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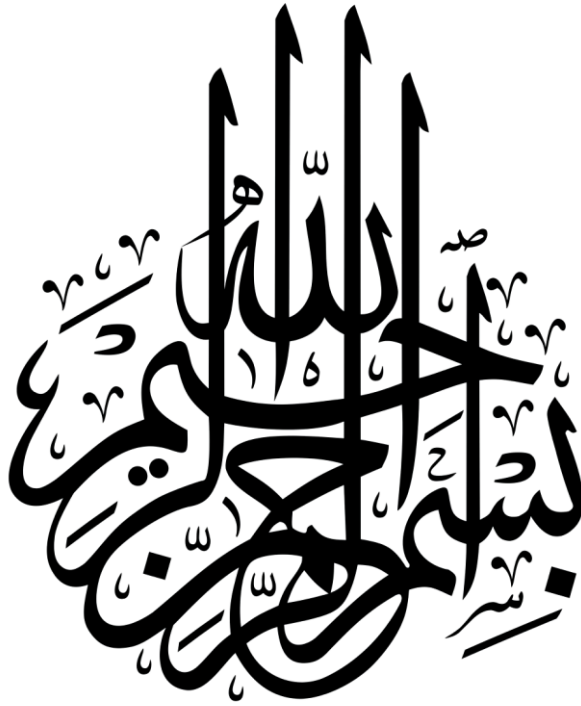
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عايدة هادي باحارثة
- ه تأثير الرضا الوظيفي على الحفاظ على أمن المعلومات
د. حمزة العيدروس & سالم البيض



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تأثير الرضا الوظيفي على الحفاظ على أمن معلومات المؤسسات:

وجهات نظر الموظفين

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الملخص:

يهدف هذا البحث إلى دراسة أثر الرضا الوظيفي على أمن المعلومات في المؤسسات. ولعمل ذلك، تمت مقابلة أربعة عشر موظفًا من مؤسسات مختلفة في اليمن من أجل استكشاف وجهات نظرهم ولتحقيق هدف الدراسة. إن منهجية المقابلة تساعد على الحصول على معلومات متعمقة حول دراسة حالة معينة، كما توفر الوقت وذلك لأن المشاركين يجيبون فقط على الأسئلة التي تم طرحها. بعد ذلك، تم تحليل البيانات المجمعة من المقابلات نوعيًا باستخدام منهجية تحليل المحتوى لأنها الطريقة الفعالة المستخدمة لتحديد المفاهيم الخاصة الموجودة في نصوص المقابلات. توضح نتائج الدراسة مدى رضا الموظفين عن وظائفهم، وتكشف عن العديد من الأسباب التي تدفع الموظفين إلى كشف معلومات مؤسساتهم. إن نتائج وتوصيات هذه الدراسة ستساعد المؤسسات على زيادة رضا موظفيها والحفاظ على أمن المعلومات الخاصة بهم.

الكلمات المفتاحية: الرضا الوظيفي، أمن معلومات المؤسسات، وجهات نظر الموظفين، منهجية المقابلة.

The Impact of Job Satisfaction on Maintaining Organizations' Information Security: The Employee's Perspective

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Abstract:

This study aims to examine the impact of job satisfaction on maintaining organizations' information security. In doing so, fourteen employees from different organizations in Hadramout, Yemen were interviewed in order to explore their perspectives and achieve the study aim. The interview method gives in-depth information about a particular case and it saves time since the respondents only answer questions that had been asked. Accordingly, the data collected from the interviews were analysed qualitatively using content analysis method, as it is an effective approach used to identify the presence of specific concepts derived from the interviews. The study results describe to what extent the employees are satisfied with their jobs. It reveals numerous reasons lead the employees to disclose their organization's information. The findings of this study would potentially assist organizations to increase their employee's satisfaction and to maintain their information security.

Keywords: Job Satisfaction, Organizations' Information Security, Employee's Perspective, Interview method.

