

**Evaluating employees' satisfaction with Information
System: Case of a financial organization in Iran**

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Abstract

In this thesis the aim is to perceive qualitatively whether or not employees of two departments in one financial organization in Iran are satisfied with Information system (IS) they utilize. The research method is qualitative methodology and interviews and questionnaires are used to collect data from employees.

The results present that the majority of employees are satisfied with IS, but they demanded more efficient Information Systems which fit their needs as well as their departmental contexts. Besides, they mentioned that for IT department or any IS designing company being more careful to understand as much and deep needs of employees as possible during designing process.

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1-Introduction

1-1-Background of research

Using personal computers has increased rapidly since 1970s. One reason for this rapid increase has been that computer and technology has made life easier. Computers have entered various fields of life from agriculture to medicine. On the other hand, reviewing more recent history, any kinds of tools or instruments made and used by humans illustrates people effort to find easier and faster means to accomplish their daily work.

Besides, organizations have taken the advantage of utilizing computers as the means of performing various jobs. Using different computer technologies have increased speed and efficiency in many office jobs.

Various studies have focused on the costs caused by implementing new IS in organizations. Solow (1987) which is one of the studies evaluated costs of IS from the point of view that assesses whether or not the costs caused by IS are less than the benefits of it for the organizations.

1-2-Research questions

This thesis is aiming to present responds to some questions that are of the current research interests as well as answering some questions found from the literature studies such as recommendations in Au, Ngai and Cheng (2008) to change their study perspective and variable in further studies.

The questions are four with a few lines of descriptions about each as follows:

- 1- Are the employees of the aimed financial organization satisfied with information system they are utilizing to accomplish their organizational tasks?

The employees of the financial organization in Iran were asked to fill in questionnaires and to attend interviews designed by the research conductor to perceive the employees' satisfaction with information system they utilize. The goal was to know if they are satisfied with the information system they have in the organization.

- 2- Have the expectations of the employees of two aimed departments changed during the years IS started to be used, after it is used and after some years of using IS?

The respondents were asked to indicate their expectations of IS during some periods such as the time that IS has not entered their departments, the period that IS entered their department and they knew more about it and the time that IS has been utilized for a long time to check the expectation changes. They were asked to describe what expectations they have from IS. Do they expect IS to help them, different than they expected IS in the past?

- 3- Are the employees aware of the matter that using IS might decrease the employment, and are they satisfied with this matter?

These questions aim to discover to which degree the employees are agreed with having IS to ease their work and if they are satisfied with decrement in employment caused by using IS, then they might be ready to use IS different and learn any new knowledge caused by improving IS. This also indicates that the employees are satisfied so much with IS that they like to interact with it, and learn any new requirements needed to interact with new or modified IS.

- 4- Are the opinions of the employees about their own satisfaction the same to the opinions of the other employees about their colleagues' satisfaction?

From my own observations there are many criticism and complaints about IS in the organization departments. However, this complaints could be different from the employees own view. Thus, this thesis wishes to know if there are differences between employees own opinions about IS and employees' satisfaction from other colleagues point of view.

1-3-Research Methods

The research methodology is qualitative research method. The qualitative research method is the methodology has been used in some of the studies in the literature such as in Leclercq (2007), Au, Ngai & Cheng (2008), Shaw, DeLone & Niederman (2002) and Joshi, Bostrom and Perkins (1986). However, the fact that majority of prior studies have availed some other analyzing methods in order to interpret or translate the data collected from the questionnaires is apparent.

The qualitative research method is proper for this kind of research methods as the aim is to find out the opinions of employees and staff in organizations. However, this does not absolutely mean that the only method or the most proper method to collect data is qualitative research method. There are possibilities to collect data quantitatively, but in this study the aim was to gather and analyze opinions from the employees; thus the more proper method to collect data was qualitative with the use of interviews and questionnaires. Moreover, the qualitative research method has been known as the most suitable research method to focus on behavioral studies such as evaluating employees' satisfaction in organizations. Besides, the qualitative research method is the one which is appropriate for the studies which are interested to find the responds to why and how questions; that is, another reason why qualitative research methods is utilized in employees' satisfaction with IS in organizations.

1-4-Results

This research aims to introduce new factors such as employees' expectations impacting employees' satisfaction. This research would help to observe the employees' satisfaction from a new perspective, since current research tried to present its own way to design questionnaires. In addition, this thesis presents if the employees were satisfied with the IS in the aimed organization.

However, it is useful to keep in mind that this research would be important to organizations which wish to know their employees' satisfaction with IS through the methods which are more creative; thus, this thesis follows other studies which have created their own methods and factors to check their employees' satisfaction, if the goal is to check satisfaction through a tool or method other than usual and proposed tools.

The degree to which the employees of the organization are satisfied with IS could indicate that the employees wish to utilize IS and they are ready to spend any time to know any new ways to interact with new or modified IS.

1-5-Thesis structure

The next chapter of this thesis is 2-background. Then, the study and methods is presented in chapter 3. Next in chapter 4 results and conclusions are presented, and Chapter-5 contains references.

2-Literature

2-1-What were introduced as influential on employees' satisfaction

Checking employees' satisfaction with IS has become more and more crucial to organizations. The reason might have been organizations have found the fact out that the better IS they use is, the more the benefit they gain through their employees' satisfaction. Hence, the studies concerning checking employees' satisfaction with IS in organizations has started since 1980's nearly.

In addition, there are descriptions of satisfaction brought from psychological sciences and articles in some studies such as the study by Bailey & Pearson (1983). They explained the description of satisfaction as the 'sum of one's positive and negative reactions to a set of factors in Bailey & Pearson (1983).

A large amount of previous research was concerned with factors that influence IS user satisfaction (Bailey and Pearson (1983); Doll and Torkzadeh (1988); Ives et al. (1983)). In the relevant literature, one study seems either the first or the original study (Bailey and Pearson (1983)) which was conducted regarding the employees' satisfaction in organizations. Moreover, the aim in the mentioned study was to introduce so called factors influencing employees' satisfaction, other than to present employees' satisfaction itself. The factors were behavioral factors have effect on employees' satisfaction in organizations. That is, these factors can increase or decrease employees' satisfaction with IS in organizations.

Furthermore, total number of factors influencing employees' satisfaction is the instrument containing thirty nine factors that was validated in the study of Bailey and Pearson. To exemplify, accuracy, reliability, up datedness and relevance are some of the factors from the instrument introduced by Bailey and Pearson. These factors affect the employees to react behaviorally; and summation of negative and positive reactions to these factors is introduced as satisfaction in the study by Bailey and Pearson.

Then, most of the further studies have used the ideas of the stated research Bailey and Pearson (1983) in order to either use these factors to check the employees' satisfaction in their organization, or to evaluate the tool containing the factors in order to reduce factors to fewer factors that are more necessary for further studies. In addition, some studies offered new factors other than the factors introduced by bailey and Pearson, and proved that their proposed factors could be considered as important and influencing on employees' satisfaction.

Moreover, among the studies focused on evaluating Bailey and Pearson instrument to reduce the factors to the one attracts attention is the study by Ives et al. (1983) in which the author modified the instrument introduced by Bailey and Pearson to a brief instrument which only has the needed and necessary factors influence employees' satisfaction. This study has reduced the number of factors in the Bailey and Pearson instrument from thirty nine factors to thirteen factors which sound more needed for organizations to check their employees' satisfaction.

In another study as in Baroudi and Orlikowski (1988) evaluated the instrument by Ives et al. (1983). The results announced the study by Ives et al. (1983) was valid to be used by organizations. However, this does not mean that the instrument by Bailey and Pearson was not proper to be utilized by organizations. The study by Ives et al. (1983) and its validating one Baroudi and Orlikowski (1988) tested to figure out if a shorter instrument is possible to be obtained from the existing instrument with thirty nine factors in order to enable organizations utilize the instrument. With this shorter instrument the employees of the organizations have to consume less time on filling in the questionnaires. On the other hand, the shorter instrument lets the organizations consume less effort to analyze the answers of filled in questionnaires.

2-2-Selecting proper IS seems better than changing it after installing

On the other hand, modifying the IS systems in the companies and organizations is pretty normal, since applications and software change advance by so many companies in order to customize new needs of employees and customers. As a consequence of this the organizations would prefer to change their IS systems or a part of it occasionally.

However, the recent called modification is so much different than modifying IS systems because of mistakes that have been made by organization when choosing proper IS system. In other words, when a company changes IS system because of the changes that have been made to applications and IS systems in the market, it seems more natural and logical than changing IS system because of not seeing the organization's needs when ordering the required IS system for the organization. Therefore, the organizations are searching for IS that can remain in use as long as possible.

