place. As a result, the risk management approach varies from project to project/initiations. In terms of identifying and assessing risks associated with ISs outsourcing, the respondents’ points out that, there are no set methods being followed; rather, intuitive assessments and prior experience as a means of identifying risk. User and management training is considered to be important in the University but there is no continuity and most of the time it gives an introduction/sensitivity training. As a result, respondents felt that the training is unsatisfactory. On the other hand, the importance of criteria by which the interviewee chooses to outsource providers, the technical (the alignment of the vendor to the RFP criteria) and non-technical (financial capacity, legality for the bid, previous experience, staff composition and validity of presenting references) are the criteria used to evaluate the coming vendors. Furthermore, respondents identify the issue of the vendor’s performance being measured mostly against the technical aspects mentioned in the contract SLA. In the case study environment, no formal IS/IT investment evaluation methodology was mentioned by any of the participants. Instead, several participants indicated that the contract control and evaluation mechanisms specified within the SLA are benchmarks to evaluative methodology or technique.

6.1 Recommendations

Outsourcing is a global phenomenon. With increasing competition, the established vendors and new entrants are offering more market-focused products and services. The higher learning institutions should have in place an IS outsourcing strategies. A powerful policy would help higher learning institutions to have a good outsourcing strategy since the policy is more likely to be followed in the outsourcing process. It is therefore necessary that managers in the private higher learning institutions develop in ICT policy. Furthermore, the higher learning institutions need to align ICT with their strategic objectives.
The higher learning institution outsourcing forward team should contain a mix of managerial and technical talent, and include more representatives from user areas that will be directly and heavily impacted by the outsourcing under consideration. Furthermore, the higher learning institution must create efficient and effective communication with and between stakeholders to secure continued support from all stakeholders, to balance their interests and to make the IT outsourcing arrangement so that all stakeholders achieve their goals.

From this study one interesting finding is that the university involved in outsourcing of certain IS functions, in an environment without a regulatory risk management framework. However, not having a proper risk management approach can lead to an unfulfilled aims for the higher learning institution. Thus, the higher learning institution should seek to adopt a risk identification and assessment method that are suited to the culture and meets the depth of detail.

There is no “a one size fits all” vendor evaluation method but it will depend on the type of IS organization outsource and the environment. As a result, outsourcing partners should be selected based on their willingness to cooperate with the higher learning institution in addition to their technical capacity in the operation being outsourced.

The University used a contract-based performance monitoring approach. However, it is recommended that along with contract agreements relational vendor management is also vital for the success of IS outsourcing projects. Therefore, it is important to base the management of service performances on relationship management in addition the SLA agreement set during the contract negotiation.

6.2 Contribution

As the researcher I believe the practical benefits are mainly for Ethiopia higher learning institutions especially for private once on which I have conducted the study. Based on our study Ethiopian higher learning institutions can improve how to manage risk associated with IS outsourcing in the future. Additionally even if there are certain limitations in our study, the output of the result could still be of interest for other higher learning institutions, while practicing IS outsourcing.

Additionally as a researcher I believe that higher learning institutions as a whole whether its private or governmental, they are the house of research experts and academicians, gaining a clear understanding about their risk
management practice in IS outsourcing practice might be used as a point of reference for other organizations to learn from the experience.

6.3 Future Studies

This study is conducted concerning a private higher learning institution (Unity University) following a case study approach, thus does not represent the general IS outsourcing practice carried out by the private learning institutions in the country. Hence other studies can be made concerning different organizations (private or government) for understanding the differences and similarities of experiences in their IS outsourcing practices. Since the research was based on a single case study it could be interesting to research more case studies to compare the study findings.

This research is conducted concerning service receiver’s perspective. However it is obvious that the vendors side contribute to the success or failure of IS outsourcing practice too, thus future studies can be made considering both the vendor and the customers to overcome this limitation.
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APPENDICES

APPENDIX A - INTERVIEW QUESTIONS

Linnaeus University
School of Computer Science, Physics and Mathematics
Master Thesis in Informatics

Introduction
   A. The researcher introduces himself
   B. Ask the participant for permission to record the interview
   C. The purpose of the interview clearly explained to the participant

This study aims at conducting research on Risks and Risk Management practices in the outsourcing of information systems by private higher learning institutions in Ethiopia, for the partial fulfilment of the requirements for the degree of Master of Science in Information System.

The interview questions contain four dimensions of risk and risk management practices in information systems outsourcing practices that are deemed significant to answer the research questions aimed to be answered.

I will be glad if you kindly answer all the interview questions patiently. All information gathered will be treated with at most confidentiality.

D. Ask the participants if she/he has any questions before starting the interview
   E. Start the interview

Respondents profile-------------------------------------------------------------
The date of the interview--------------------------------------------------------
The time of the interview---------------------------------------------------------
Email--------------------------------------------------------------------------
Part 1: OUTSOURCING STRATEGY

1. Does the university have an explicit outsourcing strategy? If not, does the university intend to put in place an outsourcing strategy? Why?
2. Is any IS functions the university currently outsource or are contracted to do so in the near future? If yes what was/is the outsourcing process that the university follows?
3. Does the university have an ICT policy statement for Information Systems? If yes, to what extent is the university using this policy in the outsourcing process?

Part 2: STAKEHOLDERS IN OUTSOURCING PROJECT

1. In the university outsourcing IS functions, who is/was the most important person in making the outsourcing decision?
2. Does the university involve users in the acquisition process? If yes to what extent?
3. What is the role of top level management in the IS-related decision making?

Part 3: IMPACT OF OUTSOURCING

1. In which ways do you think outsourcing could affect the university?
2. Can you list the potential benefits and with outsourcing?
3. What are the perceived risks in information systems outsourcing? Why?

Part 4: RISK MANAGEMENT

1. Has the university/ college engaged any external support e.g. Consultancy, software house etc, in outsourcing its information system? If not, why?
2. Does the university determine the training needs of users before and after the outsourcing of an information system? If not, why?
3. Does the university/ college have risk management procedures or guidelines for the outsourcing of information systems? If none, how are the risks identified and assessed in the decision making process?
4. What are the most critical factors that should be considered in choosing an Information Systems vendor:
5. Do you think that effective accountability and process exist to monitor and manage the relationship with the service provider, to maintain good communication between the practices, to ensure mutual understanding of service needs and service quality and to resolve issues that may arise from time to time? If not why?

6. Does the university have any specific points of concern, perceived potential problems, or areas of possible conflict? If yes, how does the university resolve the problems?

7. Do you think that, the university has clear objectives and reliable measures of performance defined and operating to benchmark the service provider’s performance and assess the quality and cost of the service delivered? If yes what are they?

8. What are the previous trends in outsourcing of information systems? Are they success/failure?

9. What is the procedure that the university follows to measure the success/failure of any outsourced information systems?

10. What are the mechanisms that the university follows to manage the progress of outsourced information systems?