INFORMATION CULTURE AND INTERPERSONAL CONFLICT IN INFORMATION SYSTEM SUCCESS MODEL: A CASE STUDY OF PUBLIC FINANCE SECTOR

MOHAMMED ABDULLAH SALEH ABOAOGA

UNIVERSITI KEBANGSAAN MALAYSIA

INFORMATION CULTURE AND INTERPERSONAL CONFLICT IN INFORMATION SYSTEM SUCCESS MODEL: A CASE STUDY OF PUBLIC FINANCE SECTOR

MOHAMMED ABDULLAH SALEH ABOAOGA

THESIS SUBMITTED IN FULFILMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

FACULTY OF INFORMATION SCIENCE AND TECHNOLOGY
UNIVERSITI KEBANGSAAN MALAYSIA
BANGI

2018

MAKLUMAT BUDAYA DAN KONFLIK INTERPERSONAL DALAM MODEL KEJAYAAN SISTEM MAKLUMAT: KAJIAN KES SEKTOR KEWANGAN AWAM

MOHAMMED ABDULLAH SALEH ABOAOGA

TESIS YANG DIKEMUKAKAN UNTUK MEMPEROLEH
IJAZAH DOKTOR FALSAFAH

FAKULTI TEKNOLOGI DAN SAINS MAKLUMAT
UNIVERSITI KEBANGSAAN MALAYSIA
BANGI

2018

DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

19 September 2018

MOHAMMED ABDULLAH
SALEH ABOAOGA
P67182

ACKNOWLEDGEMENT

First and foremost praise be to Almighty Allah for all his blessings for giving me patience and good health throughout the duration of this PhD research.

I am very fortunate to have Professor. Dr. Mohd Juzaiddin Ab Aziz as a research supervisor.

Also, I would like to express my high appreciation to my co-supervisor Dr. Ibrahim Mohammed, whose encouragement, guidance and support from my initial step to the final step in carrying out this study have enabled me to develop an understanding of the subject.

The current thesis would not have been possible unless they had offered me aspiring guidance, invaluably constructive criticism and friendly advice during the entire period of the study work.

I am sincerely thankful to them for sharing their truthful and illuminating ideas as well as views on a number of aspects of my work.

Moreover, I am grateful to our research group Information System (IS) leader, for their valuable help, support and sharing of ideas and experience in research doing.

I would like to thank all post graduate students of UKM power research group for their help, friendship, and creating a pleasant working environment throughout my years in UKM.

Last but not least, special thanks should be expressed to my, mother, brothers, sisters, wife and children for their infinite love and caring and moral support for me during my PhD.

ABSTRAK

Penilaian sistem maklumat (SM) telah banyak dilakukan dengan menggunakan model kejayaan untuk meningkatkan prestasi organisasi. Kajian terdahulu lebih banyak menumpukan kepada faktor teknologi sebagai pengukur kejayaan SM, mengabaikan budaya maklumat dan konflik antara personal sebagai sebahagian daripada faktor untuk menentukan kejayaan sistem maklumat sedangkan faktor budaya maklumat dan konflik interpersonal penting untuk disiasat bagi meningkatkan prestasi organisasi. Justeru itu, objektif kajian ini adalah untuk membangunkan bersepadu model kejayaan yang merangkumi budaya maklumat dan konflik interpersonal untuk meningkatkan prestasi organisasi. Kajian ini menggunakan kaedah campuran, yang terdiri daripada pengumpulan dan analisis data kuantitatif dan kualitatif. Bagi data kuantitatif, soal selidik sendiri diberikan kepada peserta dan sejumlah 320 (64%) soal selidik yang lengkap telah digunakan untuk menilai faktor kejayaan yang dicadangkan dalam empat organisasi kewangan awam di Yemen. Pemodelan persamaan struktur (SEM) menggunakan AMOS digunakan untuk pembangunan dan pengesahan model. Untuk data kualitatif, wawancara separuh berstruktur telah dijalankan terhadap lima pengurus. penemuan dari analisis data kuantitatif menunjukkan bahawa faktor budaya maklumat mempunyai pengaruh positif yang signifikan terhadap kegunaan dan kepuasan pengguna. Ini, seterusnya, membawa kepada peningkatan prestasi organisasi. Walau bagaimanapun, faktor konflik interpersonal mempunyai pengaruh negatif terhadap kepuasan pengguna, yang seterusnya, mempengaruhi prestasi organisasi. Tambahan pula, faktor-faktor teknologi (kualiti maklumat, sistem kualiti dan kualiti servis) tidak mempunyai pengaruh yang signifikan terhadap kegunaan dan kepuasan pengguna. Selain itu, semua kebaikan indeks yang sesuai dengan model memenuhi nilai yang disyorkan dan boleh diterima. Analisa kajian kualitatif mengesahkan penemuan yang diperolehi dari kajian teori dan menyumbang untuk memperkayakan pemahaman terhadap pengaruh Budaya Maklumat dan konflik antara persona pengadaptasian SM di sector kewangan awam. Hasil kajian ini meningkatkan kesedaran pekerja sektor awam terhadap faktor kejayaan, termasuk budaya maklumat. Ia juga membolehkan mereka untuk mengelakkan konflik interpersonal dalam meningkatkan prestasi organisasi.

ABSTRACT

Evaluation information system has been widely performed using success models to enhancing organizational performance. Previous studies have focused more on technological factors on IS success, while disregarding information culture and interpersonal conflict as part of factors in determining the success of information system. However, the information culture and interpersonal conflict factors are important to be investigated in order to enhancing organizational performance. Therefore, the objective of this study is to develop an integrated success model which includes information culture and interpersonal conflict for enhancing organizational performance. The study adopts a mixed-method approach, which comprises quantitative and qualitative data collection and analysis. For the quantitative data, a self-administrated questionnaire was administered to the participants and a total of 320 (64%) completed questionnaires were used to evaluate the proposed success factor in four public finance organizations in Yemen. Structural equation modelling (SEM) using AMOS was used for development and validation of the model. For the qualitative data, semi-structured interviews were conducted with five managers. The findings obtained from the qualitative analysis of the interviews contributed to understand the factors of information culture and interpersonal conflict influence information system success. The findings from the quantitative data analysis have shown that the information culture factors significantly positive influence perceived usefulness and user satisfaction. This, in turn, led to improving organizational performance. However, interpersonal conflict factors have significantly negative influence on user satisfaction, which in turn, influence organizational performance. Moreover, technological factors (information quality, system quality and service quality) did not have any significance influence on perceived usefulness and user satisfaction. Moreover, all the goodness of fit indices of the model met the recommended values and acceptable. Analyzing the qualitative study confirmed the findings obtained from theoretical study and contributed to enriching our understanding of the influence of information culture on the success of IS in public finance sector. The result of this study increases public finance sector employees' understanding of the success factors, including information culture. It also enables them to avoid interpersonal conflict into enhancing organizational performance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

LIST OF ABBREVIATIONS

***p	Significant Level at p<0.005
**p	Significant Level at p<0.05
*p	Significant Level at p<0.01
AMOS	Analysis of Moment Structures
CFA	Confirmatory Factor Analyses
CFI	Comparative Fit Index
CR	Composite Reliability
D&M	Delone and Maclean
DF	Degrees of Freedom
DV	Dependent Variables
EF	Exploratory Factor Analyses
GFI	Goodness-of-Fit Statistic
ICT	Information and Communication Technology
IS	Information System
ISD	Information System Developing
ISS:	Information System Success
IT	Information Technology
ITU	International Telecommunication Union
IQ:	Information Quality
IV	Independent Variables
KMO	Kaiser Meyer Olkin
MM	Motivational Model
MOF	Ministry of finance
NRI	Network Readiness Index
PAW	Perceived Awareness
PN	Perceived Need
PU	Perceived Usefulness
r	Correlation Coefficient
R^2	Coefficient of Determinations

RMSEA	Root Mean Square Error of Approximation
SEM:	Structural Equation Model
SPSS	Statistical Package for Social Science
SQ	System Quality
SrQ	Service Quality
TAM:	Technology Acceptance Model
US:	User Satisfaction
X^2	Chi-Squared test

CHAPTER I

INTRODUCTION

1.1 RESEARCH BACKGROUND

This section provides the theoretical background of key research components and a brief background on Yemen. This theoretical background involves the organizational performance, information systems, information system success, and research study background.

1.1.1 Background of Organizational Performance

Organizational Performance (OP) is an increasingly important issue due to its relation to organization strategic goals, customer satisfaction, and economic contributions. It refers to the organization of an organizations actual output or results by measuring results in comparison to intended objectives. OP is a measure of how stakeholders make use of available resources to accomplish goals and meet needs in an effective and efficient way (Mark & Nwaiwu 2015)

There are many organizations that have tried to manage organization performance using scorecard methodologies as they track and measure performance through customer service, finance performance, social responsibility, and employee stewardship to improve productivity, reduce costs, and improve mission effectiveness. Organizational performance in the public sector still poor (Moullin 2017; Pollanen et al. 2017). The public sector refers to public organizations primarily funded and controlled by the government. The public sector encompasses basic services such as primary education, public roads, public transit, public health, and various other social services. Although each public sector is different in many respects, they still have

shared features characterizing them as formal organizations, in that they are set up to achieve collective interests and special tasks, and they share relatively stable patterns of behavior, resources, and rewards (Christensen et al. 2007). Compared to other sectors, OP is important in the finance sector because finance services have to be efficient and effective.

Improving organizational performance has always been the goal of top management in the private and public sector. There are several schemes that produce more efficient and effective organizations in the private sector and by strengthening performance. These schemes may also be applicable to many public sector organizations (Budiarso 2014; Rhodes et al. 2008).

1.1.2 Background of Information System

The Information System (IS) field started in the 1960s (Langefors 1977). The emergence of applied computer science helped foster IS to develop data processing applications. There are many definitions for information system, but the most comprehensive one is given by (Alter 2008), who defined information system as "An information system is an integrated and cooperating set of software directed information technologies supporting individual, group, organizational, or societal goals".

According to this definition, information systems store, transform and transfer received data. The use of computers is not included in the definition of information systems, which led to the emergence of other definitions describing the use of computer applications to produce desired information that are in line with the definition of Information Technology (IT). This makes IT fall under the field of information systems as it "comprises both computer and telecommunications technology for the collection, storage, retrieval, reproduction, processing, diffusion, and transmission of information" (Swierczek & Shrestha 2003). The distinction between IS and IT is not crystal-clear because it is difficult to distinguish between its technical and the social nature (Iyamu & Kekwaletswe 2010), and there are many studies which use these two terms (IS & IT) interchangeably due to the difficulty of

distinguishing between the technical and social nature of the two areas. Avgerou (2000) argued that information systems are considered social systems, and this emphasizes understanding soft variables directly related to the social dynamics of implementing information systems.

In most of organizations, the implementation of computer-based Information Systems (IS) is important, particularly in the finance sector (Walsham & Waema 1994). IS improves productivity, effectiveness, and efficiency (Maal-Gharaibeh & Malkawi 2013). IS derives its importance from being an important component that facilitate the success of system development. According to Bassellier et al. (2001), successful organizations are those that made good use of Information Technology (IT).

Information System (IS) technologies can be used to enhance the organizational performance of financial institutions (Hussein 2010; Lederer & Mendelow 1988). Generally speaking, the IS concept is defined as systems that are utilized for storing, filtering, and processing data. Information systems is an important component that facilitate the success of overall system development. According to Tomlin (2008), successful organizations that made good use of Information Technology (IT). Previous research has indicated an acceptance of IS success as an important criterion for evaluating OP because of the importance of using IS. The recent scientific revaluation of information systems that are capable of organizing a huge amount of information has comprehensively changed business, thus exerting a side effect on the ways organizations and governments provide services to the public or customers (Maal-Gharaibeh & Malkawi 2013; Petter et al. 2008). In other words, the performance of organizations is to a large extent affected by IS. This indicates that in any organization, successful IS implementation is beneficial as it facilitates goal achievement. This is realized through its role in assisting organization daily operations, problem solving, and facilities. Hence, the success of Information Systems (IS) is viewed as the extent to which OP is achieved as a result of IS use (Cho et al. 2011; Delone & McLean 2003; Rai et al. 2002).

In the finance sector, information systems accumulate and analyze finance data for optimal finance planning and forecasting. Information systems are used in conjunction with a decision support system to firms attain finance objectives using a minimal amount of resources relative to a predetermined margin of safety. Information systems can be thought of as finance planners for electronic commerce that also produce large amounts of market and financial data (Ameen & Ahmad 2013).

There is a line of research that has called for shifting the focus of research investigation from IT to culture to achieve a broader level of business success (Davenport 1994). In each institution, there is a unique culture that is developed and maintained by that institution, which serves as guidelines and boundaries for the behavior of its members. This is referred to as institutional culture, which refers to commonly shared values, assumptions, and beliefs that govern the way people behave in organizations (Vijaykumar 2015). Such shared values strongly influence members in an organization and play an important role in dictating the way people act and perform their jobs, thus resulting in efficient OP. The important institutional culture factors affecting organizational performance identified by previous studies are user commitment (Lok & Crawford 1999), perceived awareness (Schein 1984), and perceived need (Ponjuan 2002).

Due to increasingly sophisticated and costly IS, it is important for research to look at and determine the most important factors affecting the successful implementation of IS in organizations (Al-adaileh 2009). From previous research it can be stated that researchers have been involved in a constant debate about identifying a set of suitable variables that play an important role in determining the success of IS. This study investigated the influence of information culture factors and interpersonal conflict factors on the success of IS and OP in the Yemeni public sector.

1.1.3 Background of Information System Success

The term success is vague, and extensive studies have been conducted to better understand IS success and achievement. The concept of information system success is

highly accepted when evaluating information systems. DeLone and McLean (1992) conducted a comprehensive literature review concerning the measures used to assess successful information systems, and they developed an IS success model with several individual categories. There were two important contributions from this model, and these contributions increased our understanding of IS success. The model classifies success measures into six dimensions, and it suggests temporal and causal factor models for the proposed factors (Seddon 1997). This model has attracted the attention of IS researchers, and many studies have been conducted to replicate or develop the IS success model for different applications (Delone & McLean 2003; McGill et al. 2003; Rai et al. 2002). Success factors and success criteria are related in both may contribute towards criteria achievement. Information culture and interpersonal conflict factors contribute to user satisfaction, which improves organizational performance. As such, both categories are considered equally important. Concerning the factors that affect IS, the international Conference on IS (ICIS) in 1980 is considered the first conference that raised critical questions concerning what is and what determines IS success. Consequently, it was found that there was no clear consensus about specific or clearly defined factors that determine IS success. Some previous empirical studies have identified organizational issues as an important factor affecting successful IS implementation and development (Barzekar & Karami 2014; Hussein et al. 2007a; Rezaei et al. 2009). Moreover, other studies showed that political factors represent one group of factors that are critical to determining the successful implementation of IS in the public sector (Kelegai 2005; Kelegai & Middleton 2004; Ssemaluulu 2012).