1. Introduction

Information security is the concept of protecting data away from unauthorized access, disclosure, replication, modification, or destruction [1]. Information is the productive force in organizations that must be kept private, and all unauthorized access must be blocked [2]. Therefore, securing information is a critical task for business organizations [3] because information commonly contains sensitive data which if deleted, destroyed, or revealed, might consequences in significant financial loss [4]. Saeed [5] recommends business organizations put in place more security-related measures and update their employees periodically about potential security threats.

Job satisfaction is the collection of feelings, emotional, enjoyable state that results from achieving job values [6]. Job satisfaction is the primary factor that organizations seek to realize their goals as well as several profits for their employees [2]. Hence, employees become more committed and are in a state of loyalty and attachment to the organization and its goals [7]. Organizations should pay particular attention to users, including businesses involved in electronic commerce, computer system and network experts, and numerous other users to ensure information security [2].

In this context, Alghathber and Algahtani [8] confirmed that some reasons motivate employees to attack the organizations' information security, such as job dissatisfaction, less experience in mistake repair, and extorting organizations to gain money. Importantly, encouraging positive employee behaviour and discouraging negative employee behaviour is a useful approach for improving information security within organization [2]. George and Jones [6] indicates that the employees with a high level of job satisfaction have a positive attitude towards their job, whilst the employees who are discontented at work hold a negative perspective about it.

According to the literature, numerous studies affirmed that job satisfaction and information security are considered as key factors that leave the management and performance in business organizations. For instance, Alaidaros and Albeedh [2] carried out a study aimed at determining the relationship between job satisfaction on the organizations' information security. The study findings confirmed that there is a robust relationship between job satisfaction and the organization's information security. However, examining to what extent the job satisfaction of employees influences the organization's information security is not yet being investigated. Therefore, this study aims to examine the impact of job satisfaction on maintaining organizations' information security from employee's perspective. The core focus is to acquire answers for the following research questions (RQs):

RQ1. To what extent are the participants satisfied with their jobs?

RQ2. What are the reasons and motivations that trigger employees to disclose the organization's information?

RQ3. How do organizations increase their employees' satisfaction and maintain their information security?

To answer the above RQs, we conducted a qualitative study using interview method carried out with 14 employees from different organizations in Hadramout, Yemen. Overall, this study contributes to the field of management and social science by highlighting a set of reasons that could lead employees disclose information, along with the recommendations that would help organizations achieve the highest level of job satisfaction of their employees.

In the remainder, the related work and relevant studies were reviewed in section 2. In section 3, the research methodology employed to achieve study aim is described.

Section 4 presents and discusses the results, and the final section concludes the study findings and outlines limitations and future work.

2. Related Work

This section presents related work conducted on examining the impact of job satisfaction on the different aspects of organizations. It also reviews the relevant studies focused on discussing the importance of information security in organizations.

A study conducted by Ameer, et al. [9] sought to evaluate the elements influencing workers' performance during examining the influence of job satisfaction on empowerment. Job satisfaction and employee empowerment had a somewhat weak correlation. The study affirmed that employee empowerment takes a favourable impact on job satisfaction. Arunika and Kottawatta [10] conducted a different study to investigate the impact of work-life balance on job satisfaction among non-executives in the public banking industry in the Colombo district. The findings showed a poor correlation between job satisfaction and work-life balance. Latif [11] carried out research to examine how job satisfaction impacts organizational performance. The findings revealed a significant relationship between organizational effectiveness and job satisfaction.

Frempong [7] conducted a study to determine whether workplace contentment affects workers' commitment and loyalty. The study's findings showed that loyalty and commitment in the manufacturing and mining industries were highly impacted by job satisfaction. In addition, it demonstrated that there was, at the very least, a significant relationship between human resource management strategies, work satisfaction, and loyalty/commitment across many industries, which is consistent with many theories and research. However, the study suggested that those involved in the sectors pay more

attention to the dedication and loyalty of their workforces because doing so would improve the sector's performance and help it survive the current competition.

A study was carried out by Helmi and Abunar [12] to investigate the effect of job satisfaction on employees' performance in Saudi Arabian businesses and the public sector. The findings showed that an employee's job satisfaction was influenced by the job content in terms of function tasks. However, the study recommended organizations follow a specific strategy to maintain the satisfaction and performance of employees in order to achieve their objectives. Alaidaros and Albeedh [2] carried out a study aimed at determining the relationship between job satisfaction and organizations' information security. The study findings confirmed that there is a robust relationship between job satisfaction and the organization's information security. However, examining to what extent the job satisfaction does impact the organization's information security is not yet being studied.