On the other hand, the time that it takes for the employees of organizations to learn how to interact with any new IS, is another important matter to assume as problematic. Because the

employees would not tolerate interacting with an IS system usually as it is not easy to learn to interact with any new IS.

Therefore, the studies focused on the design portions of software or IS design have become of more interests recently. One appropriate example is the book contextual design 1998 which presents the ideas such as considering as many needs of the employees as possible by observing the organizations as close and deep as required in the stages before implementing the IS or any software.

Furthermore, contextual inquiry which is a method to interact with employees of a company or any organizations has the goal to collect information by just attending organizations context and spending time with the employees to figure out their every single action; and therefore realize their needs or problems with their jobs. In this method any idea that might not have been interesting or notable needs to be considered.

Briefly, there are other processes which are introduced in this book such as collecting all data in one place, having interviews with employees to check observations, having other staffs of the designing company ideas about all collected data; and to gain a whole knowledge of the organization to see it as a whole. Thus, the first outcome would be suggestions to correct the procedures in the organization and then answering their needs with a new IS or any applications.

Conclusively, these efforts show implicitly that designing process of ISs is important, since they can even reduce the costs of implementing and supporting IS in the future. Besides, according to above hints, organizations should care more about knowing their employees opinions about the IS in use.

2-2-1-A question without an absolute answer

One of the questions that this thesis has and it is not in the research questions, is that will all these studies regarding finding standard factors become useful for all organizations finally? The notable point is that so many studies have been conducted regarding either finding new factors or evaluating existing factors proposed by prior studies; but will these become helpful one day to be used by all the organizations is the question that none of the former studies have considered.

However, there are hopes concerning finding standard factors or standard tools containing factors in studies such as Shaw, DeLone & Niederman 2002 in which they believed that the efforts to find common factors or tools to be utilized by organizations are useful, but in the same authors have stated that there might be some factors which have crucial effects on user satisfaction, but at the end each organization should look for new factors suitable in their specific organization for proper influential factors.

The question mentioned in the paragraph above can be answered only by waiting until most researchers and practitioners use the factors as well as announce their results after using either factors or any tools proposed in the literature. Because no matter how hard either this thesis or prior studies such as in Aurélie Leclercq (2007) and Nancy C. Shaw, William H. DeLone & Fred Niederman (2002) the ambition to find out if the tool is addressing every single organizations' needs to know their employees' satisfaction with IS would not be satisfied until they all exert the studies which reveal the factors appropriator to each organization.

Nevertheless, the impact of some factors as standard and crucial to at least most organizations can be gained by some studies; but again this also needs many studies to be revealed as a fact or standard tool.

2-2-2-A solution to have a central bank approving most influential factors

This thesis goal is closer to having its own factors, and to help evaluate expectations impact on satisfaction and check expectation in different periods of time in order to help reach the purpose of studies such as ones proposed to have a standard tool organized by a central database bank. As it is also strongly recommended in the study Au, Ngai & Cheng (2008) to increase the effort to accomplish a standard tool such as a central International Bank which contains a tool of factors influencing user satisfaction with IS in organizations. As an outcome all organizations can use this central bank tool to check their employees' satisfaction.

However, suggesting more and more factors to literature is not helping, since it brings confusion to both organizations and practitioners. Because any person interested in understanding user satisfaction in their organization would face a numerous factors introduced in prior studies, and might find it difficult to choose the most suitable ones among them. Nevertheless, registering a central bank which collects the ideal factors would prepare

the opportunity in which the most affecting factors are chosen and recommended to organizations or practitioners. Moreover, this central international bank has also have to check the factors in organizations to acknowledge their validity, but they can reach a way of reducing the workload and time to do so in more efficient ways hopefully.

Then, studies such as in Shaw, DeLone & Niederman (2002) focused on the factors influencing users' satisfaction with IS; but the methods they have availed were even broader than former studies in the terms that they have implemented their study on different user groups as faculty staff, non IS staff and students in one university. In this study they checked the importance of some factors such as IS staff response time, IS staff technical competence, ease of access and user understanding to the mentioned groups of users. The results announced that factors such as software upgrades, IS staff response time and documentation of training materials are the most influencing factors have crucial impacts on user satisfaction with IS. On the other hand, the results also showed that different factors have different impact on different user groups.

2-3-Other methods and focuses in other studies

On the other hand, further studies introduced new factors impacting employees' satisfaction again. In Leclercq (2007) approved the effect of factors such as perceived usefulness, employees' participation in designing IS, quality of relations with IS function and its resources and the fit of IS to employees' needs the factors influence employees' satisfaction with IS. This study benefited from conducting forty one semi structured interviews with managers of one organization in France. The research methodology in this study was interpretative qualitative.

Considering the focus of the French study on high levels of employees in the aimed organization such as managers the author of study offered any further studies regarding employees' satisfaction with IS to focus on lower levels of employees; thus, current thesis is interested in studying on respondents from lower levels of organization. Therefore, clerks of the organization from two departments have been chosen for this thesis.

Then in the studies by Shirani, Aiken and Reithel (1994) authors introduced a revised model of users' satisfaction with IS evaluating which model of flow is closer to reality. This study also had new ideas such as that most of the researches focusing on employees' satisfaction are conducted on employees' satisfaction with existing IS. However, the authors offered that it

would be better to do the researches on information systems before their implementation. The reason for such an offer is that the studies on any IS before implementation could enable the organization to do exert actions such as modifying IS, employees education and organizational changes if needed in order to have a better IS that fit the employees' needs as well as possible.

Moreover, the revised model contained employees' characteristics, organization characteristics and IS characteristics at the same level. This revised model presented that employees and organizational characteristics both form the employee expectations. Thus, if the actual characteristics of the developed IS satisfies the employees' expectations, then the confirmation of employees' satisfaction can occur.

Furthermore, in study Au, Ngai and Cheng (2008) focused on expectation theory, needs theory and equity theory. This study proposes three categories of needs as work performance, relatedness and self development that need to be fulfilled by IS in organizations, especially according to the struggle by the employees so called input by employees. This means that the ratio between input by the user and the fulfillment of employees' needs should be in a way that employees take more than the effort they have exerted to fulfill the need. That is, the ratio should be more than one.

This research studied the attitudes of airline and hotels industry revealed that equitable work performance fulfillment and equitable related fulfillment have stronger impact on user satisfaction than the perceived IS performance. The definitions described in Au, Ngai and Cheng (2008) is as followings:

- Work performance fulfillment** is the user needs that are fulfilled from using an IS at the workplace by carrying out assigned job duties such as work efficiency.
- **Relatedness fulfillment** includes social oriented needs of the user that require interactions with other human beings.
- Self-development fulfillment** is the employees' individual self-growth and self-advancement that are brought from using the information system in areas such as job promotion.

Besides, according to the same study in order to gain user satisfaction not only the mentioned needs should be addressed by IS, but also the degree of effort as the input by

employees should be worthy to employees mind. Hence, in this theory there is ratio between benefits and inputs that is referred to as equitable needs fulfillment. The main contribution of the new model is to recognize that a user's rating of the benefits that an IS can bring depends on the amount of effort or input that is required to gain those benefits. To conclude from this study it can be stated that is why some employees are not satisfied with IS in organizations, although either the ratio is fair to the organization, or the costs are effective to the organizations after doing quantitative research and measurements in the organization. The obvious reason (Also according to the author of this study) is that the employees are satisfied with the ratio that they have on their mind, since the ratio is not fair enough comparing to the effort they have exerted as input to reach the current benefit.

These were the studies about User Information Satisfaction (UIS) in the literature. However, the need to conduct new studies is felt, because the usage of computer systems and IS are increasing even more than past and it is because of the reduction in expenses in organizations from having IS.

On the other hand, there are studies concerning factors influencing user IS satisfaction such as in Bailey and Pearson (1983); DeLone and McLean (1992); Gallager (1974); Ives et al. (1983) and Rivard and Huff (1988) who generally agree that the instrument proposed by Bailey and Pearson or the revised version of it by Ives et al. is a good predictor of overall service quality. These researchers introduced the main or basic factors effecting user IS satisfaction.

However, this research as well as most studies in the literature can show the results regarding just one organization, so it would not be expanded to employees of other organizations. Nevertheless, the research could represent some general ideas about the employees satisfaction with IS in order to let reader to find out the general satisfaction of employees with IS in the aimed organization.

2-4-More studies conducted more factors introduced

Further to what have discussed, the above studies made it even harder and broader for practitioners and organizations who wish to use factors to check employees' satisfaction with IS. As before knowing such above studies the focus would just be on any group of users without noticing users' categorization, but after this study any research should also consider user groups in addition to factors influencing them. Moreover, what makes it difficult is that

different various user groups should be checked with the impact of same factors again and again until all user groups have been checked with all the factors.