Researchers have carried out many studies in the last two decades to determine what factors lead to successful information systems such as the well-known stream IS success literature. The productivity of employees in any organization depend on the quality of the system that serves them, which makes management decisions concerning IS crucial for the survival and prosperity of an organization. The highly competitive nature of the 21st century makes obtaining IS essential to success (Lucas Jr & Spitler 1999). This makes investment in IS good for organizations, but results are improved of firms believe that information systems are of great value to the company (Lucas Jr & Spitler 1999). Moreover, obtaining an information system is costly and there is continuous development in this field, which makes the investigation of the

factors that lead to the successful implementation of IS in organizations important (Moh'd Al-adaileh 2009). From a review of the previous literature, it is clear that there is a constantly developing debate about variables vital to successful IS.

1.1.4 Background of the Yemen

Yemen is situated in the southern part of the Arabian Peninsula. Specifically, the country is located at the entrance to the Bab-el-Mandeb strait, which serves as a link between the Red Sea and the Indian Ocean (via the Gulf of Aden). The Republic of Yemen is bordered by Saudi Arabia to the north and Oman to the east. Yemen has a land area which is approximately 527,970 km2 and a population of more than 26 million (Al-Fadhli et al. 2015). Sana'a, is the capital of Yemen and the largest city.

The public finance sector is regarded as a sector that significantly contributes to the economic growth of countries. Recently, there have been significant transformations in the finance sector of developing countries because of its large effect on their economies. Such sector is worth investigating not only because of its volatile nature in terms of technological revolution and its policies, but also because of its significant contribution to the economies of the developing countries (Forouheshfar 2017).

In the past, the Yemeni government financial systems used to operate manually using basis accounting systems, which were represented a simple form of government financial services (Egol 1987). Then, the Republic of Yemen has become a big country which needs to meet all challenges and achieve its promises financial service. This made the government established and adopted technological systems to meet the urgent need to provide sound financial services for Its citizens (Oliveira & Martins 2011).

The public finance sector in Yemen is heavily relies upon information systems but it is still very weak due to several reasons such as a lack awareness of the importance of using information systems and the current conflict taking place in Yemen which had devastated the finance sector and made it weak. In addition, the

political instability and constantly changing of the administration in the public finance sector, which had impact on the improvement of ICT and organizational performance (Sanou 2011).

In the context of developing countries, legacy information systems are being gradually by modern information systems, which are characterized by more complex and sophisticated hardware and software applications (World Bank 2010). Such advances ad developments have forced organizations to re-assess the efficiency of information systems. This even accelerates the importance of information systems in all organizations, including private, public, and finance organizations (Altaany 2013). Compared to other Arab countries, Yemen also has weak framework conditions and innovation capacity that inhibit the government from obtaining the potential advantages of ICT (Bilbao-Osorio et al. 2014). The report issued by the National Information Center in Yemen showed that the use of information is still insufficient .

Table 1.1 Computers Usage / Readiness Index in Arab countries

Rank	Country/Economy	Value	NRI Rank (out of 144)
1	Qatar	5.22	23
2	United Arab Emirates	5.20	25
3	Bahrain	4.86	29
4	Saudi Arabia	4.78	31
5	Oman	4.56	40
6	Jordan	4.36	47
7	Kuwait	3.96	62
8	Tunisia	3.77	n/a
9	Egypt	3.71	80
10	Lebanon	3.64	94
11	Morocco	3.61	89
12	Algeria	2.98	131
13	Libya	2.75	132
14	Yemen	2.73	139

Source: The Global Information Technology Report 2014

1.2 PROBLEM STATEMENT

In some developing countries, organizational performance is still insufficient, especially in the public sector. This is due to three main reasons. First, the public sector in developing countries is described by poor organization, staff

mismanagement, and weak accountability (Moullin & Moullin 2017; Paul et al. 2016; Wambugu et al. 2017). Second, technologies in the public non-profit-sector often have more diffusion difficulties (De Vries et al. 2016; Troshani et al. 2011). Third, people in developing countries have a low human development index and underdeveloped industrial capabilities (Biagi et al. 2017; Gulati 2008). Therefore, governments have paid attention to the development of the public sector to increase its flexibility, innovation, and responsiveness to public demands.

To enhance organizational performance, previous research (Devece et al. 2017; Turel et al. 2017; Van Dooren & Van de Walle 2016) highlighted the importance of using information systems as a tool to accomplish different tasks. Many empirical studies (DeLone & McLean 2016; Petter et al. 2013) have used the Seddon (1997) and Delone and McLean (2003) IS success models as an integrated model to evaluate IS success to enhance organizational performance and they highlighted the main factors that influence IS success.

Factors that influence IS success have been of great interest for many researchers to increase organizational performance (Al-Mamary et al. 2014c; Omiunu 2015). Since IS usually increases the effectiveness and efficiency of an organization (Boonmak ; Boonmak 2007; Chang & King 2005; Heidarkhani et al. 2013; Reddy et al. 2009), these factors were analyzed from the organizational (Rezaei et al. 2009), environmental (Kearney & Morris 2015), and individual (Al-Mamary et al. 2014a) point of view. Therefore, earlier studies focused on the success of IS highlighted issues that need to be investigated.

Prior studies (Boamah 2014; Herzallah & Mukhtar 2015) pointed out that a lack of information culture is a major obstacle to the adoption of IS and electronic commerce in organizations. Mukred et al. (2017) explored the influence of information culture factors on employee behavioral intentions to adopt IS in the public health sector of Yemen. They found that a lack of information culture hampered the adoption of IS. They also regarded information culture as a suitable variable for determining IS success that needed further investigation. In addition, the authors also pointed out that there was a lack of research that can assist in evaluating the IS

success situation in the Yemeni public sector. To support this, previous studies (Choo 2013; Vick et al. 2015) found the information culture is positively associated with organizational practices that lead to successful business performance.

Information culture has a diverse impact because it is a combination of fields such as computer science, sociology, and psychology (Zimoch 2013). It has been measured in previous studies using factors such as perceived awareness and perceived need. The lack of awareness about the benefits offered by such systems is an obstacle to the use of information systems. Moreover, the lack of perceived need for technology means that such technology may not be used (Heart & Kalderon 2013; Wu & Ware 2015). Consequently, the lack of awareness and perceived need represent the main challenge that faces IS use in organizations.

When people interact in an organization to achieve its goals, interpersonal conflict may arise as a key problem that impacts the IS success and organizational performance (Moeller et al. 2012; Mukolwe et al. 2015; Zhang et al. 2014). Generally speaking, a conflict is a pervading phenomenon that permeates a multitude of organizational processes in an organization. IS use in organizations is a fertile environment with several issues, including conflicts that include interference and disagreement. A lack of understanding about such interpersonal conflict can lead to organizational ineffectiveness and inefficiencies. Another key reason why it is important to understand interpersonal conflict among users is that such conflicts can have negative consequences on user satisfaction (Khan et al. 2010; Leung 2010; Mulki et al. 2015). However, there is a lack of empirical studies that examine the direct effects of interpersonal conflict factors (interference, disagreement, and instability) on IS success.

In summary, evaluation of information systems has been widely performed using success models to enhance organizational performance. Previous studies (Chen et al. 2015; Dwivedi et al. 2015; Ghobakhloo & Tang 2015) focused on how technological and organizational factors influence IS success and organizational performance, while disregarding information culture and interpersonal conflicts factors.

Previous frameworks developed to evaluate the success of Information Systems (IS), such as the DeLone & McLean and Seddon models focused of the status of IS implementation itself. However, none of these success models included variables for assessing information culture and interpersonal conflict, even though studies have pointed at the strong relationship among information culture , interpersonal conflict and the success or failure of IS. Thus, these success models were extended to include information culture and interpersonal conflict variables.

There is a lack of studies that investigated the effects of combining information culture and interpersonal conflict factors in IS success models. Therefore, this study proposes a model and investigates the extent to which the combination of information culture and interpersonal conflict factors influence IS success, and in turn organizational performance in the public finance sector. More specifically, the purpose of this study is to fill previously highlighted research gaps by examining the information culture and interpersonal conflict factors that influence the success of IS among employees in the public finance sector in Yemen.

1.3 RESEARCH QUESTIONS

Based on the problem statement, the following questions are addressed by this study:

RQ1: What are the information culture and interpersonal conflict factors that influence IS success and enhance organizational performance?

RQ2: How can the model for information culture and interpersonal conflict in IS success be developed and validated?

RQ3: What are the main information culture and interpersonal conflict factors that influence the success of IS in the public finance sector of Yemen?

1.4 RESEARCH OBJECTIVE

The main objective of this study is to propose an information system success model that integrates information culture and interpersonal conflict factors to enhance organizational performance in the public finance organizations of Yemen. In order to achieve this, this study has the following research objectives:

RO1: To identify the information culture and interpersonal conflict factors that influence IS success and enhance organizational performance.

RO2: To develop and validate a model for IS success that uses information culture and interpersonal conflict factors.

RO3: To investigate the information culture and interpersonal conflict factor that influence IS success in the public finance sector of Yemen.

1.5 SIGNIFICANCE OF RESEARCH

The contribution of this study at the theoretical and empirical levels is as follows: from an academic perspective, many studies have investigated different factors that influence IS success to enhance organization performance. This study focuses on the information culture and interpersonal conflict factors that influence IS success in developing countries. In addition, there is a lack of research on information culture and interpersonal conflict factors, which have a significant influence on IS success and organizational performance. Thus, this study tries to fill these research gaps by investigating statistically describing these factors.

This research is an original attempt to establish a conceptual model and with dimensions or information culture and interpersonal conflict factors, which affect IS success within the context of public finance sectors. In addition, this study has the adds new knowledge to the field of information systems. From a practical perspective, this research introduced the first empirical study to investigate a proposed model that tests IS success in the public finance sector of Yemen. This study is expected to help

managers identify the factors that impact successful information systems in an organization.

This study also provides management with knowledge about the role of employee technology, information culture, and interpersonal conflict factors. It provides management with clear reasons to pay more attention to factors that affect successful information systems.

1.6 SCOPE OF RESEARCH

This study focuses on the public finance organizations of Yemen, which involve the Ministry of Finance (MOF), Tax Authority, Customs Authority, and Central Bank of Yemen. The public finance sector is a significant sector that has a high degree of control in all government organizations. It is very important sector for many reasons. The first reason is that most companies, banks, and ministries within the Yemeni government have strong links to the Ministry of Finance. Thus, assessing information system success in the public finance sector is necessary to discover issues that may affect its success and cause weak performance. Second, in the Arab Spring of 2011, the finance sector was one of the hardest hit in Yemen. Economists often tie the overall health of the economy with the health of the finance sector. Finally, the finance sector provides information and finance liquidity for businesses, banks, and ministries to continue their work and improve performance. If these activities are restricted, it stunts growth in both sectors.

The scope of this study is to investigate the influence of information culture and interpersonal conflict factors on IS success in Yemeni public finance organizations. The analysis of IS success covered technology, information culture, and interpersonal conflict. Information culture includes perceived awareness and perceived need. Interpersonal conflict includes interference, disagreement, and instability. Technology includes information quality, system quality, and service quality. Information culture and interpersonal conflict factors may together increase success rate among employees within the public finance sectors of developing countries.

This study examined Yemen for the following reasons. First, Yemen is a developing country that has made huge efforts to develop IS in the public finance sector. Second, there is a lack of studies on IS success in Yemen. Therefore, the findings from this study offer important insights into the effect of the investigated factors on IS success to enhance organizational performance in the public finance sector.

This study used quantitative and qualitative research methodologies with a Self-Administered Questionnaire (SAQ) to collect data. This study used SPSS version 23 to analyze the data and used Structural Equation Modeling (SEM) to develop and validate the proposed model.

1.7 OUTLINE OF THE THESIS STRUCTURE

This thesis is organized into six chapters as shown in Figure 1.2. CHAPTER I presents the background for organizational performance, information systems, IS success, and motivation, as well as this study's problem statement, research questions, research objectives, significance and scope. Chapter II presents an overview of information systems, information system success, success factors, information system success models, and information system success in the public sector. In addition, Chapter II presents a review of information system success in developing countries such as Yemen. Furthermore, Chapter II presents a review of integrated IS success and factors affecting successful of information system success.

CHAPTER III presents the development of the proposed model for this study for the investigation of the critical determinants in the success of information systems in the public finance sectors of developing countries. The proposed model and the research hypotheses are developed to achieve the research objectives and to answer the research questions based on the problem statement and literature review.

CHAPTER IV explains the methods used in this research, the study population, sampling procedures, and a description of the questionnaire. Moreover, this chapter describes qualitative and quantitative data collection and analysis. A

discussion of the validity and reliability of the research instruments is provided and the statistical tools used to test the research hypotheses and model structure are discussed.

CHAPTER V presents the analysis and discussion of data gathered from the survey and interview. Descriptive statistics, exploratory factor analysis, and confirmatory factor analysis techniques were performed using the SPSS tool followed by AMOS to understand sample characteristics. Chapter V also presents the validity and reliability of the research instruments. Empirical hypotheses testing and confirmation of the goodness-of-fit of the hypothetical model is discussed. Thematic analysis was conducted on qualitative data from semi-structured interviews.

CHAPTER VI concludes this thesis with objective achievement and the contributions of the research findings. It also discusses the limitations of this research study, explains the practical and theoretical implications of the findings, and provides suggestions for future work.

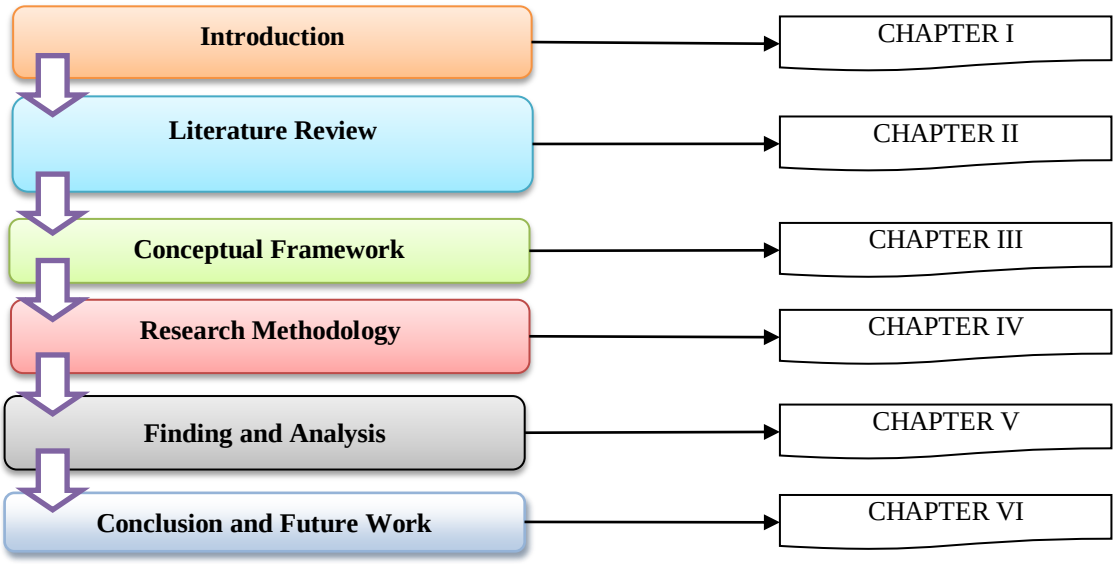

Figure 1.1 Thesis Structure

1.8 SUMMARY

This chapter provided an introduction to the research issues and problem statement in the current research area in conjunction with the research objectives and questions. It also provided general background of Yemen. More specifically, it describes an ICT infrastructure comparing to other countries the public health sector and HIS in the country. Moreover, the significance of the study was presented. The scope of this study, which is the influence of Information, Culture on the adoption of IS was also provided in this chapter. The description of the methodology used in the present study in its four stages was mentioned. The last section includes the structure of this thesis.

CHAPTER II

LITERATURE REVIEW

2.1 INTRODUCTION

According This chapter briefly provides a review of previous research. It starts with a discussion of relevant concepts and it moves to IS Success (ISS). The chapter also provides a review of previous related studies on the two main factor categories: information culture and interpersonal conflict factors.

This study proposes a model that integrates information culture and interpersonal conflict factors in IS success to enhance organizational performance through user perceptions in the public finance sector.

The chapter includes a literature review, focused on information culture, interpersonal conflict, and technical factors. The purpose of this review is to enrich our understanding of the impact of Information Culture (IC) and Interpersonal Conflict (IPC) on IS success dimensions to enhance organizational performance.

2.2 INFORMATION SYSTEM

Information Systems (IS) are used in different in national, public, or private organizations to organize and analyze data. Using information systems helps users find answers to questions related to an organization‘s mission. In addition, information systems are considered socio-technical systems (Carlsson 2007).

Information systems are defined as set of components used to retrieve, process, restore, and distribute data to decision-makers to provide control in an organization

(Berisha-Shaqiri 2014). Furthermore, the use of information systems helps managers and workers conduct problem analysis, complex subject visualization, and new product creation.

Information systems allow users to do their duties more effectively and efficiently by distributing processed information. The success of an organization depends on the effective interaction between information systems and users, which makes investment in information systems in economic sectors essential to success (Omotayo 2015).

Information systems are mainly used in public organizations because public organizations are dependent on information. Such organizations depend on collecting, storing, and retrieving information, which requires information systems. Therefore, it is natural to notice that many organizations have made huge investments in information management systems that will increase over time for two reasons. First, today everyone using a type of information system in daily activities. This is a focal point and public organizations cannot neglect customers who expect to use information systems when interacting with government agencies. Second, the efforts paid to the improvement of government organizations cannot ignore the need for information to make services more effective and more efficient, and to reduce costs.

2.3 INFORMATION SYSTEM SUCCESS (ISS)

It is important to evaluate information system success in private and public organizations. Research in information systems initially paid great attention to system efficiency as a measure of system success. This single measure depends on economic analysis regardless of the state of the economy. Managers usually invest in information systems when they have business and it is of great importance to measure if an information system helps achieve the goals of an organization. The mission of information system is described as “the effective design, use and impact of IT in society and organizations” (Ward et al. 2002). In other words, although researchers still use a single measure, which is the success, they shifted their focus towards user

effectiveness using variables such as usage, user satisfaction, system and information quality, and organizational impact.

Information System (IS) success was investigated in several studies aiming to identify the critical success factors (Bailey & Pearson 1983; DeLone & McLean 1992; Rai et al. 2002; Seddon 1997). These studies had developed different models for IS success that describe IS success dimensions and their relationship (Leonard & Riemenschneider 2008; Lin 2008).

The success of information systems is mainly recognized by academics and practitioners. There are many constructs that determine the success of information systems such as products, processes, stakeholders, user-satisfaction, and service dimensions (Tokdemđr 2009). A successful model for measuring IS success that has made significant contributions to the literature is the D&M IS Success model. Many researchers have written about this model such as (Gable et al. 2003), who wrote "the development of IS success models , such as the DeLone and McLean model, has been an important contribution toward our improved understanding of IS management".

2.4 DEFINITION OF SUCCESS FACTORS

This study involves several success factors and concepts that require broad operational definitions. These success factors are further elaborated in the literature review. The success factors are as follows:

2.4.1 Information Quality (IQ)

IQ is a measure of output quality from an information system (Petter et al. 2008). Rai et al. (2002), stated that information quality is an output quality that takes the form of information produced and used by the information system. Information quality belongs to the semantic level of information in communication theory, which concerns the interpretation of meaning by the receiver, as compared with the intended meaning of the sender (DeLone & McLean 1992). This variable is assessed in terms of features regarding the actual information produced by the information system, and

the degree that this information product matches user needs in terms of accuracy, reliability, relevance, completeness, precision, currency, and conciseness (Bailey & Pearson 1983; Rai et al. 2002). These attributes have been broadly studied in the IS research domain. Researchers have used many surrogate measures. Information quality is often a key dimension of end-user satisfaction instruments (Petter et al. 2008; Tajuddin 2015). As a result, information quality is often not distinguished as a unique construct but is measured as a component of user satisfaction.

Bailey and Pearson (1983), developed a user satisfaction instrument with nine items for information quality, which were accuracy, timeliness, precision, reliability, currency, completeness, format of output, volume of output, and relevancy. The instrument was validated by several researchers (Almutairi 2001; Iivari & Ervasti 1994; Ives et al. 1983) and has become a standard measurement in the IS field. Delone and McLean (2003) characterized information quality using relevance, completeness, ease of understanding, personalization, and security, and used these factors to measure ecommerce systems success.

2.4.2 System Quality

System quality is used to measure the quality of an information technology system (Delone & McLean 2003). In the DeLone and McLean success model (1992), system quality measures technical success. System quality needs indicators to measure the quality of an information system. For measuring system quality, Srinivasan (1985) used response time, system flexibility, and system access. While Bailey and Pearson (1983) used comfort, flexibility, system integration, and response time and McGill et al. (2003) used portability, reliability, understandability, and user friendliness.

According to Delone and Maclean (2003), the perception of system quality is that it is a technical group communication problem, which is concerned with how good a system is in transferring the symbols of communication. In DeLone and McLean's (1992) view, system quality is the desired characteristics of an information system and the main objective of the system is information production for users and decision makers. Seddon (1997) argues that system quality is concerned with issues

such as system bugs, user interface, ease of use, quality and maintenance of program codes. According to Petter and McLean (2009), system quality is the performance of IS in terms of reliability, convenience, ease of use, functionality, and other system metrics. However, DeLone and McLean (2003) suggested that system quality, in an internet environment or e-commerce systems, assesses the desired characteristics of an electronic system.

Measures of system quality in the literature include flexibility, stability, reliability, usefulness, user-friendly interface, ease of use, and response time (Bailey & Pearson 1983; Wu & Wang 2006). Important attributes in e-system or e-commerce according to DeLone and McLean (1992, 2003) are usability, availability, reliability, adaptability, and response time. DeLone and McLean (2003) found that system quality was measured in terms of performance, which includes portability, integration, facility in use, reliability, data quality, and flexibility. It is concerned with whether there are errors in the system, its ease of use, response time, flexibility, and stability. This latter definition was adopted in this study and these criteria are equally applicable to measuring information system success in public finance.

2.4.3 Service Quality

This construct was new in the updated D & M model and many researchers have included it as a measure of IS success. DeLone and McLean (2003) defined service quality as the overall support delivered by service provider regardless of whether this support was provided by an internal IS department, a new organizational unit, or outsourced to an Internet Service Provider (ISP). They (DeLone & McLean) also considered it as an important measurement since, in e-commerce, users are customers and poor user support will lead to customer loss and lost sales. Many other researchers define service quality as the degree to which a service meets the expectations of customers (Parasuraman et al. 1988)

SERVQUAL is a popular instrument for measuring IS service quality and is designed for marketing research (Pitt et al. 1995). Attributes of SERVEQUAL instruments includes responsiveness, assurance, empathy, follow up service, and

technical support (Parasuraman et al. 1988). According to Zeithaml et al. (2002), it needs additional dimensions to measure e-service quality. At the University of Bath, the ServQual instrument was developed and it was initially known as WEBQUAL. The instrument was developed to measure user quality perceptions of e-commerce websites.

2.4.4 Perceived Usefulness

There are many definitions for perceived usefulness, but it can be looked at as the feelings of users on the importance of information systems to improve user job performance (Davis 1989). According to (Davis 1989), perceived usefulness is considered an indicator for the success of an information system. From another perspective, Seddon's 1997 model looked at perceived usefulness as user beliefs that an information system had improved their performance or the performance of the organization. Accordingly, perceived usefulness is a surrogate measure for the advantages of an information system. In addition, the evaluation of user satisfaction was measured after using IS, which is considered a post-assessment of perceived usefulness (Maes & Poels 2007).

The use of information depends on user perspectives concerning the perceived usefulness of technology use and its importance to improving workplace performance. Therefore, users will decide to use an application if they believe that this application will help them to achieve their job in a better way. From the perspective of Visser et al. (2013)considering use as a measure of IS success makes sense for voluntary users but not for captive users.

Seddon (1997) extended De Lone and McLean's (1992) model by replacing IS use with usage benefits. The researcher adopted Seddon's perceived usefulness as a measure for IS success instead of system use as in the model of DeLone and McLean. The importance of perceived usefulness was highlighted by Seddon and Kiew (1996),

who stated that "non-use does not necessarily mean a system is not useful, it may simply mean that the potential user has other more pressing

things to be done". There are other researchers who replaced the usage construct with usefulness such as (Hsieh & Cho 2011; Hussein et al. 2007a; Landrum et al. 2008; Pai & Huang 2011).

2.4.5 User Satisfaction

User satisfaction is considered the most effective measure for the effectiveness of (Delone & McLean 2003), and it is considered the most widespread measure of success (Petter et al. 2008; Sedera 2005). This is accepted by many researchers because "it is hard to deny the success of a system which its users say that they like" (DeLone & McLean 1992), and that a "good" system that is perceived by the users as a "poor" system is actually a poor system (Thong et al. 1993). Nevertheless, user perceptions concerning a system is only one construct and there are other dimensions for system impact (Delone & Mclean 2003).

The most widespread measure of IS success is user satisfaction according to (Delone & McLean 2003). User satisfaction has different meanings according to the perspective of the author, and this lead to the development of different measures for satisfaction (Maes & Poels 2007). One of the definitions for satisfaction is given by Bailey and Pearson (1983), who looked at satisfaction as a construct that differs from one situation to another. Bailey and Pearson (1983) defined satisfaction as user feelings attitudes concerning the different factors affecting a situation. Seddon (1997) defined satisfaction as the assessment of various consequences in the form of pleasant and unpleasant continuums. In the models of DeLone and McLean (1992) and DeLone and McLean (2003), user satisfaction was perceived as the overall feeling of a user concerning satisfaction towards a system (Seddon & Kiew 1996).

Researchers have operationalized user satisfaction in different ways. Kašubienė and Vanagas (2007) assessed user satisfaction with a single item, which asked users about their satisfaction towards a system. In addition, researchers investigated not only the meaning of satisfaction but also its relationship to other variables. Thus, some researchers investigated the relationship between user satisfaction and organization maturity in terms of IS.

There are few studies that have investigated the relationship between user satisfaction and individual job performance. Nonetheless, the studies that have investigated this area showed that there is a strong relationship between user satisfaction and individual impact (Iivari 2005b; Sharabati et al. 2015). Some studies found that user satisfaction has a positive effect on user job performance (Jalal & Al-Debei 2012; Liere-Netheler et al. 2017). Other studies found that user satisfaction improves performance (McGill et al. 2003; Zamil & Shammot 2011), effectiveness, and productivity (Halawi et al. 2008; Rai et al. 2002). Other studies showed that there is a positive relationship between user satisfaction and decision-making (Paul et al. 2004). The result of Bakotić (2016) showed that there is strong and significant association between user satisfaction and organizational performance.

A different approach was used by other researchers, who created multi-item instruments to assess user satisfaction. One instrument was developed by Bailey and Pearson (1983) to assess the general satisfaction of the users through 14 items, which focus on user perceptions on the success of an information system. This instrument was reduced to 8 items by many researchers such as (Hussein 2010; Iivari & Ervasti 1994). Iivari and Ervasti (1994) studied 8000 employees and proved that the instrument was valid and reliable.

2.4.6 Organizational Performance

Organizational performance is one of the most important constructs to achieving organization goals (Richard et al. 2009). The term Organizational Performance (OP) refers to the task of organizing the actual output or results of a given organization by measuring results in comparison to intended objectives. OP measures how stakeholders make a use of available resources to accomplish organization goals and meet their needs in an effective and efficient way (Mark & Nwaiwu 2015). Previous research showed that OP results in a high level of satisfaction, which can be the basis for improved productivity and efficiency, which in turn, can attract and reward new talent.

Organizational performance, information systems, and success are three related concepts investigated in previous studies. Information systems are utilized in organizations to make employees accomplish their tasks in an integrated and timely manner. On other words, the aim of information system is to enhance organizational performance by allowing employees to be more efficient. However, the enhancement of OP depends on the success of IS, which has been measured using several factors. Thus, the success of IS usually leads to enhanced organizational performance since it is defined as the degree of organizational performance (Torkestani et al. 2014).

Some researchers focused on the influence of information systems on Organization Performance (OP) as it is considered a good method to measure the efficiency of an organization (Sedera & Gable 2004). Hence, the success of Information Systems (IS) is viewed as the extent to which OP is achieved as a result of IS use (Cho et al. 2011; Delone & McLean 2003; Rai et al. 2002).

The model developed by DeLone and McLean (1992, 2003) evaluated the success of information systems. This model proved to be an effective framework to measure the effectiveness and success of the information systems as the success and effectiveness of information systems depend on user perceptions (Petter et al. 2013). Thus, the success of information systems depends on the positive perception of users on the information system and organization performance (Delone & McLean 2003).

2.5 INFORMATION SYSTEM SUCCESS IN PUBLIC SECTOR

It is important to evaluate information systems in private and public organizations and their success. The development of information systems paid great attention in the beginning to system efficiency as a measurement of system success. This single measurement depends on economic analysis regardless of the state of the economy, and it concentrates on the success of information system investment. Managers usually invest in information systems when they have business and it is of great importance to measure if an information system helps achieve organizational goals. In other words, although researchers still use a single measurement, which is the success,

they shifted focus towards user effectiveness variables such as usage, user satisfaction, system and information quality, and organizational impact.

There have been many attempts to define Information Systems (IS) success but they have mostly been in the private sector. The public sector around the world is "overburdened and under severe pressure" (Clemensen et al. 2011). Consequently, there is an increasing awareness of the necessity of improving government information systems (Kitsiou et al. 2010). Developing an appropriate and comprehensive information system is important to the success of information systems in developing countries (Lippeveld et al. 2000). Information systems within the public sector include interactions between people, processes, and technology to support operations and management in delivering essential information and improving information service quality (Almunawar & Anshari 2012). The objective of information systems is to improve the management of information services through an optimal information support (Lippeveld et al. 2000). Moreover, there are several problems within public sector IS such as a lack of trained personnel, a lack of information culture (Karuri et al. 2014; Wilson et al. 2001; Zheng et al. 2009), and interpersonal conflicts between employees (Wang 2015). Due to the rapid development of IT, the nature of the industry has changed over time and new information cultures and conflicts have emerged.