Besides, at the end the results are not reliable enough, since any new factors introduced by other studies might have entered the table of factors regarding employees' satisfaction with IS. As a consequence a new study should be implemented to check the new factors with employees or the previous study would seem incomplete.

In addition, in Joshi, Bostrom and Perkins (1986) perceived fairness in allocation of information resources can make people think about their efforts in competitive and comparing way. Hence, any conflictions or unfairness might make users to analyze what happens to them is happened by justice. This can lead to either depression or satisfaction finally. In the same study on the same way of observing employees' attitudes there are two important factors influence user satisfaction with IS as role conflict and role ambiguity.

Conclusively, this study recommended that all the studies in the literature before the current one should take into consideration the behavioral aspects of influences on employees, since these kinds of factors have not been observed from a view which cares about social and political factors as influential. Political factors are any influences caused by authorities or any efforts to distribute power resources among employees.

In Ives, Oslon and Baroudi (1986) the authors have reviewed previous studies regarding users' satisfaction with IS. In this study literature researches such as Galagher and Lacker & Lessig and Bailey & Pearson (1983) have been reviewed. The points that the studies have been compared so that one can be selected are as follows:

- whether or not they have empirical support for the researches or theories?
- Whether the point of view is sensitive to IS products or the factors related to quality of service of IS.
- Number of items or factors has been introduced.

Next, the factors of the instrument by Bailey & Pearson such as Content validity, predictive validity, reliability, constructive validity were assessed by reviewing the methods that was constructed by Pearson to assess his factors with respondents during interviews, but none of the mentioned factors were altered for elimination in this method.

In addition, a practical method was utilized by the authors of the studies by B.Ives, Oslon and Baroudi (1986) to assess Bailey and Pearson study. The method was to omit the factors

with least psychometric measures as well as including scales values more than fifty percent. After that the validity of the new tools with reduced factors was evaluated in reliability and content validity and the results were persuasive. Thus, a limited tool to be filled in by users in fewer time demanding was introduced.

Furthermore, other factors influencing employees' satisfaction with IS are the ones presented in Baroudi, Olson and Ives (1986) which focused on the effects of user involvement in designing IS on user usage and user satisfaction with IS. This study was grounded on two hundred managers of different organizations in United States and the questionnaires were sent by mail to utilize a variety of ideas from different organizations instead of just one organization as it was done in most studies.

In this study path analysis was used in order to find the best and most efficient path which flows from user involvement to user IS satisfaction and IS usage. Path analysis is a robust data analytic technique that allows testing of causal models using cross-sectional data. The outcome is that the user involvement in the design process leads to user IS satisfaction and IS usage, however it was also revealed that user IS satisfaction leads to system usage.

Then in Kraemer, Danziger, Dunkle and King (1993) conducted on two hundred and sixty managers from different organizations in forty six city of United States. The terms such as direct user or an indirect user using computer through another person have been used in this study. Besides, comparing modes of usefulness in financial and operational managing was desired also in this study.

Results show that managers who use IS in routine tasks are more satisfied than that in non routine tasks. Also managers are more satisfied with utilizing IS for financial managing than for operational managing tasks. Besides, what most managers care about IS to prepare is quality of information and accessibility of it.

In addition, more studies such as in Yeo, Aurum, Handzic, Parkin (2002) more factors introduced such as perceived usefulness and perceived ease of use which have influence on user satisfaction. Perceived usefulness is the degree to which an individual believes that a particular information system would enhance their job performance. Perceived ease of use is the degree to which a person believes that using a particular system would be free of effort.

The participants in this study were two hundred and fifteen undergraduate students of computer science, software engineering and Information Systems degrees in the University of New South Wales. The participants were asked to do their assignment with the aid of MS

access to create forms, queries and reports. The method to analyze the questionnaires asked students about their ideas how they did their assignments was descriptive and analytical statistical.

The results indicate that when the users have one choice they are more satisfied than the situation in which there are more alternative ISs available. Another result shows that both perceived usefulness and perceived ease of use are two causes of user satisfaction with IS.

2-5- A possible solution

Then, the need for either a common or standard tool was needed in order to let the researchers to take advantage of checking employees' satisfaction. This need also was mentioned in the study Baroudi & Orlikowski (1988) as the following: 'The existence of a clearly established and validated measure of satisfaction was lacking, at a time when the relevance of the concept of satisfaction had nevertheless been revealed. In the study Baroudi & Orlikowski (1988) it is mentioned that there are two benefits of using a common and standard tool to check employees' satisfaction: first, a standard measure let making comparisons between pairs of divisions, systems, users, organizations, or industries. Second, the development of a standard measure of satisfaction lets researchers and practitioners utilize a valid and recognized tool.

It seems furthermore very difficult to compare and accumulate the scores of various individuals. Certain authors are beginning to suggest that the UIS measurement instruments must be adapted to the organizational context, and that it is sometimes more useful to only use one single overall measure of satisfaction, and not the whole ensemble of criteria of measurement instruments in Baroudi and Orlikowski (1988). These kind of innovative ideas attract the attention of this research more than having any kind of bias on a tool, instrument or method, since these studies fit the organizational situations more flexible. Besides, the researchers could have their own priorities in factors or methods fitting their interests the best. Moreover, any ideal factors could be offered to the literature to be used by further studies.

Therefore, again the affair that current thesis focuses on is glowing more, because of all these progresses occurred in literature regarding employees' satisfaction with IS that describes clearer why not to have bias on any kinds of tools or measures for checking

employees' satisfaction. The aim is to reach the point that the tools chosen for measuring employees' satisfaction could be flexible to the situations and dependent on the context of the organizations individually and preferably.

Then, by utilizing flexible tools any new factors influencing employees' satisfaction found in the flexible studies might become of concerns of future studies, since new organizations and new studies might find new factors. Besides, there are better fitted ways of doing studies in variety of organizations. And any new methods could introduce more innovative and creative methods to other researchers and practitioners not directly but through introducing the method that was used and how the conductor has reached the method.

Next section is methodology and the details of this thesis to let the reader see the study progress as well as the methods and factors used by the conductor.

3-Study and methods

Studies focusing on employees' satisfaction with IS were fewer in number. Thirty years ago, there were hardly any studies conducted on employees' satisfaction with IS, but today due to increasing usage of computers these kinds of studies have started to gain much more attention.

The reason for this occasional research thirty years ago might have been as the following process that the organizations had just started to avail IS, when they were convinced that IS benefits them. Then, the organizations continued to use IS until they thought that the benefits were not as many as the benefits they used to have. Therefore, they started to search for the reasons of not having their usual benefits. This might have been the time that organizations started to demand studies with quantitative methods and views as in the study by Solow (1987) to establish the most cost effective IS.

However, the organizations did not consider any other reasons but cost effectiveness for IS not bringing expected benefits, even though there were other reasons that have not been recognized important such as employees or users not feeling comfortable or satisfied with IS. This can be stated, because there were not many studies demanded by organizations or studies done by researchers concerning employees' satisfaction with IS in the past when the quantitative research methods had been used before any qualitative research method evaluating user satisfaction started to be used.

IS should benefit also employees. However, this is not always a case. Unlike, IS does not feel exhausted when performing various tasks, employees become exhausted and overwhelmed of the task they have to accomplish, if IS is somehow unsuitable to their needs. In other words, the organizations have implemented unsuitable IS, would lead to employees' dissatisfaction with IS.

On the other hand, expectations from IS might be as many as there are employees in organizations. Moreover, considering more people in more extended society might result in so much more expectations that may be even difficult to count. Nevertheless, this is not possible to omit any opinions from the set of employees' opinions. Conclusively, every single idea of all employees in organizations is required to know the whole satisfaction in any organization. However, in this thesis according to the fact that the population of the organization was high collecting ideas from all the employees of the aimed organization was not possible.

However, employees' expectations are not always reasonable due to lack of knowledge of system operations or capabilities of computers. To determine whether IS are suitable and reliable to specific organizations all employees' accessible views of their expectations should be collected. It is useful to know employees' expectations and see its impact on employees' satisfaction. This knowledge could help to understand the impact of the factors employees' expectations of IS on their satisfaction with IS.

This section describes the progress of current thesis as well as the research methodology has been utilized. However, before any information about these concepts it is better to know about the background of the research conductor, some information about the organization that the research was focused on and the country that the organization is located in.

3-1-Research conductor background

The conductor of this research is a student in the major of computer science as well as a clerk in one of the departments of the organization (me). I am male, twenty eight, single and Iranian. Moreover, I am studying computer science in the University of Eastern Finland at master level. This research was exerted as my master studies thesis.