Davenport and Prusak (1997) called for a shift in focus towards information culture away from business success. the cultivation of a mature information culture to increase the success technological innovations in the public sector is crucial (Karuri et al. 2014; Wright 2013; Zheng 2005). This study emphasizes IS success in the public sector by investigating different influences related to information culture and interpersonal conflict.

2.6 INFORMATION SYSTEM SUCCESS IN DEVELOPING COUNTRIES

There are many factors that hinder the success of information technology in developing countries (Al-Mamary et al. 2015; Alshardan et al. 2013; Hawari & Heeks 2010; Mukassa 2012). There are many studies that have investigated literature failure

such as (Sweis 2015; Urbach et al. 2009), and there is a specific literature on IS failure in different developing countries such as (Dwivedi et al. 2015; Heeks 2002).These studies provide a background for the failure of information systems. These studies have received criticism from different scholars who argued that these studies did not provide sufficient explanation for failure causes, and they did not account for different contexts that lead failed information system implementation (Buruncuk & Gülser 2004; Kaur & Aggrawal 2013).

The literature that deals with the failure of information systems provides ideas on the cause of IS failure (Mirza 2010). The notion of 'fit' is key to many studies, which means that match and mismatch is the main factor that determines the success or failure of an information system. This idea has been interpreted in different ways. Bhatt (2001) tried to explain the meaning of fit between different IS factors such as process, people, structure and technology. Other studies tried to understand the meaning of fit between different groups of stakeholders such as their assumptions and their expectations as in (Orlikowski & Gash 1994).

Another strand used to develop this study's model was taken from the Enterprise Resource Planning (ERP) literature, specifically the failure of ERP systems in developing countries. Previous studies tried to explain these failures and relate them to different factors such as lack technological skill, lack of money, poor quality data, cultural issues, and user resistance (Rajapakse & Seddon 2005; Soja 2008; Wong et al. 2004). According to Garcia-Sanchez and Pérez-Bernal (2007), it is better to avoid making a list of factors because there is a need for an ERP contingent approach that is able to identify implementation issues according to the setting because different settings might have different issues.

There are many researchers who came up with IS success models such as (DeLone & McLean 1992; Delone & McLean 2003; Sabherwal et al. 2006; Seddon 1997), but there is a concern concerning the failure of information systems in the developing countries. In this regard, (Heeks 2002) states "There is evidence and there are plenty of practical reasons such as lack of technical and human infrastructure to

support the idea that failure rates in developing countries might be higher, perhaps considerably higher, than this threshold".

The study of Ndiege et al. (2012), assessed information systems in Kenya using Social and Environmental Management Systems (SMEs). The results showed a low IS usage rate among SMEs because of a lack of skilled IS users and SMEs managers. Also, the design of information systems was poor and it did not take into consideration SME needs. The study also used the model of DeLone and McLean model (D&M) to evaluate the success of IS, and the results show that the model is not suitable for evaluating IS success in developing countries. Another study was conducted in Malaysia by Wei et al. (2009), who re-specified the D&M model. The results gave a broad understanding for the factors that affect IS success and the author gave suggestions to improve IS usage.

There is a tendency in developing countries to improve IS success, especially in the public sector. This has attracted the attention of international agencies, governmental organizations, nongovernmental organizations, and donors to improving IS success (Lewis 2006). In addition, developing countries face many challenges to reforming and improving information systems to ensure their success and overcome challenges.

Developing countries have a tendency to follow developed countries and use information systems, however, some of developing countries are still using the traditional paper method to report data (Lippeveld et al. 2000). The authors added that these systems are complex, inadequate, and infective. They also reported that some institutions in developing countries lack basic technological needs like telephone lines inside their institutes. The authors argued that the problem is related to decision makers because some of the technological needs are available but there is negligence from decision makers to utilize them inside their institutes.

Studies that deal with the success and adoption of IT and IS in the banking industry of developing countries such as Egypt are scarce (Hussein 2010). A comparison between developing countries and developed countries shows that there is

a gap in the literature in this field because most of studies that deal with the application and adoption of IT and IS were conducted in the US, Europe, and Australia (Gupta & Collins 1997; Pikkarainen et al. 2004). There is a concern regarding Arab nations, especially Yemen, because the banking sector depends too much on IT and IS. There is a lack of empirical studies that investigate the success of IT and IS in the finance sector in Yemen, and this study will address this issue.

Organizations in both developed and developing countries use information systems to solve problems and challenges, to improve their work process, and to provide better services to customers. Hence, the effective implementation of IS in organizations has a positive impact as it benefits the organizations, employees, and customers. There are many factors that lead to the failure of IS in developing countries, which include bribery, lack of support from the top management, lack of organizational learning, inconsistency in the system life-cycle in terms of requirements, a lack of personnel who are knowledgeable, a lack of skilled personnel, corruption, and early retirement (Mulira 2007).There are misunderstandings surrounding information systems in developing countries because there are many contextual factors that affect IS use, and different settings have different factors which should be taken into consideration.

2.7 INFORMATION SYSTEM SUCCESS IN YEMEN

The long-term strategy for the Republic of Yemen is to improve institutions and organizations to provide efficient and reliable services to Yemeni citizens. There is a tendency nowadays to increase information technology usage in all the sectors, which includes plans to enhance information system usage in work processes and communication tools. The aim of implementing and using information systems is to provide a general database that links all organizations and agencies. This will help agencies to access databases to provide rapid and effective services to citizens. Moreover, the aim of the Yemeni government is to enhance information systems to encourage economic growth and provide better services to the public, and this explains the tendency of the Yemeni government to implement e-government in both private and public organizations.

The study by Alsohybe (2007) aimed to evaluate the readiness of organizations to implement e-government systems and investigate the current state of IT in Yemen. The results of the study showed a need for information systems in Yemen because both developed and developing countries need technology to link productivity and knowledge, and economic growth and competitiveness. The study also showed that e-government will improve government effectiveness, efficiency, transparency, and accountability.

Another study was conducted by Al-Mamary et al. (2015), who adopted a model that linked success factors (technology, organization, and people) to evaluate the technological capability of an organization. The study investigated the relationship between these factors with user satisfaction and perceived usefulness to improve individual performance. The data used in the study was collected from telecommunication companies in Yemen. The results of the study showed a positive relationship between the three success factors with user satisfaction and perceived usefulness with improved individual performance.

Al-Nashmi and Amer (2013) conducted a study to evaluate the effect of adopting IT on employee productivity in private organizations in Yemen. The study focused on three IT variables that reflect the importance of information technology and its adoption. These factors were IT infrastructure, IT innovation, and IT knowledge management. The results of the study showed that employees in nongovernmental organizations were skilled in information technology adoption, and that information technology knowledge management was the main variable that affected employee productivity.

Another study Al-Haderi (2013), conducted in Yemen by (Al-Fahim et al. 2014) aimed to investigate the factors that influence internet banking service adoption. The focus of the study was on the managers and owners of Small and Medium Enterprises (SMEs). The framework of the study had five variables, one of which was endogenous and four of which were exogenous. The exogenous variables included environmental factors like regular support, ICT readiness, competitive pressure, and finance institution support whereas the endogenous variable was intentions towards

Internet Banking Service Adoption (IBSA). The results of the study showed that the highest predictor that influenced Internet Banking Service Adoption was competitiveness, with regular support and financial institution support coming in second and third, respectively. ICT readiness had a negative effect on Internet Banking Service Adoption in Yemen.

The study by investigated technology acceptance in Yemeni culture through the public sector. The study used the technology acceptance model to examine the self-efficacy factor in terms of its role in facilitating the transaction of information between the government and top management. The study showed that managers and employees had the skills to use technology inside organizations. The study also revealed a positive effect from self-efficacy on technology use, which was affected by perceived usefulness and ease of use.

Ameen and Ahmad (2013) developed a Financial Information System Quality Model for Enhancing Anti-Corruption Strategies (ACS) based on information system success theory and principal agent theory. They investigated the underlying factors within FIS and ACS that reduced corruption and identified significant factors that would boost FIS. Based on an empirical study on Yemen, the findings elucidated the influence of IS factors on corruption reduction in the public sector and the influence of FIS characteristics on anti-corruption strategies.

Mukred et al. (2017) explored the influence of information culture factors on employee behavioral intentions to adopt IS in the public health sector of Yemen. Information culture factors have been suggested as important predictors of IS adoption. They revealed that self-efficacy, social influence, performance expectancy, and perceived access significantly influenced employee intentions to adopt IS. Perceived need, perceived information sharing, and effort expectancy significantly influenced attitude, which in turn influenced behavioral intentions. In addition, perceived awareness negatively influenced behavioral intention.

By examining the IS/IT literature in Yemen, this study found that here was a lack of research on evaluating the IS success situation in the Yemeni public sector.

Thus, this study investigated the influence of information culture and interpersonal factors on IS success.

2.8 INFORMATION CULTURE DIMENSION

In this study, culture and information culture are distinct concepts, although both concepts are difficult to define or to understand. As defined by Kroeber and Kluckhohn (1952), culture is the cumulative system of knowledge, values, norms, meanings, religion, roles, relations, notions of time, concepts of the universe, beliefs, materials, and objects owned by people and passed down through generations of both individuals and groups (Hofstede 1991). The author added that information culture is concerned with individual attitudes, beliefs, and knowledge about information and technology (Curry & Moore 2003; Travica 2008) . Thus, information culture combines fields such as computer science, sociology, and psychology (Zimoch 2013). It is related to the culture shaped in the process of IT construction (Yan 2010). Information culture is about information systems, common knowledge, and individual attitudes towards information systems (Widén-Wulff 2000). According to Foscarini and Oliver (2012), information culture emerged in the mid-1980s in the context of failed IS projects. The same author argued that misfits between the culture embedded in a technology and that of an adopting organization lead to these failures.

Information culture is not a new concept, this it has not been widely used in previous related research. Its use has been exclusive to information and knowledge management (Choo 2013; Curry & Moore 2003; Martin et al. 2003; Twati & Gammack 2006), library and information science (Oliver 2004; Ponjuan 2002), information technology (Bandyopadhyay & Fraccastoro 2007; Chase 2008; Martin et al. 2003; Tomlin 2008; Travica 2008), and healthcare science (Mukred et al. 2013; Riyaz 2009; Simwanza & Church 2001; Zheng 2005). Furthermore, direct conceptualizations of this term are rarely found in previous studies (Travica 2005).

In an argument advocated by Widen and Hansen (2012), each organization possess its own information culture. Therefore, it is important to understand the information culture of a given organization or group to manage information behavior

(Davenport & Prusak 1997). As added by Travica (2005), information and IT are important for they contribute to the cultivation of information culture in an organization. In such information culture, information is the core of organizational decision making (Curry & Moore 2003; Kivinen & Lammintakanen 2013).

In another study by Islam (2007), the researcher argued that the environmental and contextual factors surrounding a given study are factors that determine the investigation of information culture in that study. Regarding the determinants of information culture, Maury (2010) pointed out that information culture is a meaningful social experience, which evolves through information interaction by linking human, physical, and technical dimensions. In corroborate this, Martin et al. (2003) referred to information culture as a system of shared meanings and knowledge that are enacted through people, processes, and technology. Barron et al. (2008) reported that data analysis at the facility level in a given country contributes to the creation of information culture. This suggests that the investigation of information culture differs from one context to another.

Information culture and organizational culture are related to each other (Curry & Moore 2003). In this sense, information culture is used as an initial point when investigating how information is managed in the context of health care. The same researchers pointed at the difficulty involved in quantifying and qualifying culture and information. Therefore, they stressed the need to measure and develop information culture. It was argued that although information culture is frequently cited in previous research, there is no unified definition of the concept that was agreed upon by researchers. The researchers emphasized that the cultivation of information culture needs a well-developed organizational culture. This underlies the interconnection between both information culture and organizational culture. Both concepts share common characteristics, including beliefs, values, and assumptions. After six years of Davenport's argument against an emphasis on information technology as the sole solution to issues arising from information management, the researchers suggested that technology adoption alone is not adequate to address and solve such issues. This means that a sound information culture compliments the delivery and efficient management of information technology (Curry & Moore 2003).

Choo (2013) defined information culture as the inclusion of norms, values, and practices that managing and use information. The same researchers, in investigating the information culture of a large Canadian law firm, found that origination operations heavily depend on how information is found, shared, and processed. Thus, how people use and share information is determined by their perceived values and their information culture. The researchers also made a distinction between values and norms. While the first refers to how information is perceived in terms of contributing to organization efficacy, the latter refers to the rules and standards that are socially acknowledged that determine what is normal and accepted in a given organization. Thus, values refers to the ways a given organization creates, manages, and uses information, while norms can be either formal or informal. Informal norms influence on how information is created, used, and distributed individually and collectively. Formal norms are the policies, routines, and rules used to make plans, provide guidance, and achieve control over information as an asset (Choo et al. 2006). From these studies, information culture enables organizations to compete using information. Due to the rarity of research on information culture, this study is expected to contribute to the literature.

Ginman (1993) and Widén-Wulff (2000) investigated how to improve the way information is accessed and utilized to create successful businesses. The researcher answered this question by stressing the need to identify the features of positive information cultures and to implement such cultures according to organization needs. As argued by Grimshaw (1995), activities related to information enable organizations to successfully compete. This researcher assumed that the success of any organization depends on the quality and value of its information, management, communication, and sources. Thus, information culture encompasses how employees value information, and their norms and attitudes towards information (Choo et al. 2006; Douglas 2010). As defined by Douglas (2010), information culture is an complicated emerging system of attitudes, values, and behaviors that influence information use in a particular organization. Hence, wherever there is an organizational culture, there is an information culture because information culture is influenced by the organizational culture as well as the overall societal culture. Mukred et al. (2013) argued that information culture is becoming an important criterion of general personality culture.

2.8.1 The Importance of Information Culture

Previous studies indicate that information culture is an inspirable part of organizational culture. Therefore, identifying gaps in cultivating a sound information culture is important in motivating seniors managers to foster their sense of commitment to an organization and cultivate strategies that are intended to promote a good information culture in the public sector and to strengthen its relationship with IS performance (Aqil et al. 2009). Choo et al. (2008) pointed out that information culture is perceived as the components of organizational culture that affect how information is managed and used. It should not be regarded as an alternative or additional service, and it should be locally valued and rewarded as part of any occupation (Kay 2011). The same author added that information culture must be explicitly supported by the chief executive officer of any organization, who should be committed to using it in the decision making process.

The understanding of information culture is important to the study of information systems, as it can impact the successful implementation and use of information systems. The literature has showed that information culture influences information systems. Zheng and Heeks (2008) reported that technology and information culture influence each other. The potential of technology is that it has a critical role in enacting, reproducing, or amending information culture, and that information culture significantly contributes to framing and constraining technology use. Moreover, Chaulagai et al. (2001) linked the development of health systems with the development of information culture. Mursalin and Haque (2001) stated that the absence of a real information culture in health service management limits the appropriate use of information generated by new systems. In line with this, Mursalin and Haque (2001) argued that the lack of an information culture can be the biggest constraint to any health system reform.

Herzallah and Mukhtar (2015) pointed out that information culture factors have a positive relationship with the adoption of e-commerce. Choo (2013) showed that the development of information culture is positively associated with overall business success. Therefore, human activities regarding information culture can be

either positive or negative. As a result, information culture problems are considered a challenge that can be overcome by addressing these issues accordingly (Svärd 2014a; Svärd 2014b).

In stressing the need for information culture in the health organizations of developing countries, previous research pointed out the challenges faced by organizations in enhancing healthcare through IT usage. Williamson et al. (2001) stated that one key to achieving sustainable development is developing an information culture derived from the local environment. It was concluded by Zheng (2005) that it is necessary for developing countries to adopt holistic approaches to cultivating a modern information culture, and create changes related to incremental social institutions and technological innovations. Chaulagai et al. (2001) pointed out that the absence of information culture poses a major challenge to the development of Health Management Information System (HMIS). The same author linked the development of HMIS with the development of information culture.

Performance is a process of achieving sustained success in organizations by improving individual capabilities and organizational performance. Previous studies (Ahmad 2012; Eisend et al. 2016) found institutional culture has a significant relationship with organization performance. The findings of their studies showed that organizations with a good culture showed higher performance and improved success rates.

From the literature review, it is crucial for stakeholders in the public sector to promote information culture to improve data quality, which leads to a rational decision-making processes and consensus in IS integration. In this regard, Yang (2012) argued that creating appropriate attitudes towards IT use in information processing through cultivating an information culture is an important issue.

2.8.2 Information Culture Factors

The foundation of this study's framework are concerns information culture factors and their definitions. previous study highlighted the influence of culture on the success of

projects and information systems (Kummer & Schmiedel 2016). Information culture refers to the attitudes, norms, implicit assumptions, beliefs, and values prevail in a given institution (Mama 2006). Based on a reviewers of previous studies, factors pertinent to the information culture include perceived awareness and perceived need (Pololi et al. 2012). The same two factors were emphasized by Mukred et al. (2017) as mostly reflecting information culture. In this study, such factors were considered because they are assumed to result from the intersection between information culture with perceived usefulness and user satisfaction factors, particularly in the public sector. More details on these factors are as follows:

a. Perceived Awareness

As defined Rogers (1995), perceived awareness is personal knowledge about the availability and benefits of using information systems. It also refers to individual consciousness or awareness of information value (Chiemeke & Evwiekpaefe 2011). Thus, perceived awareness implies obtaining adequate knowledge and user consciousness in learning how to use a given system, knowing its properties, being skillful in using it, obtaining a better understanding of how it functions, and what its strengths and weaknesses are (Shareef et al. 2011). Within the above highlighted definitions of awareness, Dinev and Hu (2007) considered technology awareness as an important factor that facilitates an understanding of user behavior. Hence, individual awareness of an innovation plays a key role in encouraging potential adopters to search for information and in motivating organizations in adopt innovative technologies. According to Greenhalgh et al. (2008), the adoption of an innovation is an individual process comprising five stages: awareness, persuasion, decision, implementation, and confirmation. In a study by (Shareef et al. 2011) the researchers examined factors that assist citizens in adopting e-government. Based on their results, it was suggested that both public sector administrators and policy-makers should obtain a better understanding of the role of both perceived awareness and perceived ability in e-government adoption. This explains why Fink and Disterer (2006) and Qiang et al. (2006) considered poor ICT awareness and a lack of technical skills as the main impediments to ICT adoption.

The literature reviewed highlighted the importance of perceived awareness as a construct of TAM. In a study by Fonchamnyo (2013), the researcher attempted to extend the TAM model by including perceived awareness when investigating E-banking in Cameron. It was found that perceived awareness exerted a significant influence on user attitudes towards E-banking adoption. In another study, Daud et al. (2011) focused on potential factors affecting mobile banking adoption in Malaysia by including awareness in their model based on the argument that a lack of awareness of the value of mobile banking is the main reason behind users reluctance to use mobile banking. This lack of awareness was found to be a hindrance to mobile banking adoption. In the same context and domain, Pikkarainen et al. (2004) carried out a study into the success factors of Mobile Banking adoption in Malaysia. Concerning this awareness factor, the researchers found that user awareness of information and its value in e-banking influenced their adoption of mobile banking.

Amin and Lada (2008) conducted a study in which they used the TAM model for the purpose of exploring influential factors for the use of an SMS Exam Result Query System among university students. It was recommended that the modified model should be inclusive of user perceptions. In an evaluative study on the awareness and acceptability of e-government services ICTs in Jordan. Al-Jaghoub et al. (2010) identified low awareness of the value of ICT and a lack of technical skills as two main barriers to ICT adoption.

According to Madisha (2012), a poor level of awareness has negative effect on ICT adoption. In another study by Mukama (2003), workers involved in health care in developing countries need to be trained on the value and handling of information. This emphasizes the need for further information regardless of whether users are aware of its value.

Concerning the importance of awareness in studies on information culture factors, Granger (1999) argued that one of the most influential factors to the development and sustainability of information culture in organizations is a lack of awareness. This is similar to what was reported by Yan (2009), who identified awareness as a factor of organization information culture that plays a role in forming

the course of IT. Hence, information culture is sometimes viewed as information awareness and information literacy among individuals and groups in a given organization. As pointed out by O'Farrill (2008), awareness of information sources needs general or specific knowledge.

In other studies (Al-Somali et al. 2009; Czaja et al. 2006; M et al. 2014), perceived awareness and perceived usefulness were found to be positively correlated. For instance, Darehshori and Mohamed (2013) reported a direct influence from perceived awareness on perceived usefulness. According to Stuart (2010)increasing the level of awareness among customers led to increased satisfaction, which means that perceived awareness has a positive influence on satisfaction.

In this study, awareness plays an important role in examining information culture in the public finance sector. It refers to the extent to which employees in this sector are aware of the value of current information systems in developing their knowledge and their awareness of how the system functions, of how to use it, of its advantages and disadvantages, and of how it can be utilized to achieve success. Employee awareness of information systems fosters the use of IS to increase organization competitiveness and achieve organizational goals (Agourram & Robson 2006). Awareness should be focused on maximizing employee attention in issues that hinder IS success, especially for employees that do not understand IS applications. This is because a lack of awareness will lead to failed IS applications. Therefore, there should be constant attention to employee information awareness using applications, tools, communication, and metric development. Moreover, awareness plays a role in increasing organizational performance. However, awareness of effective IS use needs further training for both employees and users.

b. Perceived Need

Perceived need is defined as the extent to which a system is needed by an individual's job (Scornavacca 2010). It also refers to the difference between a person's current knowledge and skills and what their knowledge and skills should be. In IS studies, the concept of perceived information need has been used as an alternative to perceived

need (Scornavacca 2010). Moreover, there is still a need for more research on the relationship between perceived need and perceived usefulness (Glassberg 2000; Oliver 1995; Yeh & Teng 2012). For instance, O'Donnell et al. (2011) found that a direct influence from perceived need on user perceived usefulness. Perceived need was also found to be positively correlated with IS satisfaction (Yeh 2009). For this study, perceived need is the level to which an IS application is needed by an individual's performance of work-related tasks and duties. Thus, this study assumes that a person's perceived need has a positive influence on perceived usefulness and satisfaction towards IS success.

Previous research indicates that perceived need had a significant impact on technology adoption (Uzoka et al. 2011). It is a factor that plays an important role in predicting technology use (Czaja et al. 2006) . It is one of the important factors that determines acceptance of technology adoption (Czaja et al. 2006; Peek et al. 2014).

Considering that perceived need is an important construct in the public sector, it is important for the public sector to adopt technology that can be easily used, is safe, and meets information needs. This is because perceived need for change is the basis for innovative technology adoption (Zhu 2013), and it makes it easy to adopt a given technology (Peek et al. 2014). Although innovation needs may vary between stakeholders, a lack of perceived technology need means that such a technology may not be used (Heart & Kalderon 2013; Wu et al. 2015).

Similarly, in a systematic review by Reeder (2010), the researcher evaluated information needs among public health practitioners. Based on the results, such practitioners should be involved in the technology design stage to support information needs in executing work activities.

One of the main reasons leading to failed IS implementations is a lack of knowledge about end user information needs (Ely et al. 2005). Although research has highlighted the importance of perceived need, this construct has been almost ignored among public policy makers (Al-Dousari 2009; Fen & Sabaruddin 2009).

In a study by Romano (1994), nurse adoption of computerized information technology was facilitated by perceived advantages such as innovation, perceived need, and values. According to Naiman (2013), addressing perceived needs resulted in the adoption of innovations among clinicians. In addition, it was concluded by Revere et al. (2007) that to meet information needs among public health practitioners, it is necessary for implemented technologies to be easily accessible and for sources of information to be updated, cheap, relevant to specific fields, stable, and flexible.

According to Gendina (2004), there are some parameters that measure information culture, including the ability to independently formulate individual information needs and the ability to get information from relevant sources. Rhino (2001) related information culture to failed IS implementations, and the researcher added that the information needed at the community level is almost neglected in the design of the routine information phase. Information needs that are poorly defined that are identified in this early implementation stage may fail to efficiently collect information. Finally, the information culture of a given society plays an important role in dictating peoples perceived information needs in their daily lives (Riyaz 2009).

Based on the literature, perceived need and its relationship with usefulness and IS satisfaction should be emphasized among employees in the public sector. This means the cultivation of a new culture that embraces this construct as an important factor in determining the success of IS applications. In this study perceived need was defined as the perception of IS need among employees in their daily work-related activities, work requirements, and obligations.

Yeh and Teng (2012) stated that the use of IS in organizations to accomplish an assigned task efficiently and effectively can be recognized as existence need. Thus, employees who tend to effectively carry out their job duties using information systems will have greater perceived needs. This need will make them more satisfied with information system use. Based on their findings, there is a positive relationship between perceived need and user satisfaction.

2.9 INTERPERSONAL CONFLICT DIMENSION

Generally speaking, as human beings, no one is exempt from being exposed to conflict in their daily routines at the interpersonal or intrapersonal level. As humans we live with conflict because our experience in the world is always shared by others, as even if we withdraw from society we still had the same feelings. On the beginning of his book on interpersonal conflict, Dixon (2016) emphasized that "Even if we withdraw from society, we still stand in relation to that from which we are apart" (Dixon 2016). According to him, interpersonal conflict can be viewed as a series of challenges within the "existential givens" that come from seemingly opposing views of 'truth'. Subjective truths, each held passionately, are defended vigorously. That means interpersonal conflict is an unavoidable part of human association. Some theorists consider it as a necessity for our daily routine. What is important here is to determine the factors that create this issue and how people react to it by avoiding, reducing, or ending different conflict situations.

How some theories deal with interpersonal conflict in different situations is of importance. One of these theories is the face negotiation theory by (Ting-Toomey 1988). According to this theory, people of every culture are representatives of their face. Ting-Toomey (1988) refers to faces as individual and cultural identities that every person belongs to. Conflict, as this theory assumes, is created when people perceive that their faces (identities) are exposed to threats, hampering communication with people of opposite or contradicting faces. That is to say, this theory asserts that different cultural values exist for dealing with conflict. These conflictual episodes, consequently, are influenced by the face concerns and face needs of communicators that reduce or avoid conflict. Understanding different values and cultural identities is required for any environment free from interpersonal conflict.

Within behavior theory, the Attribution Theory by Lindner (2006) assumes that it is a person's nature that causes their negative behavior while responding and reacting to others. In the same field, the Reciprocity Theory by Thompson (2006) asserts that people can reciprocate in a way that prevents interpersonal conflict.

Unlike other theories that deal with conflict as something bad and should be ended, or as a long term process that often cannot be quickly resolved, transformation theory views conflict as key to building relationships, organizations, and societies. According to this attitude, conflict transformation does not suggest the elimination or controlling of conflict, but examines the factors and relationships created and being affected by interpersonal conflict and transform relationships for long-term benefit. We can conclude that these four aforementioned theories consider some aspects of human behavior when dealing within interpersonal conflict. These theories are considered the cornerstone of social exchange theory.

Social exchange theory adopts a broad assumption based on human behavior during interpersonal conflicts. According to this theory, self-interest and outcome benefit considerations are key to achieving a specific goal. This theory considers relationships, power, identity (saving face and maintaining self-esteem), justice, and fairness as benchmarks for evaluating human behavior. Moreover, researchers have stipulated that fair procedures are a key element to achieving justice and the core of fair procedures is its right to be heard (Deutsch 2006). In other words, researchers marked "justice" and "fairness" as clear indicators of reactions to interpersonal conflict. According to this view, "only the principle of fairness in settling conflict can claim universal ground as being a principle of shared rationality, indispensable in all decision making and in all intentional action" (Hampshire 2000).

In a nutshell, the concept of interpersonal conflict is an event that occurs between at least two individuals in the course of their interactions due to contradictions in values, goals, expectations, and perceptions. Conflict, whether intrapersonal or interpersonal, should not be understood as a destructive issue for organizations because it is an inevitable part of human association and, to some extent, a necessary one (Straus 1979). The most significant issue is to determine and investigate how conflict can be reduced and eliminated and its effects on organizations. Hence the following section will tackle how researchers determined and resolved the interpersonal conflict in organizations.

2.9.1 The Important of Interpersonal conflict

As interpersonal conflict can be perceived as both constructive and destructive, researchers struggled to identify and determined what factors reduce and eliminate its bad effects on organizations. This section discusses the importance of investigating interpersonal conflict. Researchers tried to answer many questions regarding conflict in different sections and various establishments. These questions included conflict detriments, fissures in interpersonal conflict, and under what circumstances organizations benefit from conflict. In other words, recent studies moved away from recognizing interpersonal conflict as something bad or good to recognizing its effects on different organization levels such as performance and outcomes.

According to Weihrich and Koontz (1994), interpersonal conflict can be a tool for evolution, and for internal and external change. In addition, it can be seen as an aid to incremental improvement in hospitality organization design and functioning, and to the decision-making processes. One of the circumstances that may lead to constructive interpersonal conflict may be a good (positive) perception of it. This view was asserted by (Mukolwe et al. 2015), who stated that the proper identification and handling of interpersonal conflict can help decrease the destructive influences of win–lose situations.

Tjosvold (1998) stressed a mechanism that allows the benefits of cooperative work to be perceived. According to this view interpersonal conflict should not be perceived as the opposite of cooperation. Moreover, Tjosvold (1998) stressed the psychological and social role of interpersonal conflict on health. Psychologically, interpersonal conflict provides a breather for frustrations, activates a feeling of participation. the social level, it encourages opposition to the status quo and provides conditions for social change and democracy stemming from pluralism and respect for diversity (Tjosvold 1998). As interpersonal conflict is an immanent social context, it is not necessarily dysfunctional. It can be required to oppose people to perform and stimulate progress (Butler 1973). While the aforementioned studies tackled interpersonal conflict from a positive view, this was not shared by other studies.