The reasons why I did this research were so many such as hearing complaints about IS in the organization for a long time, observing many errors and problems with the computer systems and applications and I was also involved in some of problem solving processes. Therefore, I decided to see whether or not the complaints were correct and if my colleagues are satisfied with IS.

This research is conducted in a financial organization, since I have been hearing of employees complaining about the IS system they had in the organization. The complaints were about applications that have been utilized for different purposes such as accounting and financial affairs in the organization. These are not the only the matters that the complaints were about. The complaints were also about speed of the computer systems and applications, the network connections, the applications speed and errors. However, the details of these kinds of problems and errors are not concerned by this thesis as the aim is to understand employees' satisfaction with IS and to find the factors affecting employees' satisfaction.

Besides, I have my own observations of some problems with the IS in the organization. There have been some problems with IS since I was hired in the organization. For example,

the IS professionals who have the responsibility to take care of errors and problems with IS in the organization don't respond the employees needs properly and as expected.

On the other hand, there was another study implemented by me as IT project of master level studying the same level as this thesis is conducted in. In this project many problems with one application have seen as the aim was to evaluate and modify a financial application. These problems were the ones that the employees of a department have been dealing with during the period this application have been used by them.

In addition, I have been involved in some processes to observe and report the problems with IS in the organization, other than the problems presented in the above stated IT project. There were some group tasks I attended voluntarily while my employment in the organization, such as asking employees about the problems they have had with the IS in the organization, as well as other activities as installing new software or applications in some departments of the organization.

All in all, I as the conductor has entered into the process of observing and reporting employees' satisfaction with IS in the organization both purposely and voluntarily. I have computer knowledge background that makes me feel more responsible than other colleagues of mine about the problems that employee have with IS in the organization; on the other hand, there voluntarily group jobs that stated above helped me think about a way to try to either present or possibly solve the employees' dissatisfaction in the organization.

3-2-Organization and its country background

The country that the organization is located in is Iran. Iran's position is in the Middle East. To mention some of the neighbor countries of Iran Afghanistan and Iraq can be stated. There are thirty one regions in Iran. The region that contains the capital city is Tehran state.

The governmental system of Iran is Islamic republic. The population of Iran is about seventy five millions in 2011.

Moreover, there are many financial organizations working in Iran. Currently, there is just one governmental financial organization. However, Iran used to have more governmental organizations, but all organizations except one switched into private organization since 2007. The organization (in this thesis is called 'the organization') that this research has been conducted in is one of the private financial organizations of Iran.

The organization that this study has been conducted in is a financial organization which has many branches in Iran and some international branches in other countries in Europe and Asia continents.

The number of the branches in Iran is over one thousand and seven hundred. These branches are working in all the regions of Iran. All the central branches and departments of this organization are in Tehran the capital city of Iran. The departments are categorized into groups as divisions. Central divisions that contain central departments are located in limited number of buildings in Tehran city.

The main work of the organization is as other financial organizations such as transferring money between branches, transferring money to other banks in Iran and out Iran, saving money for people and issuing letters of Guarantee and Letters of credit.

There were two divisions which the research focused on. The departments were as foreign operation division as well as research and development division. Each of these divisions has at least seventy employees. However, the questionnaires and interviews have been conducted in two departments of these divisions. The purpose was to collect ideas from different employees of different departments of different divisions.

Each of the departments which the questionnaires were distributed to has at least fifteen employees who all use computer systems as Information systems in order to exert their jobs. However, the applications that the employees are utilizing are different, as the employees' jobs and duties are diverse.

However, this is possible to collect the ideas of the employees of different departments availing different applications, because the aim of this research is to find out satisfaction with the employees of these departments of the organization with IS as a general term. Hence, the kind of applications or software is not important to this thesis view as none of the literature studies conducted in the same field had a focus on any applications as well.

3-3-Departments and employees introduction

The first department to be introduced is the department that the research conductor is working in. This is the department which is in the foreign operations division. The jobs that are done in this department are such as issuing, extending and canceling letters of guarantee on behalf of companies inside and outside Iran.

Moreover, this department has eighteen employees. There are three assistants in this department assisting the boss of the department. The rest of the population of the department is casual clerks called Letter of guarantee experts.

Besides, this department is one of the five departments in this division. All these departments are working together on one floor of one of the central buildings of the organization in Tehran city. All the departments of foreign operation division are under authority of one chairman and their two assistants.

Another department is in another division of the organization. The duties of employees in this division are to find new, innovative and creative methods of customization as well as finding problems and to address them with the best solutions. This division has eight departments which are smaller departments than the ones in foreign operations division. The department that this thesis was conducted was the department with eight employees. Their job is to find the most efficient and common methods of customization used by other banks and financial organizations. The number of employees in this department is eight.

In majority of the departments of the organization there are two major groups of employees in the respect of the age. The first group of employees is middle age people with the age range of thirty five to fifty five. The second group of employees is the younger group with the age range starts at twenty five and ends at thirty five. Thos grouping does not present any special meaning, but because one of the aims of this thesis is to check employees' satisfaction with IS over time periods having employees with different experience time is an advantage.

The age gap and experience time explained above is because the organization has employed some of its employees in the 1980s, and after that there was not any employment in the organization. After a period of time as the organization required more work force according to more service demand by customers, the organization employed more employees. Therefore, a gap, which is about ten years, happened between the employees' experiences in the organization. This is not explicit or important in the organization in every decision making or human resource grouping according to the management points of view heard by the conductor, but the conductor of this thesis used different types of experiences to have different employees' ideas.

In the remaining parts of this chapter there is the introduction to research method that has been availed in this thesis as well as the detailed jobs done in this research.

3-4-Study presentation

In this research, any usages of the term computer refer to personal computers operated by one person who has many applications at his or her disposal. Various applications enable individual users to customize computers to serve their specific needs. All these means of communication and automation with the aids of computers considered as Information Systems. IS has introduced as above to employees of the departments of the organization in the questionnaires and interviews as well.

The increase in taking advantage of IS in organizations which can be seen recently in any organization to help both the customers and employees address their needs easier and faster, and likewise the organizations who care about the satisfaction of their employees with computers systems and IS, this research is conducted to figure out whether or not the employees of the above stated organization in Iran are satisfied with IS.

This research as one of its goals tries to find whether or not employees' expectations influence their satisfaction with the employees of the aimed organization through interviews. This would show this factor influencing employees' satisfaction. User expectations of IS are defined as “a set of beliefs held by the targeted users of IS associated with the eventual performance of IS and with their performance using the system” in Szajna and Scamell (1993).

Due to what was stated in Zviran & Erlich (2003) the employees' satisfaction is an abstract concept that doesn't lend itself to direct measurement; thus, perceptual and subjective measures have been preferred to economic and quantitative measures. Therefore, the qualitative studies are more preferred to be exerted than the quantitative studies in the field of examining the employees' satisfaction in organizations. This research considered and implemented qualitative research method as the proper methodology as well.

Conclusively, this research has a focus on seeing if the employees of an organization are satisfied with. In other words, in the relevance literature there are factors introduced as important to influence employees' satisfaction with their IS. To exemplify, expectation is one of these factors. However, there are other questions about the factors might be influential on employees' satisfaction such as the impact of other employees' opinions about IS on individuals satisfaction. Another factor is the effect of promises made by IT department staff about coming or current IS in the organization on employees satisfaction.

This thesis aims at finding if expectation of the employees of IS in the organization influences their satisfaction with IS. Then, it is important to see if the employees ideas about IS are impacted by the advertisements made by IT department about IS advantages and to figure out if employees satisfaction is influenced by authorities promises about IS being helpful. Another question is to find out how different is employees' satisfaction from their own point of view with the employees' satisfaction according to their colleagues' point of observation of them.

In addition, asking to know whether or not the advantages promised by IT department and authority will be happening by utilizing IS have been made, is another questions of this thesis. Also the employees were asked to state their status of expectation over time periods before having IS, while getting familiar with IS and after being more familiar with IS such as the current time. That is, the closer the conductor is to the research area and research subjects, the deeper the understanding of the conductor is. Besides, when the conductor attends the context of the organization, the employees trust the conductor to mention the secrets of their work, since some of the employees would feel their ideas about their colleagues, managers or job affects their job opportunity.

Because this research has checked these own chosen factors with employees of the organization, the outcome of this research might be any new or unexpected results influencing employees' satisfaction. For instance, the time that the employees did not have the opportunity to use IS in their jobs was also considered in this thesis to reveal employees' opinions about IS and expectations of IS when there was no IS used in the organization. The results would be hard to be compared with other results to come into a conclusion finally.

To conclude, not only the method to design the questionnaire is crucial to any studies focusing on user satisfaction (or even on the employees' behavioral aspects), but also it is important to recognize a strategy to analyze the filled in questionnaires. In other words, the focus should not only be on choosing some factors to be checked to reveal the employees' satisfaction or to present the validity of factors, but also the way to mention factors and the method to analyze the responds are important.

In addition, in order to obtain the opinions of employees in the organization questionnaires and interviews have been designed and conducted with the employees of the organization. These are the most utilized methods of data collection in the field of users or employee' satisfaction in the literature as well.

3-5-Questionnaire

Moreover, the questionnaire was designed by the research conductor according to his own interests and questions, but some of the factors asked for were suggested in the former studies. There were also suggestions in the prior studies to conduct any further research on lower levels of employees in organizations. This is the reason this thesis preferred to distribute questionnaires to the employees such as casual desk clerks of the departments, while majority of previous studies had been conducted on the management of the organizations.

Another suggestion in a former study done by Leclercq 2007 offered further researches to focus on the employees of financial organizations, since the opinions of the employee might be different from their study results. Their study has been exerted on the managers of French organizations.

The questionnaire has twelve closed questions and three open questions which let employees to express their any ideas more freely without feeling the pressure of any prepared format for their responds. Besides, the number of the respondents to questionnaires was twenty four out of thirty questionnaires have been distributed.

The questionnaires were given to the employees in a text file format. The employees have filled in the questionnaires, and hand them back to the research conductor by email.

Besides, the questionnaires were distributed in the organization between the employees of two different departments in two different divisions. The organization is a financial organization in Iran. The detailed definitions about the organization and the country of organization will be presented in later sections of this research as organization and country of organization background.

Before any interviews of employees' ideas, first a questionnaire was distributed to reveal whether or not the employees of the aimed organization are satisfied with having computers and IS. That is, the employees might not even feel satisfied with the IS that they have, or they even think that they had been exerting their duties in the organization before having IS more either regularly or easily than the current time that they are utilizing IS.

The questionnaire gained variables such as time which is able to present if the employees expectations have been changed while IS have been running in the organization as well as the

time that the employees had been doing their jobs without utilizing IS. The details about the questionnaire and answers by employees are represented in the research methodology section and results sections of this research.

Furthermore, the time that was given to the employees to answer the questions was not limited by any due date beforehand. Therefore, employees filled in the questionnaires without any stress according to pressure caused by their workload and responsibilities in the organization. The questionnaires have been distributed in a Microsoft word format to the employees in order to help saving and forwarding them easier. Comparing to the paper formats, the software format is less time consuming, since the paper format needs time to be scanned to be ready to be forwarded by email. The paper format needs pen to be filled in, but the soft format needs a window on the screen which lets the respondents feel they can continue answering whenever they want while they do their tasks on other windows of the screen. Besides, the soft version does not need scan to be ready to be sent by email.

Another reason for this soft text format is that the questionnaires have been handed over to the employees, when the conductor was in the organization. Then, the conductor left so all results should have been collected by one person responsible who was chosen beforehand. All the results forwarded to research conductor through email by one the employees.

From thirty questionnaires distributed twenty four filled in ones have been collected and forwarded to the conductor after one month and half for filling them in. The reason for not answering six remaining questionnaires is not apparent, but it might have been time limitation or not caring about either questionnaires or researches totally. These approximations have been stated by the collector of the filled in questionnaires and the reasons might be true according to the conductor experiences of interacting with employees of the organization as their colleague.

To describe not answering more there are some employees think none of the studies implemented have done well or they might think no apparent helpful outcome has been experienced by them after previous studies in the organization. Thus, some of the employees possibly think that they have problems with or without answering the questionnaires. In reality these employee might also be right since not all the studies exerted in the past helped employees to perform their jobs easier, although those studies were on other subjects not about employees' satisfaction with IS.

However, this does not mean that all the studies are not useful, because there are some studies such as this study conducted by employees according to their own interests and they were not relevant to organization's benefits or interests, although it might help the organization start such studies to figure out their employees' satisfaction with IS.

The questionnaire copy can be found in appendix A of this thesis paper. The definition of the information systems have been stated at the beginning of this questionnaire to make its concept clearer.

The questionnaire has questions containing time affecting employees' satisfaction with IS. This means that the employees' satisfaction was asked in three periods as before having IS, while having IS and after having IS. Before and after having IS can just check whether or not the IS has helped the employees in task completing so called perceived usefulness by Julia S. Yeo, Aurum, Handzic, Parkin 2002. In this article perceived usefulness is defined as how much the user think that the IS can help them to advance their job.

Besides, time variable can check if the employees assume that the use of IS has helped them over time, but the question about their satisfaction during the time they were interacting with IS can reveal that how the events have been over the time utilizing IS occurred: were they satisfying or dissatisfying? This question can attract attention to the affair that employees could have been dissatisfied with their job without IS, but after using IS they started to feel more satisfied and comfortable. However, what is important the most is whether satisfied or dissatisfied with the current IS.

Finally, it means that there could be other problems such as organizational problems, behavioral problems caused by employees' relationships or anything other than IS made employees feel dissatisfied, but this questions could help more to concentrate on employees' satisfaction with IS than anything else. All in all, these can indicate that problems might have different resources other than own IS.

On the other hand, satisfaction could have another reason that is not defining satisfaction to respondents properly so that they might think their excitement of having new system is satisfaction which can vanish by time passing, but employees could still be satisfied with IS, although not excited anymore. Therefore, satisfaction should be defined to them or it is not mature to consider any answer such as satisfied or dissatisfied as the meanings of their words. That is, different terminology might have different definitions to diverse people. That is why

in the beginning of interviews satisfaction was defined to respondents to prevent any misunderstanding.

For example, a simple instance question could be to which degree you are satisfied with IS in scoring from very satisfied as the best and totally not satisfied as the worst indicator of satisfaction degree. However, this is not the focus of this thesis, but the point was to show that many aspects should be considered while designing and analyzing questionnaires.

The time variable can present if employees were satisfied with their job before IS. Then, if they were satisfied without IS, one cannot consider IS as the reason of dissatisfaction if it has happened after implementing IS. Although these have not been assumed in the questionnaire of this thesis, but it would be helpful to know that even after asking many questions such as the above example in the last paragraph the outcome of satisfaction or dissatisfaction caused by IS could not be gained absolutely. Thus, perhaps it would be better to check employees' satisfaction first and then check their satisfaction with IS to have more obvious findings.

Nevertheless, a notable question in the questionnaire might attract the attention, since it is about employees' satisfaction with employees losing job because of automation caused by IS. This question can check if the employees are satisfied with IS causing such a decrease of workforce demand by organizations in the first step, but it can also show they are satisfied with the IS to the degree which make them answer satisfied, even though they might think they might lose their jobs in the future.

Although this is a fact that none of the descriptions in the last paragraph can help us to assume the degree to which the employees are satisfied, or this is not even possible to find out what exactly the respondents had on their minds while they were filling the questionnaires in, again this is another hint to design accurate questionnaires carefully and this is a hint to consider while analyzing results. These hints might result in different or more reliable conclusions from the same results

3-6-Interviews

The study continued by interviews with some of the employees selected to attend according to their responsibilities in the described departments. The interviews have been done with four people as boss and three assistants of Letter of guarantee department. The time dedicated for the interviews was not limited, but the longest interview took about forty minutes. All the

interviews have been done by phone calls to the interviewees, since the conductor was far away from the interviewees.

Besides, the interviewees were asked new questions which the answers to them are presented in the following paragraphs. However, not all the questions of the interviews were to approve the answers to the questions asked in the questionnaires, there were some questions to check if to check other interesting questions mentioned in the research methodology section of this chapter.

The interviewees are three assistants and boss of the department in foreign operation division. One assistant is male, forty one years old, married and has more than twelve years of job experience in the organization. He also mentioned he has worked with computers in the organization more than ten years.

Another interviewee is male, thirty three, married and has around ten years of job experience in the organization. He has been utilizing IS since he entered the organization. Third assistant is female, fifty, married and has job experience around twenty two years old in the organization. Boss is also female, fifty three, married and has twenty two years of job experience in the organization. Boss did not attend the interview since her time schedule was tight.

The interesting point in this thesis is that the respondents to the interviews are mixed in the terms of age and gender. Besides, two respondents to the interviews has been working in that department for so long time that they even have seen working without the aid of computers and IS. Therefore, they could be asked about the time IS was not in the organization to help tasks accomplishment easier and faster.

In addition, at the beginning of all the interviews the concept of IS was described to the interviewees as any means of communication and automation with usage of computers in the organization. The respondents were first asked to describe their work experience in the organization and describe their experience with computers performing their tasks in the organization in years.

The interviews of this thesis were exerted by the phone to the employees, since the employees were far from the conductor of the research at the time while the research was going on.