Dann and Hornsey (1986) examined interdepartmental conflict in the hospitality industry (hotels) to identify conflict factors. The researcher identified four possible reasons for this type of conflict. These reasons are interdependence, environment, status, and stigma. The researcher asserted that the four types of conflict resulted in miscellaneous types of interpersonal conflict such as task conflict (disagreements among group members about the content of performed tasks, including differences in viewpoints, ideas, and opinions). The researcher concluded that interdepartmental conflict in hotels as a distinctive feature of their operation.

Thomas and Kenneth (2008) developed a model to deal with interpersonal conflict. The model identified five common styles for dealing with interpersonal conflict: competitive, collaborative, accommodating, compromising, or avoiding. According to Thomas and Kenneth (2008), people are capable of using all five styles with different attitudes. These five styles are part of personal tendencies and aptitudes. Cloke and Goldsmith (2005) ascribed personal interpersonal conflict behavior in the workplace to both personal predispositions and the requirements of a specific situation. This result supported and verified social interdependence theory, which viewed interpersonal conflict as inherent to all social relationships, and as not inherently negative. That means that the interpersonal conflict can have destructive or constructive outcomes. The determinant of interpersonal conflict as destructive or constructive depends on whether the conflict takes place within a cooperative or competitive environment (Johnson & Johnson 1989). Offering a cooperative or competitive environment in the workplace is a leaders duty as they are responsible for reducing direct or indirect costs. Johnson and Johnson (1989) stressed that the bad management of interpersonal conflict results in high direct and indirect costs for any organization. Many leaders brush off low morale and unhealthy interpersonal conflict as an unavoidable result of doing business. Interpersonal conflict did not affect only efficiency and performance but also substantial factors that may lead to organizational failure.

Beheshtifar and Zare (2013) identified five organizational elements that cause conflict. identified five organizational elements that cause conflict. They classified them into limited resources, role ambiguity, organizational change, contradiction of

goals, information deficiency, and environmental stress. According to same author, the management of interpersonal conflict involves the education of organizational members in styles of handling interpersonal conflict to effectively deal with different situations and set up appropriate mechanisms to deal with unresolved issues. Mukolwe et al. (2015) approved the results of Beheshtifar and Zare (2013) study. The researcher suggested using improved strategies to cope with costs, followed by the alleviation of task conflicts, relationship conflicts, and conflict outcomes.

As indicated by previous studies, there are conflict types that have good outcomes for an organization in terms of performance, efficiency, or organizational structure. However, most leaders and senior managers seem unaware of the negative impact(s) that interpersonal conflict in the workplace can leave on their bottom lines. They still deal with the any conflict as inherited incidents that cannot be escaped or managed without awareness of the critical issue that any conflict, but especially interpersonal conflict, can have on company survival in a competitive environment. As the core of this study deals with the effects of interpersonal conflict on IS success, the following section is devoted to previous related studies on information systems.

2.9.2 Interpersonal Conflict in Information System

Interpersonal conflict is a concept that covers any disputes that arise between individuals. Although there are different types of interpersonal conflict, interpersonal conflict plays a crucial role in organization failure. Interpersonal conflict constitutes an important determinant of the Information System (IS) success. According to Smith and McKeen (1992), interpersonal conflict is a major destructive factor for effective computerization, which appears between IS and almost all other departments in different contexts. Information System Development (ISD) is considered a rich field where major signs and indicators of conflict, such as lack of trust and understanding are identified (Smith & McKeen 1992). Based on the previous studies, (Barki & Hartwick 2001) suggested four definitional properties of interpersonal conflict. These features are interdependence, interference, disagreement, and negative emotion (instability). In this respect, Jehn and Bendersky (2003) accentuated the contingency

perspective of conflict in organizations as an imperative to assessing the positive and negative effects of conflict on group success.

Researchers identified conflict as interpersonal, task, or process. Interpersonal conflict refers to tension (misunderstandings) between group members while task conflict occurs as a result of the disagreements between stakeholders on the priority, scope, or requirements of a project. Process-based conflict is the result of disagreements in the way tasks are to be performed to accomplish project objectives. Task and process conflicts may have fewer effects than interpersonal conflicts, which have a negative effect on group outcomes.

Researchers identified interpersonal factors based on human social behavior (interaction) parameters such as participation levels, influence, disagreements, and beliefs about others, rather than factors that reflect individual personality characteristics (individually held values, goals, and emotions). However, other researchers have ascribed interpersonal conflict to other factors.

Within the context of Information System Development (ISD), (Wong 2005) established user-developer value divergences to scrutinize how value differences impact software quality perceptions. The researcher attributed these factors to individual differences and software quality. (Gobeli et al. 1998) conducted a study on structural conflict factors and the impact of context-specific variables such as company goals, group dynamics, and management support. The researcher excluded social and behavior factors and concentrated on factors related to management support and company goals. Related literature detected structural factors as being subordinate to other organizational concepts such as the distinct organizational cultures of users versus developers (Barki & Hartwick 2001; Gingras & McLean 1982; Robey & Farrow 1982). Some studies on organizational conflict accredited conflict factors to bargaining in disputes or complaints, bureaucratic power struggles, and systematic or working relationship conflict, each with different conflict antecedents. These factors were drawn by (Pondy 1967; Simmel 1964) theory of conflict antecedents as conflict factors. Research in organizational developer-tester conflict covered various

characteristics for process, individual, and organizational conflicts. Schedules and task dependencies were steadfast sources of conflict (Cohen et al. 2004).

Research in interpersonal conflict has a longstanding history that developed gradually from sociology, communication, and psychology to organizational management. In 1995, two University of Missouri faculties conducted a study on interpersonal conflict, taking into account the findings of previous studies such as (Lewicki et al. 1992; Pondy 1967; Thomas 1992). These two scholars introduced a two-category conflict antecedent classification scheme. The scheme distinguished individual-level characteristics from interpersonal factors. According to their end-product results, interpersonal factors were subcategorized by human relationships facets such as perceptual interface, observable behavior, communication, and structural or contextual characteristics into conflict antecedents. Individual characteristics such as personality received limited empirical support as a direct cause of conflict. The two scholars stated that interpersonal conflict constructs were reflected by three key dimensions: disagreement, interference, and negative emotion. The impact of interpersonal conflict was perceived to be negative, regardless of how it was managed or resolved. Elmagri (2014) draw attention on the negative outcomes of conflict on individuals and organizations. Within an organizational context, the researcher identified different factors that cause conflict. These were are role incompatibility, work stress, lack of communication, organizational change, and mismanagement.

As management constitutes a vital role in organizing human behavior, recent researchers have investigated the concept of conflict in general, and interpersonal conflict in particular, in organizational management to avoid or minimize its bad consequences on performance and outcomes. Thus, the use of IS in organizations is a fecund domain where researchers have detected several issues, such as a lack of trust and understanding in organizations. Hence, the following paragraphs will trace previous studies related to interpersonal conflict within the context of information systems from different angles such as its factors, impact, resources, and suggested remedies.

It is common that the resolution any issue relies on tracking resources and factors. Barki and Hartwick (2001) identified three factors that create interpersonal conflict in any organization. These factors include interdependence, disagreement, and interference. The researchers stated where or when each factor may appear. According to them, interdependence occurs when each department objective achievement depends on the actions of another department. For disagreement, the researchers ascribed the existence of this factor to divergent values, needs, or objectives for departments involved in a system development project. Interference exists when one department stands as stumbling block for another department and prevents them from achieving their goals. Negative emotions come as a result of disagreement and interference. This scheme is considered an appropriate thematic apperception due to its coherence and rational detection steps.

Other researchers examined the impact of project management factors such as communication, coordination, collaboration, team structure, and team social aspects on the interpersonal conflict within an ISD context. Some of these studies are (Amrit & Van Hillegersberg 2008; Trimmer et al. 2002; Yang & Tang 2004). It is clear that the impact of conflict on project outcomes may vary according to management style or the nature of the interpersonal conflict.

Khan et al. (2014) conducted a study to measure the impact of interpersonal conflict on employee morale. According to him, Morale is a multi-dimensional phenomenon related to each and every individual in an institution. The study stated that there was a relationship between individual characteristics and the impact of interpersonal conflicts. According to this study, the negative impacts on morale appeared in employees who were visibly burnt-out, weary, exhausted, fatigued, or did receive positive responses from their parent institution regarding their services. These groups mostly failed to bring about any substantial change in an institutional working format. According to this study, interpersonal conflict severely affects employee morale and the credibility of the concerned institution.

Khan et al. (2014) figured out four sources of interpersonal conflicts. These antecedents were individual characteristics, team characteristics, project

characteristics, and institutional characteristics. The researchers identified personality, demographics, education and experience, institutional status, institutional role and department; and needs, interests and goals as individual characteristics. For team characteristics, the researchers viewed size, heterogeneity, leadership, team processes (including participation), influence and communication, history (including previous conflicts), management styles, tactics, and outcomes as team characteristics. The institutional attributes that make up interpersonal conflict were a mix of institutional culture and institutional climate. For project characteristics, the study approved the results of (Tjosvold 1998). According to this study, project characteristics refer to a combination of system characteristics and attention, resources, time pressures, constraints, success criteria, and support from top management.

Several studies (Hansen 2015; Linde et al. 2013) investigated the relationship between interpersonal conflict and user satisfaction. They pointed out that interpersonal conflict has a negative impact on user satisfaction and organizational performance. They justified their assumptions as conflict is a hurdle to supportive interpersonal relationships, leading to insufficient performance in an organization.

Interpersonal conflict constitutes a vital role in creating a lack of user understanding and interest in needs for information systems. Research in interpersonal conflict is mountainous and pervasive, however research in information systems is not as common as other potential organizational stressors. Therefore, there is an immense need to expand this criterion space and fill the gap that previous relayed studies left unexpressed, particularly for information systems. Hence, the following sections are devoted to previous literature on information systems.

2.9.3 Interpersonal Conflict Factors

In this study the bases for the proposed framework are the most appropriate and relevant interpersonal conflict factors and definitions obtained from the literature. Researchers in previous related studies identified and recognized three interpersonal conflict factors (IPC). These factors are interdependence, interference, disagreement (Barki & Hartwick 2001; Thomas 1992). Furthermore, according to (Elmagri 2014)

instability is considered factor that represents the causal factors of interpersonal conflict.

a. Interdependence

Interdependence refers to the extent to which different users depend on each other to accomplish their tasks (Barki & Hartwick 2001). Sørebø et al. (2005) have proposed that interdependence has a negative influence on perceived usefulness and user satisfaction through negative emotions. The absence of interdependence of one party may result on the zero actions of impact on the outcomes of the other party. According to Barki and Hartwick (2001) interdependence represents the core structural pre-condition of any conflict situation, providing an interpersonal context in which conflicts may occurs.

According to Mukolwe et al. (2015), the absence of interdependence within a company is the key success for the survival of a company in a competitive environment such as the public sector as it can greatly influence outcomes. According to him, interdependence with other departments is the key factor behind the interpersonal conflict in the organizations. This view was then refused and deactivated by (Rajinder 2002) According to him, the level of interdependence between departments in many situations is necessarily high if the customer is to receive a satisfactory service. On the other hand, increasing the level of interdependence depends on its levels of perception. The high perception of interdependence between departments, the more interdepartmental interpersonal conflict tends to increase and consequently affect the outcome (Slaikeu 1989).

On the levels of interdependence, the asymmetric degree of interdependence is the most leading factor of conflict. The asymmetric interdependence exists when parties have different levels of dependence among each other, consequently shows independence in relation to them and affects the level of trust and commitment of the groups (Agwu 2013). According to Kumar et al. (1995) those relationships with total interdependence have less conflict than the ones with asymmetric interdependence.

The total interdependence understands it as individuals are totally dependent on one another.

This factor was measured using four items based on the literature. Hence, the reviewers suggested deleting two of the items since they are not related and unhelpful in measuring the independent factor. Thus, this factor was represented in the questionnaire using the rest of the items (only two items). For this reason, we have ignored this factor in the further analysis since it has poor validity. According to (Osborne & Costello 2009), a factor with fewer than three items is considered weak and unstable.

b. Interference

Interference is one of the key factors of interpersonal conflict, which is related to interference between users in terms of their tasks, objects, and goals (Barki & Hartwick 2001). That means that it results in behavioral attributes. Researchers believe that the key process of interpersonal conflict is when one or more disputants oppose their counterparts interests or goals (Wall Jr & Callister 1995).

The best way to reduce the bad effects of interference within organizations is to show it as an important factor of IS success. Any organization should include a good perception of interference among its staff as apart from its culture. This study deals with this concept as a constructive concept that has a role in IS success in discovering what factors create this type of conflict between users in terms of their tasks, objects, and goals. In addition, this study also examine the impact of this factor on IS success.

c. Disagreement

Disagreement is a term that refers to the divergence of values, needs, interests, opinions, goals, or objectives between users. It considered the key cognitive component of interpersonal conflict. Every company have its rules and regulations that organize its staff, therefore it is not sufficient for conflict to emerge among users because there are different situations where individuals can get into contradictions in

values or even opinions that are important or relevant to IS success like interpersonal conflict (Sørebø et al. 2005). In this study, disagreement refers difference between users in terms of their values, needs, interests, opinions, and goals, which are examined as conflict constructs in terms of their impact on IS success.

Many studies have confirmed that disagreement is the main form of interpersonal conflict that top management has to handle in an organization, given the highly interpersonal nature of the managerial role (Rollinson 2008; Wood et al. 2012). Some studies (Liu et al. 2011; Newstrom 2007) stated that disagreement is a serious issue for employees as it deeply affects their emotions. Other studies (Alter 2008; Rollinson 2008; Wood et al. 2010) found that disagreement has a strong negative influence on organization outcomes (organization performance). Adomi and Ozioma Anie (2006) also indicated that disagreement can generate a sequence of conditions that lead to aggressive behavior and disorder. Disagreement among employees in organizations arises for many reasons such as a diversity of employee viewpoints, ideas and opinions; interdependent work, and differentiated work. While disagreement as a conflict factor does not always lead to negative impacts and it can even improve organizational outcomes (Cohen et al. 2004), it can certainly disrupt work processes and lead to poor performance. In addition, disagreement on the job was identified as a factor of work disability (Appelberg et al. 1996), and an indicator of workplace conflict (Siu et al. 2004).

d. Instability

In general, instability is a state of uncertainty caused by the possibility of a sudden change in the present situation. There are several types of instability, such as organizational, administrative, requirement, political and economic. Political instability is defined as a situation where by a country is currently going through political turmoil that may lead to government collapse.

Political conditions that have a significant effect on organizational behavior include government instability, industry restriction to a particular area, and nationalistic drives such as self-sufficiency in the latest technologies. When the

government is unstable, organizations become cautious about further investments. This organizational instability leaves workers insecure and causes them to be passive and slow to take any initiative.