The data collected from the interviewed employees have been checked by the research conductor. Because the research conductor is one of the employees, he was able to check if the answers were reliable and true.

The chosen employees to be interviewed had responsibilities as assistants and boss of letter of guarantee department. The reasons for conducting interviews with these specific employees were as having some more data from these people, checking the validity of data collected from the questionnaires and asking them as representatives of their departments about their opinions about questionnaires quality.

The first thing all the respondents have been asked about was to mention their any ideas about current IS. Besides, they described their satisfaction with IS totally as well as the degree to which they feel satisfied with IS in percentage. They have also been asked to state the reasons why they felt satisfied or dissatisfied.

Furthermore, first reason chosen employees have been selected for interviews is that they have been asked to answer some different questions have not been asked in the questionnaires. The questions were about the affects of organization's advertisements about IS on their opinions about the IS. This means there are more positive promotions about IS in the organizations than the promotions which describes the reality about them. For instance, in this organization most of the advices are such optimistic that authorities and IT staff supporters just introduce or promise useful situations caused by IS than the situations before implementing IS. Therefore, it was one of the factors could have been affected employees' ideas without being aware of it.

Another reason why these specific people have been altered for the interviews was that on one hand, they were the most experienced people in the department so they know their colleagues the most among all the employees in the chosen departments; on the other hand, they were the most experienced employees who have worked in this department the longest among all the employees of these departments.

Another reason to choose these employees was that they had the most experience in the department that makes them the ones who have been interacting with other people. Also they have been with other employees the most. Besides, they have the most experience to know the years without computers.

Unfortunately, the authorities of the department selected from R & D division were not interested to attend the interviews because of their own reasons and not having enough time

to dedicate to the interviews. Besides, since this whole division is a new division in the organization and all the employees of this division are selected from other departments of the organization, their ideas about IS could be from their previous experiences with other IS. This means that their ideas would be about the IS as a general IS since the aim of this thesis is also IS as a general concept in the organization, but because they are from different divisions and their experiences are with different IS designing interview questions and analyzing method of the collected data might have been different that would have made this thesis focus not united. On the other hand, these employees have not been in the organization for a long time to be able to describe the years that IS was not there, or the years that IS utilized first. These employees do not have their responsibilities for a long time and they do not know their colleagues for a reliable time.

Moreover, the interview present respondents were asked about the affects of their colleagues opinions on their opinions about IS. Any employees might observe any ideas of other employees about IS whether positive or negative. The respondents were asked to explain if their answers to the questionnaires have been influenced by observations they have heard or seen before. They were also requested to explain if their opinions in the interview were influenced by their colleagues' opinions about IS.

Then, another question was about the affects brought by new applications. The respondents were asked to think if new applications caused them more satisfied. In addition, they described how new applications benefit as well as cause some drawbacks such as persuading all the staff to use and learn to use new applications. This was to reveal if the employees can see IS as a whole. However, the effect of new applications could not be omitted, but this was not the focus of this study.

Next, they were asked to express their opinion about the future of IS in the organization. The question was to check whether or not the employees had an optimistic vision of IS in the future. The interview continued by letting the employees mention their any idea about current IS and their opinions to implement more useful IS.

Finally, there were some questions about the quality of the questionnaire distributed. They were asked to feel comfortable and indicate their ideas about the questionnaires. They were asked to mention if the questions were clear enough to be understood and answered easily. Moreover, they have been asked to honestly describe if they have responded quickly or carelessly for any reasons.

3-7-Thesis conductor observations and ideas

This thesis wishes to figure out the respond to the questions such as Are ISs in the organizations satisfying to the employees as they are expected. Although, ISs help employees in many ways and with much of the jobs they exert, there might be many drawbacks with ISs in organizations. This is because there are more and more complaints about computers and IS in the organization, though the advances has happened in IT and computer technology. This is according to the research conductor own observation during this study, and the IT project which was done by the same conductor in the same organization in one of the department as the department in this thesis.

Besides, this is not recommended to see any phenomena in a way that just advantages are observed; thus, IS has no exceptions among phenomena. In the present time according to the advertisements about IS and IT that are distributed all the times, most people might think that IS and IT just help humans without any damages or weaknesses.

Nevertheless, attending the context in organizations, many complaints about IS implemented in the organization could be observed. That is, the behavioral disadvantages of IS which can be dissatisfaction and pressure are not explicitly observable without efforts aims to find the drawbacks. On the other hand, the helpful and useful aspect of any IS would be more revealed and stated by the employees, because even employees might think that IS they have is there just to ease their work without any disadvantages.

Furthermore, employees might get stock in situations that make them think that they cannot have any help from any source. The reason might be ignorance by the authorities of organizations or ignorance by the IT support staffs of the organization. This ignorance might cause employees to assume they have left alone in problematic situations; thus, after a number of efforts to report the problems, they would just leave criticizing or complaining, although they still face the problems. This might also cause employees think stating degree of satisfaction or helping studies such as this thesis are not helpful at all.

These might even create a sense of unfaith in the employees with any ISs they are using or they are going to use in the future as they might consider any IS to be problematic and not supported by authorities of organizations or the IT support staff.

To exemplify, the IT project done by the conductor of this thesis revealed that the employees of the same organization as the aim organization of this research faced and reported so many

problems and errors that even made the employees think if really IS has helped them to conduct their jobs faster and easier, although the employees had thought that IS they were going to have would only help them

In other words, if a research does not assume the reliability of the answers which was presented by the employees, neither the organization itself can use the results of this research, nor any other organizations could be able to refer to the results of such research. In this respect, this is important to figure out any fear to criticize the promises the employees been mentioned by organization management. As it was stated in the study by Leclercq 2007, there may be some employees scared to have punishments or any negative influence in their job promotions caused by their opinions about their organization. This is the factor that was considered in the literature as influencing the employees' ideas, but the aim in this research is to check if this is the case in this organization as well.

On the other hand, in this thesis the whole IS in the organization is checked with the employees. That is, do the employees think that in any way they should have IS in their jobs. Moreover, can they see their job without IS or they are addicted to it or afraid of not having IS anymore so that they cannot or don't want to see the disadvantages.

3-8-Research Methodology

The methodology that has been used in this research is the same as most of the studies have focused on this respect. In other words, most of the studies about human IS satisfaction have utilized qualitative research methods which in this field it is to gather information or to collect data from people as well as other studies that had been done before the current research about the same purposes or the same research questions.

The methodology discussed above is qualitative research; however in some studies the qualitative research method is combined with another research method such as interpretative or positivist such as Leclercq 2007 which utilized interpretive method to analyze the results.

Moreover, as it was mentioned about research methodology above the qualitative research method has been chosen and availed to reach to the goals of this thesis. Besides, as qualitative research method states a method of collecting data from individuals is important. The common methods of data collection are interviews and questionnaires. As most other studies

in the literature availed at least one of interviews and questionnaires to collect data from users.

The research conductor was able to check the data, since he was observing the employees interacting with IS for a long time, while he was working with them in the same department as the one they work in currently. Therefore, checking the employees' approximate answers was not a difficult task for the conductor.

On the other hand, the researcher knew the employees for a long time; thus, he was familiar with the characteristics, personalities and interests of most of employees in order to check their ideas with his own observations and gestures. However, there is not much of bias or prejudice in this research report, in a way that the conductor changed the data, but the analyzing process was according to his own opinions and observations. That is, the conductor has also implied the pure data collected from the employees of the organization without any changes in percentages in the results section.

4-Results and conclusions

The results of this study are presented in this section. These results are according to the interests of the conductor of this thesis and due to situations of the aimed organization. However, any other perspectives could observe the results by using other methods of analyzing. The pure results of the answers given to the questionnaires are represented in appendix B in the table A. Table A is a table of every single employee and their responds to each question. Any probable interested researcher or practitioner could use the tables to either check the validity of conclusions or analyze the results in their own methods due to their own needs and perspectives.

Furthermore, Table A presents the number of respondents in twenty four rows as the number of questions in the questionnaires, as well as columns which indicate the number of questions answered the questionnaires. Besides, a five scaled questionnaires utilized in this thesis has five scores from one the very dissatisfied to five as very satisfied. Hence, each row and column intersection presents the degree of satisfaction to the question number presented on the relevant row answered by the employee whose number can be found from the related column.

4-1-Results of the questionnaires

The results according to the perspective of this thesis are indicated in the following paragraphs. However, the conclusions from these answers are stated in the conclusion section according to the research questions and interests of this thesis.

Due to the answers to the questionnaires, out of twenty four respondents, 66% of the respondents expected IS to be helpful in their job accomplishment, and 30% of respondents did not expect the IS to be helpful and 4% which is equal to one person answered neutral to this questions.