Increased interpersonal conflicts in public organizations are of critical importance to successful information systems and improved organizational performance (Hotepo et al. 2010; Mukolwe et al. 2015). Curlee and Tonn (1987) pointed out that conflicts may lead to system misuse and failures between user objectives and organizational purposes for a new IS. Sørebø et al. (2005) showed that interpersonal conflict has a negative influence on IS success. Alfaadel et al. (2012) found the conflict and instability (politics) are the most important factors that lead to the IT project failure. (Liu et al. 2011) proposed that requirements instability is positively associated with interpersonal conflict which in turn influences requirement diversity and final project outcomes. Elmagri (2014) investigated administrative instability as a factor that causes interpersonal conflict in an organization. Administrative instability in organizations results in many psychological stresses on workers, such as unstable organizational structures, reduced job performance, and unstable management policies.

Some studies (Paré et al. 2008; Wallace & Keil 2004) pointed out that organizational instability has the negative impact on the implementation of IT projects. In other words, changes in senior management may lead to a mismatch between organizational needs and project objectives. Like other types of instability our hypothesis is that there is a negative relationship between organizational instability and IS success in an organization. Since most organization tasks are performed using IS, organizational instability may lead to a mismatch between organizational needs and objectives.

In this study, the term instability refers to continuous changes in authorizations, procedures, and tasks by senior and direct management. In the information system success model, the instability factor is used to measure the capability of a system to adapt to continuous changes. Instability is classified as a factor that can be used as a conflict indicator. This is due to the fact that different

managers have different experiences, understandings, perspectives, and attitudes about how IS can improve organization performance. Thus, each manager poses policies to handle different issues in the organization.

2.10 SUMMARY

This chapter reviewed the literature on information system success in the public sector, with a focus on the influence of information culture and interpersonal conflict factors. IS success developing country public sectors has gained increased researcher attention due to initiatives by governments, international agencies, non-governmental organizations, donors ,and other development partners to improve IS success and organizational performance.

Based on a review of previous studies, it was revealed that of IS success in the public sectors of several developing countries is still in its infancy due to several implementation barriers. These barriers are a lack of expertise and skilled people, and a lack of good telecommunications systems, which makes it harder for many countries to acquire adequate knowledge about technology. In addition, many developing countries such as Yemen are not well informed on the latest information technology due to insufficient information about the advances and advantages of information technology.

Regarding the information culture and interpersonal conflict literature, previous studies reported that a lack of information culture and the presence of interpersonal conflict are at the top implementation barriers. Therefore, it is necessary to reduce interpersonal conflict and enhance information culture among finance workers so that they value information and its use. In emphasizing the importance of interpersonal conflict and information culture in organizations, the existence of personal conflict and the absence of information culture poses a major challenge to the success of information systems as previously discussed. Thus, based on the literature review, there is a link between interpersonal conflict and information culture with information system success and organizational performance.

This study argues that addressing key issues associated with information culture and interpersonal conflict factors are critically important to IS success and organizational performance. Therefore, this study concentrates on the extent to which interpersonal conflict factors (interference, disagreement, and insatiability) and information culture factors (perceived awareness and perceived need) effect IS success.

CHAPTER III

CONCEPTUAL FRAMEWORK FOR THE PROPOSED MODEL

3.1 INTRODUCTION

This chapter develops the conceptual framework that formulates the research model and explains the hypotheses. It provides a detailed explanation of the formulated model that attempts to identify the information culture and interpersonal conflict factors that influence IS success and enhance organizational performance in the Yemeni public finance sector.

3.2 IMPLEMENTED THEORIES AND MODELS

This section provides an overview of relevant IS success models utilized in previous studies to extract the factors that impacted information system success and organizational performance. Many theories have been developed to measure the success of Information Systems (IS) in organizations. Many researchers have used these models in different areas and researchers have modified these models to create new versions according to their needs such as the Delone and Maclean (1992-2003) model and the IS success sub-model of (Seddon 1997). DeLone and McLean (1992) review the literature on IS success to create a model that test IS success, but this model was not empirically tested.

Seddon, Delone and Maclean's theories were employed as theoretical models to develop the integrated conceptual model for this study. Conceptual models provide understanding, rather than offering a theoretical explanation (Ngulube et al. 2015). A brief description for each model that assessed the success of information systems is given below.

3.2.1 DeLone and McLean IS Success Model (1992)

This model is considered a benchmark in IS success measurement as it looks at the success of information systems from the perspective of the dependent variables in the specification and measurement of information systems. DeLone and McLean's model include a comprehensive literature review on IS success and six criteria that can be used to measure the success of information systems. DeLone and McLean (1992) emphasized the need for research that tested their proposed model to select dimension measurements for IS success. They stated that "The selection of measures should also consider the contingency variables, such as the independent variables being researched; the organizational strategy, structure, size, and environment of the organization being studied; the technology being employed, and the task and individual characteristics of the system under investigation" (DeLone & McLean 1992).

The variables of the DeLone & McLean 1992 IS Success model are system quality, information quality, information system use, user-satisfaction, individual impact, and organizational impact. System quality and information quality effect both information system use and user satisfaction jointly or singularly. System quality, information quality, information system use, and user-satisfaction are put together as they influence individuals and the organizations. Another feature of this model is that it puts a crystal-clear distinction between system features and information aspects as measures of satisfaction. Thus, user-satisfaction has either a negative or positive effect on information system use. Individual impact is anticipated by information system use and user-satisfaction, and individual impacts lead to organizational impacts. One of the implications of the D&M model (1992) is that there are different constructs that should be systematically selected when developing a comprehensive measurement instrument for a specific context including technology, organizational structure, and the individual characteristics available to the system under investigation. Figure 3.1 illustrates the DeLone and McLean IS Success Model (1992).

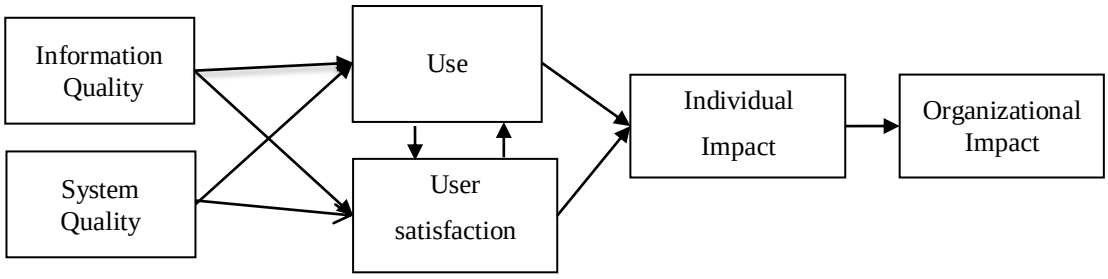

Figure 3.1 DeLone and McLean IS Success Model (1992)

3.2.2 Updated DeLone and McLean IS Success Model (2003)

As mentioned in the previous section, one of the most influential models in IS success is the model developed by DeLone and McLean (1992). However, Delone and McLean (2003) discussed the efforts that made towards their previous model and suggested modifications and enrichments. They updated their model to consider what the other scholars had written. They summarized these recommendations to update the previous model using three main points. The first point was to include the service construct quality in the updated model, which reflects the importance of service and support to IS success. The second point is to replace the factor 'information system use' with 'intention to use' to measure user attitudes. The final point was to collapse individual impact and organizational impact into net benefits. Figure 3.2 depicts the updated DeLone and McLean IS success model (2003).

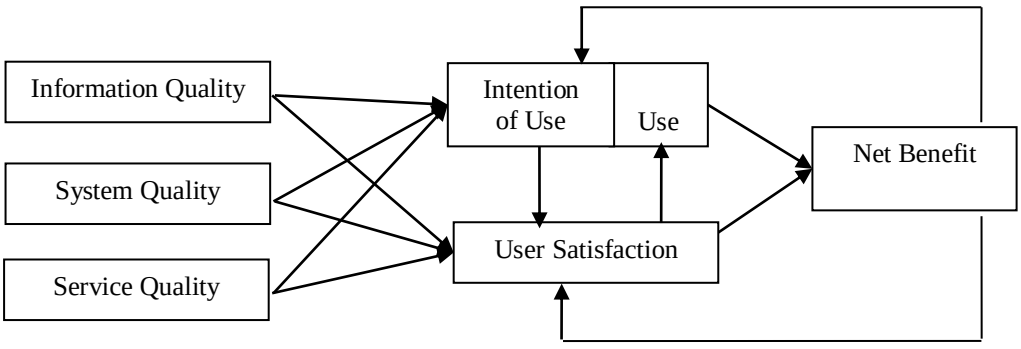

Figure 3.2 Updated DeLone and McLean IS success model (2003).

3.2.3 Seddon's Re-Specified IS Success Model (1997)

The main differences between Seddon's (1997) model and DeLone and McLean's (1992) model is the definition and placement of information system use. Seddon (1997) argues that *information system use* does not impact benefits, but precedes them. Seddon (1997) also argued that information system use influences net benefit expectations through information system use. Therefore, IS models result in behavior that achieves IS success. This definition of IS use, according to Seddon, makes it a result of IS success instead of an intrinsic attribute of IS success. Accordingly, looking at IS use as a behavior disassociates it from the IS success model (Rai et al. 2002).

An important aspect in Seddon's model is the inclusion of perceived usefulness . The model shows a direct relationship between system quality and information quality with perceived usefulness and user-satisfaction. Thus, people who believe that the task performed by the system is important will believe that the system that performed the task is also important. Thus, the importance of the task makes an information system useful. Figure 3.3 shows Seddon's model.

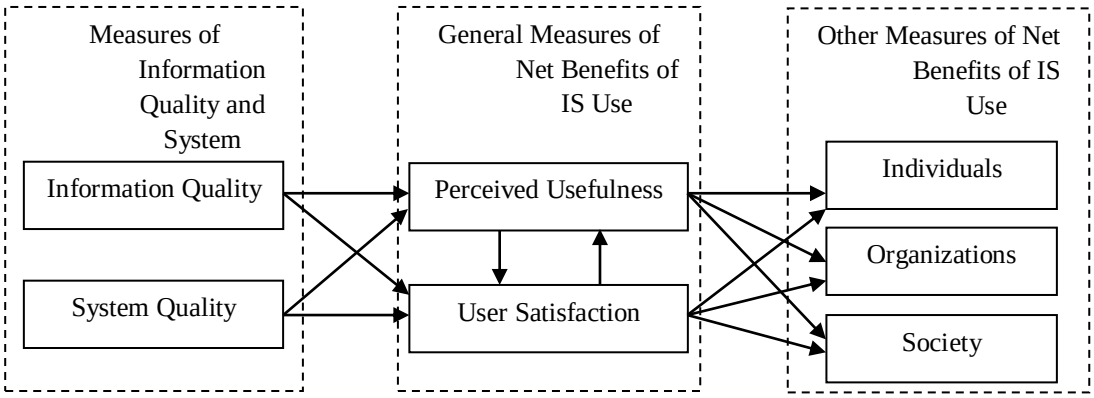

Figure 3.3 Seddon's re-specified IS success model (1997)

There are many studies in the literature that have integrated different constructs and/or different models for information system success. For instance, Rai et al. (2002) evaluated the IS success models of DeLone and McLean (1992) and Seddon (1997) theoretically and empirically using the users of a computerized SIS in a quasi-volitional usage context. The study developed these models as the researchers added

Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), which are considered antecedents of perceived usefulness and satisfaction. They also included information quality as a satisfaction antecedent. The authors used PEOU as system quality and included the definition 'user friendly'. They also measured information quality by using three attributes generated by the model SIS, which were accuracy, content, and format. In addition, the authors indicated that user-satisfaction was determined by information quality and system quality, and that information quality beliefs dominate IS success user beliefs concerning system ease of use. Furthermore, Wixom and Todd (2005) developed an integrated model to make a distinction between attitudes and beliefs towards a system to create theoretical linkage between user-satisfaction and the technology acceptance literature.

The study of Dwivedi et al. (2012) showed that the IS success model of DeLone and McLean (1992, 2003) was prominent since it helped the researchers set up important elements to test IS success in terms of adoption before and after testing. This study aimed to measure the success of the information system LRMIS and it integrated some constructs from the Seddon (1997) and Delone and McLean (2003) IS success models with additional constructs of perceived risk and perceived ease of use.

Another model was developed by Floropoulos et al. (2010), who integrated a number of constructs from different IS success models including DeLone and McLean (2003) and Seddon (1997) to form a new model that explained the success of the system TAXIS according to the perception of expert employees in taxation organizations. This model had five variables, which were information quality, system quality, service quality, perceived usefulness, and user satisfaction, and it was the first model that investigated the success of a tax information system from the perspective of employees. They adapted user satisfaction and perceived usefulness from DeLone and McLean (2003) and Seddon (1997), respectively. Following Floropoulos et al. (2010), the proposed model in this study integrated the DeLone and McLean (2003), and Seddon (1997) model by using user satisfaction and perceived usefulness as meditating factors. The reason behind this integration is that perceived usefulness is a more meaningful success construct in cases where usage is mandatory

3.3 THE PROPOSED MODEL

This section discusses information system success models. These models were explored to identify the weakness and strength of each model. This was required to justify the development of the new proposed model. Thus, the development of the conceptual framework for the proposed model was based on the gaps identified in literature, particularly literature gaps related to understanding the importance of information culture and interpersonal conflict factors for IS success to improve organizational performance. Technological factors were created on the basis of a popular model called the DeLone and McLean (2003) IS success model. This model was applied in various areas and has numerous extended or adapted models. Interpersonal Conflict (IPC) factors were created on the basis of the model by (Sørebø et al. 2005). Information Culture (IC) factors and instability variable were derived from an in depth literature review.

Most studies on IS success theories and models were conducted in developed countries. Therefore, these theories were limited to being investigated and validated in developing countries (Avgerou 2008; Mukassa 2012), the empirical application of these models may differ from one situation (cultural, economy, and anything else) to another, some factors may not be significant in one place to another, and created a list of success constructs that may be used to understand IS success in developing countries. Prior studies have supported this statement, as these study models have shown with mixed results in different contexts. Thus, the investigation and validation of these theories may give different outcomes.

This chapter also presents the framework of the research model. The main factors in this study are the result of intersections between the IS success, technology, information culture, and interpersonal conflict literature. In this section the theoretical phase and model design phase were used for model development.

3.4 THEORETICAL PHASE

In this section provides an overview of relevant IS success models utilized in previous studies to extract significant factors. The previous literature written on IS success shows that there are many factors that influence IS success to enhance organizational performance, which can be categorized into environmental contexts, technological contexts, and organizational contexts (Al-Mamary et al. 2015; Daoud & Triki 2013; McKinnie 2016). The development of the theoretical phase depended on previous foundations as it integrates the models of (DeLone & McLean 1992; Delone & McLean 2003) and (Seddon 1997). The aim of this study was to understand the factors the influence IS success. There are many factors that might hinder or support IS success and these factors include technological, information culture and interpersonal conflict as described below:

3.4.1 Technological Context

The development of this study was based on the theoretical foundations of previous studies, namely information quality, system quality, and system service quality. The model of (Delone & McLean 2003) had three factors for the success of information systems. These three factors were technological, which describes the quality of a system, including information produced by the system, the systems providing information, and the service quality of the system (Al-Mamary et al. 2015; Ge et al. 2011). Individuals and organizations should receive quality and relevant information as well as services by technology and this is the duty of end users. Also, technology has a strong influence on information system effectiveness, which can be measured by its ability to achieve intended purposes (Poels & Cherfi 2006). The success of IS in an organizations depends on the quality of the information systems. The development of information systems to achieve success depends on many crucial variables, including providing complete assessments for technological attributes such as system quality, information quality, and service quality.