Besides, 50% of the respondents mentioned that when they first used IS in the organization they felt satisfied because it seems as a new phenomenon. However, around 33% of employees answered neutral and 17% percent of them responded they were satisfied with IS not because of its being new in the organization.

On the other hand, 55% of the respondents whose idea is that task accomplishment is not possible without using information systems considering increasing workload and society's

demands from the organization. However, 20% were neutral and 30% percent thought it is possible to work without utilizing IS in the organization.

Then, 33% of the respondents thought that other employees in the same department as them, were satisfied with IS according to their own observations; where the same percentage had neutral idea and the same amount of respondents guessed other employees are not satisfied.

About respondents observations of customers satisfaction with using IS in organization, 71% answered customers are satisfied caused by utilizing IS in task accomplishment, 25% were neutral and one person answered dissatisfied.

Moreover, 75% of respondents stated that using IS in organization has decreased employment in the organization and 59% expressed this decrement has not been dissatisfying. While, 9% were neutral about the decrease in employment caused by utilizing IS and 29% thought that decrement in employment is not satisfying. The remainder of the respondents to these two questions as 16% and 12% answered as neutral.

The respondents have also been asked if their expectation of IS had been optimistic and satisfying before having it in organization. The responds to this question were as 83% optimistic and helpful, 4% as neutral and 13% as negative about IS before implementation.

Furthermore, respondents were asked to mention their ideas about whether or not the promised advantages by IT department and the organization authority have happened where the responses were 58% agree, 9% neutral and 33% disagree.

Another question was about employees' expectations during the time the respondents have been working with IS for a little time after its entrance into these departments of organization. 63% of the respondents expected IS to help, where 33% had other ideas as 16% did not expect and 17% neutral.

Among the responds to the question asking about their satisfaction with IS at the present time after interacting with it for a longer time, half answered as very satisfied, 33% as satisfied, dissatisfied and neutral were equal at 8%; where, 50% of the respondents mentioned their ideas about IS changed after its entrance into their department, and 25% of respondents ideas about IS has changed a lot, but 5% were disagree and 20% were neutral.

The descriptive questions were three and the majority of the respondents answered that they are satisfied with Information systems and they want to use them more and more. They

mentioned that they want IS designers to be more careful during designing phase to consider as many needs as possible. They thought that it would be better to

4-2-Results of the interviews

On the other hand, the interviews were conducted to check the answers to the questionnaires with some of the employees who have also answered the questionnaires.

The interviewees mentioned that they were satisfied with current IS and they also mentioned the degree to which they are satisfied with it. It was interesting that all three respondents stated that the degree to which they were satisfied with IS are around 65%.

To the next question one of the interviewees replied their satisfaction or any ideas of them are not influenced by heard or observed opinions of his colleagues. Another one answered that his observations influence his opinions about IS therefore influence satisfaction about IS, but he also stated that the impact of observations is not so strong that can change his opinions significantly. The third person mentioned that her satisfaction is not relied on her colleagues' opinions about IS.

All the respondents indicated that they think optimistic about the future of IS in their organization. They stated that IS they are hopeful IS improves more and more while time passes. This is a proper place to mention opinions of the respondents to the descriptive questions of the questionnaires.

All the respondents had common thought that if the design process before implementation could be the most important part and all the needs are observed and considered by designers, more useful and user friendly IS could be implemented. Besides, they rephrased the contact person of the designing company and representative person of the department are crucial to designing. They should be aware of all up to dated needs of the employees in the designing process. This was the point that was mentioned in the open questions of the questionnaires by seventy percent of the employees answered these question.

On the other hand, all the respondents indicated that they cannot do most of the tasks in the organization without the help of IS. However, the respondents also answered that their points of view about the previous applications and hardware in the organization do not affect their current point of view about the present IS, whether or not these opinions are negative or positive ones. This was asked since there were so many different older applications and

hardware could be referred to as IS in the organization. The notable point here is that any points of view from the past could affect ideas about current point of view.

Nevertheless, the respondents expressed that their opinions about IS could be influenced by new applications implemented in their departments. Therefore, older versions are always forgotten, while newer versions influence satisfaction with IS and this answer approve the matter stated about employees' hope to see better and better ISs in the future.

The remainder of the interviews dedicated to make sure that the questionnaires were well designed and understandable by the respondents. One hint to consider is that these questions asked from the interviewees introduced former, not all the respondents to the questionnaires. However, this could reveal total satisfaction with questionnaires closely.

All respondents replied that they could understand the questions clearly. Besides, they mentioned that they did their best to answer the questions as precise and careful as possible, because they thought that it will help them through having better ISs in the future. In addition, they expressed that they consumed a reasonable time to think and answer the questionnaires, although they were busy so much due to the time consuming responsibilities in the organization.

The respondents explained that they felt comfortable with me as the conductor to state their ideas freely and without any fears as I am their colleague. They also stated the more the time dedicated to see the needs of departments and their employees the better the future ISs will be, as most respondents to the questionnaires replied the question about how to have better ISs in the future.

4-3-Discussions

As one of the affairs this thesis would like to focus on it seems that the questions are not always well understood by the users, reflecting sometimes a lack of clarity and a confusion of terms. Thus, any analysis of the responds to the questionnaires is from one perspective which is unbiased but could be observed or analysis from other perspectives or in other aspects. Therefore, interested people might have different analysis which needs to be studied respectfully.

On the other hand, one might claim that this is not even possible to state any general ideas about the whole organization, since the research was done on two departments of the

organization. There are so many more people with different ideas and different experiences who might have completely diverse opinions about the same questions and about the same factors influencing employees' satisfaction.

Moreover, even though any general ideas wished to be established in this research, the ideas can just be established about the organization, not about any other IS or the general satisfaction with IS. The reason is that each organization has its own employees with different characteristic. In addition, each organization has its own limitations and its significant advantages and benefits. On the other hand, none of the organizations have the same pack of software and application, and even if they have it, they have not implemented it at the same time or by the same supplier company.

In addition, this thesis has done interviews with some of the employees, that is an advantage. However, at the same time as it was described in the research methodology portion of this research, the number of interviews was not enough. In other words, the interviews have been done with three members of the departments that took advantage of the opportunity to record the ideas of employees orally, but the number of interviewees to be interviewed was not enough, because the employees' amount in the departments been focused in this thesis was seven times more than employees have been interviewed.

Hence, the probability to avail more opinions in the same research makes one of the drawbacks of this thesis apparent. There could have been more interviews as the number of respondents to the questionnaires to gain more ideas from more employees orally.

The way that this thesis chose employees would address the needs of some studies in the literature that have been conducted on the subjects such as top and middle managements of organizations; thus, the earlier studies recommended further studies to be exerted on the subjects with lower authority or even casual employees to give more general views.

The key employees who have been interviewed were chosen by the research conductor who is the employee of the organization at the same time that the research has been conducting. Therefore, another study's suggestion has been addressed. The suggestion in the study Leclercq (2007) was either to choose someone as the conductor of the research who is the employee of the organization, or to occupy a person who has been with the employees for some time.

The reasons for this suggestion are that; on one hand, the research conductor would be able to understand the language of employees more than an unfamiliar person with the

organization and staffs, on the other hand, the employees would consider this person as one who they can trust and as a consequence would let the conductor know the information and ideas that are not apparent and not implicit.

On the other hand, there is a hint to have on mind while observing results. There was a neutral choice between five scale choices in the questionnaires. This neutral means without idea nearly, but it is not easy to just claim this and continue concluding. The reason is that the respondents have different perspectives or any theories about it. To exemplify, one could select neutral because they do not want to think about the question, one would choose it because they do not have time to answer the question. Another probability is that one does not understand the question and just did not want to answer it and so on. Therefore, it would be wiser to consider these while analyzing the results.

In addition, the responds to the question asked if the employees expected IS to help them ease their tasks reveals that eighty three percent of the employees expected IS to be useful, and after using IS for a while fifty eight percent of the respondents also expressed that they expected IS to help accomplishing tasks; on the other hand, eighty three of the respondents are satisfied with IS. These percentages can indicate that IS has been satisfying according to the employees' expectations at first as eighty three percentage of expectation to help and eighty four percent chose satisfied with IS to help are almost the same percentages, but this expectation decreased to fifty eight from eighty three after a while of utilizing IS.

The table below shows the number of each choice to each question. Each item in the table below is representative of the number of the respondents chosen the choice from 1 to 5 as the answers to the questions which are twelve.

Although there were accomplishments reached by this thesis in finding factors influencing employees' satisfaction, this research could not present any outcome as a standard instrument to be used by all organizations.

This thesis focused on expectations of the employees over a period of time starting from when IS was not availed in the organization to the present time. However, it could have been better to consider other factors such as validity that was mentioned in the study by Bailey and Pearson 1983. This does not mean that just validity is important, but any other factors could have been considered to be checked with the employees.

In addition, expectations should be asked as well as if the expectations have been addressed to have clearer outcomes. These results could show whether or not the employees'

expectations have been assumed by the organization or IT department and if IS have been resolved them.

This thesis conducted to present the ideas and expectation of employees of the organization, but a problem might be mentioned here is that respondents and the conductor were not close. Thus, the conclusions could be different if the conductor was closer to the respondents which would have enabled face to face interviews, because, in interviews asking and answering process would be better when it is face to face.

The number of the respondents which have been chosen was not enough for concluding enough confident results. The number of the respondents could be about at least four times more and the respondents could have been chosen from different departments and divisions to gain more expanded results to compare.

Another limitation was the period that this thesis should have been finished in. This thesis should have been conducted in a period of four months which is not enough for such a wide topic which needs so much more studying for the conductor to find out the best questions and the best ways to analyze them, although the results of this thesis have been satisfying enough.

4-4-Conclusions

The conclusions of this study are presented in this section. However, one could mention that there could be any other conclusions have not been seen from this research point of view, and according to the fact that different cultures and experiences observe results outcome different conclusions, but at the same time some common facts are always existed hopefully.

The first interesting outcome that the results show is that the respondents felt satisfied with IS in their department. However, there is another result presents that one third of the respondents thought that their colleagues are satisfied with IS in their department, another one third selected neutral and last one third altered not satisfied.

Now, one would ask what it means. The answer is it might mean respondents have observed their colleagues in a way different than colleagues their own. It also might mean both ideas are true assuming that employees have really observed their colleagues as satisfied by the above percentages and the employees themselves thought they are satisfied with the percentage eighty three. However, this thesis wishes to state the closest interpretation might

be that the employees feel satisfied with IS in their own mind, but their criticism about IS have been observed as dissatisfied by some employees.

More conclusions show that employees' satisfaction is not influenced by their expectations. This is availed by examining expectations over various periods of time that have changed but the employees have been satisfied with IS. This is also apparent that employees have been satisfied with IS, although different ISs and applications have been used within these years. Checking employees' satisfaction influenced by their expectations continues by hearing employees hope to have more useful ISs in the future. Thus, expectations do not have impact on employees' satisfaction, even though expectation changes over time.

Moreover, from the respondents choice which indicates majority of the customers of the organization are satisfied with utilizing IS to address their needs, two points could be realized that the employees and customers are satisfied with using IS to ease their job, and that the employees observations might be more reliable after mentioning that customers are satisfied. Nevertheless, this could just be stated confidentially when a survey asked the customers about their satisfaction after having IS to accomplish their needed jobs.

In addition, most of the respondents stated that their tasks could not be done without availing IS, and this is again another probable indicator of satisfaction with IS, since they cannot see their tasks accomplished without utilizing IS.

On the other hand, as most of the employees have chosen that IS caused workforce demand and employment by organizations less than before, and more than half of the employees stated that losing job because of utilizing IS would not be dissatisfying. This could indicate that although employees think that IS causes unemployment more, the degree to which IS helps is so high that they are ready to make themselves as qualified as possible not to lose their jobs.

Furthermore, observing the percentages to which the respondents expected IS to help them over periods of time more conclusions could be obtained. As before using IS half expected it to be helpful, after a while of using IS sixty more than half of employees thought IS will help which is an increment of positive expectations. At the same time, there was a fifty percent of respondents whose expectations about IS changed after a while of using it which means some employees who were among positive vision observers of IS have changed their expectations and that might have been because of the matter that employees thought IS will be helpful at first according to what they had been heard before implementing IS from IT staff or from

authorities of the organization. Nevertheless, after some time of using IS expectations changed to more realistic ones and promises examined in reality rather than just in written or oral promotions. Therefore, any decision making on IS either should be done after a while of using it or be done more careful at the beginning of using IS.

On the other hand, the answers to nearly the same questions with different terminologies were the same with a little difference in percentage. First question of the survey was to check if the respondents expected IS to be helpful, and the seventh question asks if the employees expected IS to be useful in their jobs. However, the answers were as majority expected IS to be helpful in the first question and again majority responded the same to the seventh question. Thus, this answer to these questions which are nearly the same reveals that questionnaires have been filled in as careful and precise as it was mentioned by the interviewees.

All in all, employees were satisfied with IS in the organization, majority of them expected IS to be helpful, around half of respondents' expectations changed after a while of using IS and majority of them thought that utilizing IS causing less employment is not so harmful that cannot be fixed. Finally, expectations of employees seems not to have positive influence on employees' satisfaction, as the percentage of the expected IS to be useful are around sixty seven and the percentage of employees satisfied is eighty four. The respondents changed their expectation about IS after a while of using it, but they are satisfied with IS currently.

4-5-Future studies

Future studies could ask employees according to their job experience which means ask employees what they expected. However, this question should be according to the year they started to use IS. For instance, not to ask a person who started to use IS two years ago the question how the employees felt when IS was not available.

Besides, more ideas of employees about questionnaires and interviews should be gained. That is, to ask employees which ways of asking their ideas are the best suitable to them. This way could affect their way of answering and the results conclusively.

Also future studies would better distribute questionnaires to more employees of the organization from different divisions and departments. Then, more data would be collected to be compared and analyzed. On the other hand, the results would be more reliable if the study could be conducted on different levels of organization such as management different levels.

Finally, this study also aims to know the answer to the question 'Is checking the employees' satisfaction so difficult that it demands so much effort and so much studying '. If the result is yes, the research demands so much effort to find out the satisfaction of employees in an organization, then the literature has altered the right way, but if respond to this question is no, then why the organizations do not employ their own and creative methods designed and run them by their own employees in order to reach their IS weaknesses.

Why this is interesting to know relies in the matter that after so much effort and accomplishments the research conductors mentioned that they are aware that the work they present is just about special cases or about specific group of people, and that other researcher groups or other organizations should find their own factors or proper research methods by themselves, since the results of the research that was exerted can't be extended to other studies.

Therefore, the question arises is that why the studies have been conducted are announced. If the aim is just to announce other people to redirect the reader with some hints, then it is right, but the factors are neither reliable to be used by other organizations, nor the research methods can be gained for further studies faithfully. All in all, the future studies would be more attractive, if the conductor tries to see if producing a central database containing standard factors is possible, is this possible to use a standard tool for all contexts or can any central data bank utilize results of its former studies as factors or methods of checking employees' satisfaction.

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Appendix A

This questionnaire is for a university research in order to compare the situation and conditions after and before having the aid of information system in your work. By information system we mean any computer application, means of communication and any information and data sharing possibility that have been done by the help and usage of computers.

All the questions had five choices from 1 as very dissatisfied to 5 as satisfied as follows:

1-very dissatisfied 2-dissatisfied 3-neutral 4-satisfied 5-very satisfied

List of questions:

1-When you were not familiar with computer software how did you expect that they will help you to ease the work?

2-When computer software entered the department to help you, how was your expectation of it? Was it just because of having a new thing that you did not know?

3-Assuming the increment in the humans' needs and the increase in the life speed, how satisfied you think you are with utilizing IS? (Were you able to respond the needs without the usage of computer systems?)

4-According to your own observations how satisfied do you think that other staffs of this department are with information systems aid in the department?

5-According to your own observations how satisfied you think that the customers are with the Information systems usage in the department?

6-How much the Information Systems affected the decrement of human force in your job?

7-How satisfied are you with using Information Systems resulted in the increment in human forces or omitting some job title in our organization?

8-When you were not familiar with the computer software, how much you thought that they would be useful and helpful?

9-Now how much of all the promises and expectations that your organization has stated that would be made by using Information Systems, have been made?

10-After the time that computer software has been used in your department and you were more familiar with them, how much did you expect them to help you or will help you?

11-Now, that you have been using Information Systems for some years how much you think that they have been useful?

12-When the computer software entered the department and you were familiar with it, how much have your expectations changed in comparison to the expectation that were promised to be done in the organizations schedule?

Descriptive questions:

13-What are your ideas about the computers and their usages in your department?

14-To your mind how computer software can be more useful and helpful?

15-Please mention your any idea about computer software and their usage in your work freely?

Appendix B

Question / Choice	1	2	3	4	5
1			7	16	1
2		4	8	9	3
3	7	11	5	1	
4		8	8	6	2
5		1	6	15	2
6		2	4	17	1
7		7	3	9	5
8		3	1	18	2
9		8	2	10	4
10			4	16	4
11		2	2	12	8
12		1	5	12	6

Table A. The number of respondents chosen choices for each question of the survey