3.4.2 Information Culture (IC) Context

Information culture has different factors, which include perceived need and perceived awareness. There are many studies that investigated information culture and they showed that it has an effect on Information System (IS) and Electronic Commerce (EC) adoption, especially in the public sector (Boamah 2014; Herzallah & Mukhtar 2015; Mukred et al. 2017). Mukred et al. (2017) indicated that information culture factors need to investigate the influence of user perception in IS success. Therefore, this study focused on two factors that influence IS success to enhance organizational performance. These factors are perceived need and perceive awareness, which are explained in Chapter II section 2.8.

3.4.3 Interpersonal Conflict (IPC) Context

Interpersonal conflict is defined as the "phenomenon that occurs between interdependent parties or individual as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals" (Barki & Hartwick 2001). This study looked at different interpersonal indicators, which were disagreement, interdependence, instability, and interference. These indicators might negatively influence IS success (Sørebø et al. 2005). Previous studies until now mainly focused on the effect of interpersonal conflict on Information System Development (ISD). Previous studies showed a gap in the literature related to conflict in an information system success context. Sørebø et al. (2005) described the relationship between interpersonal factors and IS success factors (perceived usefulness and user satisfaction) based on Delone and Maclean's IS success model (2003) and Seddon's model (1997). Figure 3.4 shows the relationship between interpersonal factors and IS success variables (perceived usefulness and user satisfaction) through negative emotions. This study proposed that understanding interpersonal conflict in the context of IS success is crucial to achieving IS success. The investigation of causes related to conflict lead to the identification of mitigating factors in the early lifecycle stages of public organizations, which helps improve IS success and organizational performance. In addition, instability variable was derived from previous literature, which they considered it is part of interpersonal conflict model.

Therefore, this study focused on three interpersonal conflict factors, which are interference, disagreement, and instability.

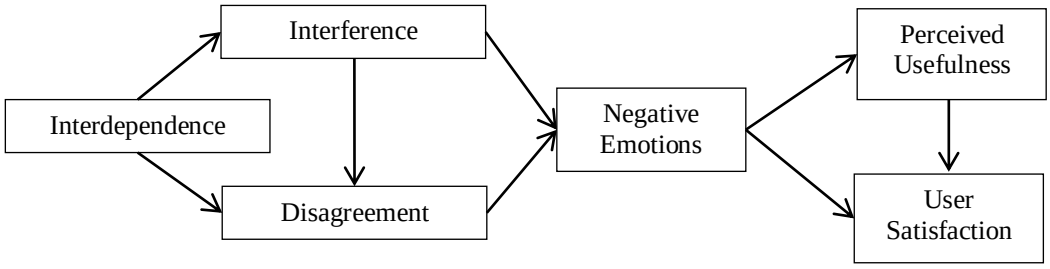

Figure 3.4 Interpersonal conflict model by (Sørebø et al. 2005).

3.5 MODEL DESIGN PHASE

This study was guided by a proposed research model as it integrates the IS success models of (Delone & McLean 2003) and sub-model of (Seddon 1997). The model of this study is based on the idea that there are many factors that might impact IS success. However, the socio-technical viewpoint is the main point as technological elements affect IS success. There are socio-culture points that affect IS success, which are information culture elements. Moreover, IS success should include socio-conflict elements, which are interpersonal conflict elements.

The second phase in this study is the design of the conceptual model using three categories, which are technological factors, information culture, and interpersonal conflict factors. The previous literature discussed in Chapter II shows a lack of previous studies on IS success in this context. This study proposes a conceptual model that fills this gap as it integrates the DeLone and McLean IS success model (2003) and the IS success sub-model of (Seddon 1997). The proposed model add new factors and explains the relationship between constructs to acquire new practical and theoretical knowledge. The study also highlights the importance of the main and sub-factors that influenced IS success in the targeted context.

The first context included in the proposed research model is the technological context, which includes information quality, system quality, and service quality. According to (Delone & McLean 2003; Seddon 1997; Seddon et al. 2002; Seddon et al. 1999), information quality, system quality, and service quality are important predictors of IS success. These three factors are important to predicting IS success (Delone & McLean 2003; Seddon 1997; Seddon et al. 2002; Seddon et al. 1999). Moreover, these three factors have been investigated by many researchers and were proved to be important to IS success (Eldrandaly et al. 2015; Petter et al. 2008; Rana et al. 2014). There are many studies that investigated the relationship between technological variables, which include information and system quality, and perceived usefulness at the organizational and individual analysis levels (Hussein 2010; Irma et al. 2014; Rana et al. 2015; Seddon 1997). One of the factors that related to perceived usefulness is factor service quality (Alsamydai et al. 2012; Kim & Lee 2014; Sumida Garcia & Costa Silva 2017).

An important point is that public sectors should take into consideration a lack of user perceptions concerning IS success because they feel that information systems do not help them in their daily work, and sometimes users might encounter problems in using information systems. Therefore, difficulties in using systems got daily work affects user perceptions concerning information systems and leads to information system failure and weak organizational performance.

This study uses three factors that affect IS success derived from user perceived usefulness in the public finance sector, and these factors are information quality, system quality, and service quality. The relationship between perceived usefulness and the technological factors that influence IS success is shown in Figure 3.5.

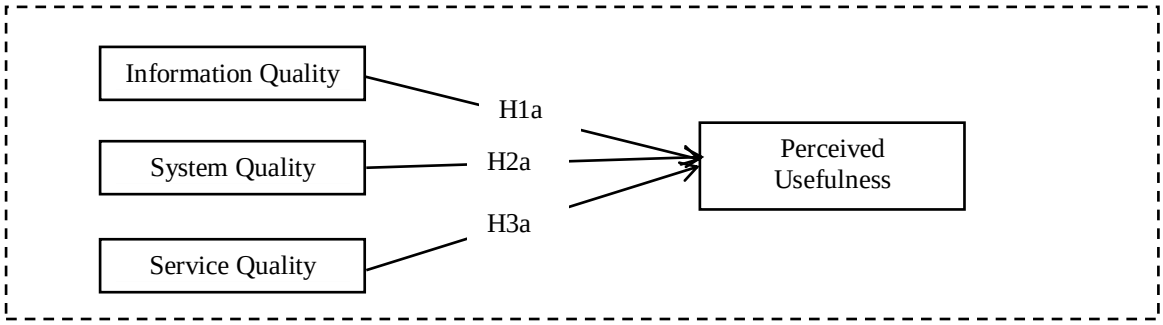

Figure 3.5 Technological factors that influence usefulness

User-satisfaction of IS success is positively affected by technological factors, including information quality, system quality, and service quality (Hung & Hsu 2013; Hussein et al. 2007a; Nwone 2014; Petter et al. 2008; Visser et al. 2013).

DeLone and McLean (1992); Delone and McLean (2003) tested the relationship between the success of information systems and user satisfaction. Their model showed that user satisfaction depends on information quality, system quality, and service quality, which have a direct effect on individual and organizational performance. (Al-Mamary et al. 2015) related satisfaction to the IS success model, and they give the argument that information system and service quality lead to perceived usefulness, which positively affected user satisfaction.

User satisfaction is related to the pleasure that users from using information technology, and also it is related to positive attitude of the users towards information technology. Satisfaction has been used by many researchers as a mediator variable in different models and information technology. There are other factors that affect user satisfaction, like system practicality and content usefulness. Studies since the 1980s have investigated end user satisfaction as a significant factor in their models because end user satisfaction has a positive effect on IS success.

As discussed in previous chapters, public sector organizations must recognize that a lack of user satisfaction hampering IS success is often because they see that a system doesn't offer desired benefits in their daily work due to system difficulties, which negatively affects their perception and consequently leads to system failure.

This study uses information quality, system quality, and service quality because they effect user satisfaction and IS success in public finance organizations. The relationship between technological factors and user satisfaction is presented in Figure 3.6.

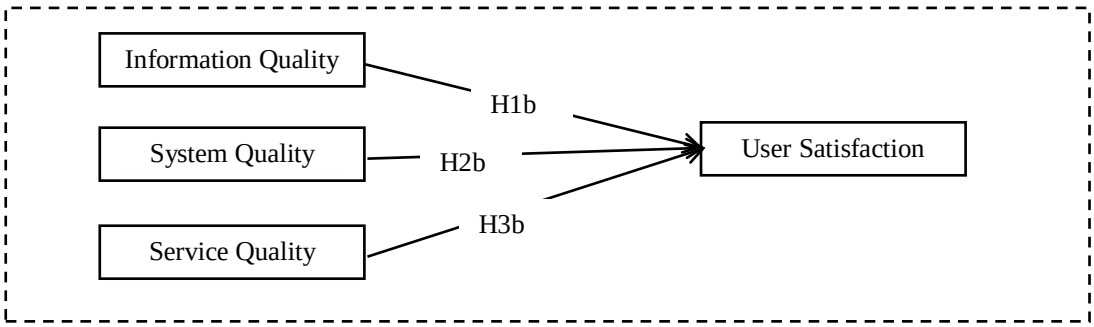

Figure 3.6 Technological factors that influence user satisfaction

This study added some social-culture and social-conflict constructs to the research model, such as information culture and interpersonal conflict factors.

The second category included in this proposed model is information culture factors, which are perceived awareness and perceived need. Literature related to information culture showed that researchers should take into consideration the relationship between information culture and information system success from a user perspective (Mukred et al. 2017).

The first information culture dimension is perceived awareness, which is a critical success factor for information technology use (Estrada-Hernández 2016; Noor 2011; Ntshakala 2016). Mukred et al. (2017) regarded perceived awareness as suitable for determining user perceptions on information system success. Employee awareness of information system use in an organization plays an important role in perceived usefulness and satisfaction toward information system success. In the information culture literature, Yan (2010), pointed out that individual awareness of an innovation is one of the factors that form information culture during IT construction. Previous research found a relationship between awareness levels and information system adoption (Abubakar & Ahmad 2013; Madisha 2012).

Several studies (Al-Somali et al. 2009; Czaja et al. 2006; Rakesh & Ramya 2014) showed a correlation between perceived awareness and perceived usefulness. Darehshori and Mohamed (2013) found that employees are likely to accept IS when they perceive it as important. Rakesh and Ramya (2014) point out consumer awareness of internet banking was proposed as the precursor positive attitudes towards internet banking usefulness.

The second concept is perceived need, which is an important factors that predicts technology use (Czaja et al. 2006). Au et al. (2008) pointed out the TAM model focused mainly on how useful IS is in meeting the end user needs. According to James et al. (2008), individual's perceived need has a positive impact on the perceived usefulness of a technology. Based on the information culture literature, identification of an individual information needs is one of the main indicators of information culture (Ponjuan 2002; Webber & Johnston 2000). The relationship between the two information culture factors that influence perceived usefulness is presented in Figure 3.7.

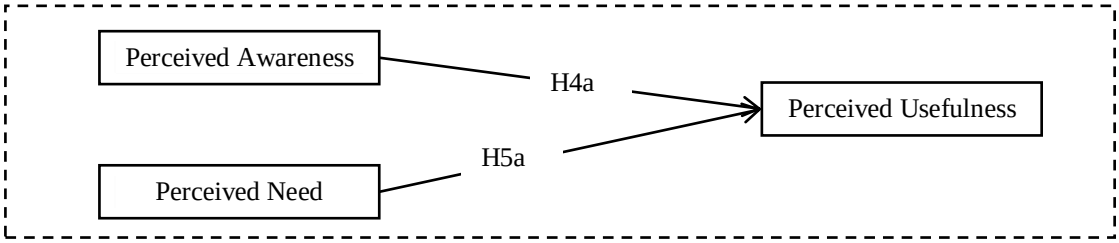

Figure 3.7 Information culture factors that influence perceived usefulness

Regarding perceived need James et al. (2008), found that individual perceived need has a positive impact on user technology satisfaction. Prior research found a relationship between level of awareness and user satisfaction (Nazari et al. 2015; Verdegem & Verleye 2009). However, raising awareness of information system usage raises user satisfaction positively impacts performance. This study investigated information cultures influence on user satisfaction. The relationship between the two information culture factors that influence user satisfaction is presented in Figure 3.8

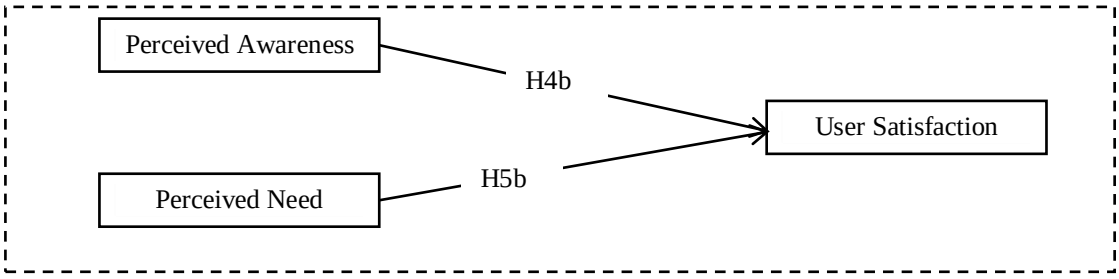

Figure 3.8 Information culture factors that influence user satisfaction

The third category in the proposed model is interpersonal conflict factors. Prior literature categorized interdependence, interference, and disagreement as interpersonal conflict factors (Barki & Hartwick 2001; Moeller et al. 2012), as well as instability (Elmagri 2014). Interpersonal conflict influences organizational performance (Mukolwe et al. 2015). It is important to understand the factors that influence public finance sector employee perceptions towards the success of information systems and organizational performance (Makhubela et al. 2016).

This study hypothesizes that conflict, which comprises interference, disagreement, and instability, will negatively influence user satisfaction. This is consistent with Barki and Hartwick (2001), who assumed that disagreement and interference may cause interpersonal conflict. Moreover, in their definition of conflict, Elmagri (2014) pointed out that instability caused interpersonal conflict.

As pointed out by (Sørebø et al. 2005); Weerakkody et al. (2016), interference and disagreement negatively influence employee emotions, which has a negative effect on their satisfaction. Aslam and Sajid (2008) pointed out that instability influences employee work behavior within IS organizations.

Previous research showed an absence of significant direct relationships between interference, disagreement, instability and user satisfaction. For instance, (Barki & Hartwick 2001) investigated the influence of interdependence, interference, and disagreement on project success. Sørebø et al. (2005) found the relationship between interdependence, interference, and disagreement factors on user satisfaction through negative emotions.