A recent study conducted by Saeed [5] to explore the security behaviour of employees in Saudi Arabian business organizations. Results revealed that many critical factors documented in the literature are not considered relevant by employees, showing a lack of awareness. Consequently, a set of actions were established to be followed at the individual and organizational level to sustain the digital citizenship behaviour of business employees. The findings would assist related practitioners in improve information security compliance of their organizational settings.

On the other hand, a study carried by Lavrov, et al. [13] indicated that information security challenges have undergone significant modifications. The study affirmed that the current changes are related to (1) the methods of work of attackers, (2) the conditions of crimes committed in the computer sphere, and (3) the consequences of illegal activities. It also confirmed that companies are continually focusing on external

threats whilst the rigorousness of internal threats is continually undervalued. Thus, organizations freely go to attaining technical equipment, but need more time to classify personnel problems as a priority.

Zhen, et al. [14] investigated how an employee's information security behavior is influenced by how well their psychological needs are met. Autonomy needs, competence needs, and relatedness needs were the three categories into which the psychological needs of the participants in this study were categorized. Moreover, Diesch, et al. [15] affirmed to assert that the administrators of information security must clarify the pertinent information and take into account their interdependencies.

Karjalainen, et al. [16] studied the stage theory of developing employees' information security behavior. The study attempted to answer the question: why employees follow or disregard their company's information security policies. The study looked at instances where staff members could get around information security precautions, like leaving their computers unsecured, sending private emails without encryption, or clicking on links to malicious websites. The findings showed that comprehension of these behaviors is crucial if consumers disregard information security policies and solutions. In conclusion, the study found that employees' adoption of risky behaviors remains a major contributing factor to information security breaches that cause large financial losses for organizations.

Rostami, et al. [4] studied the requirements for computerized tools to design information security policies (ISPs). ISPs are in fact realized through the acts of ISP customers based on their contextual and local expertise. The study's findings showed that many firms consistently struggle with employee non-compliance with ISPs, which is why these failures are sometimes referred to as people problems. Therefore, in this

study, researchers looked for and learned more about individual-related factors that contribute to employees' low compliance. Researchers have also looked into the possibility of addressing this issue using security education, training, and awareness programs.

Prislan, et al. [17] studied the assessment of the performance of the real-world information security using a multidimensional socio-technical approach. The findings supported the need for organizations to ensure that all users have a sufficient level of information security awareness, which calls for staff members to be knowledgeable about information security's significance to the company, familiar with the laws governing the protection of information resources, and skilled in the proper and secure use of information and communication technology (ICT). According to the study's conclusions, all end users, current and former employees, contractual or temporary staff, who may have malicious intentions, lack the necessary skills to use information and communication technologies, or are careless, must be taken into account when planning and implementing security measures.

Parsons, et al. [18] carried out a study to determine human dimensions of information security and employee awareness. The study showed that several of the threats to a company's computer systems could be attributed to the behavior of computer users. According to this study, concentrating only on technological solutions would not be sufficient to detect, prevent, or terminate risks to information security. It is recognized that human or employee actions, such as intentionally disclosing passwords to others, falling for phishing emails by clicking on embedded website links, or installing unfamiliar media on personal or work computers, can put a business at danger.

Overall, the related studies confirm on the importance of organizations' information security, and claim to investigate and examine its impact on job satisfaction.

3. Methodology

The current study employed descriptive qualitative approach, as it better achieves the study aim. Descriptive qualitative research is a comprehensive summarization of specific events experienced by individuals or groups of individuals [19]. Tomal [20] emphasized that the key objective of descriptive research is to discover phenomena that is experienced in a particular social situation through identifying current conditions and pointing to current requirements. In this study, the methodology consists of four stages: (1) participant's identification, (2) data collection, (3) data analysis, and (4) findings reporting. Figure 1 shows the methodology stages, and the explanation of each stage is provided in the following subsections.

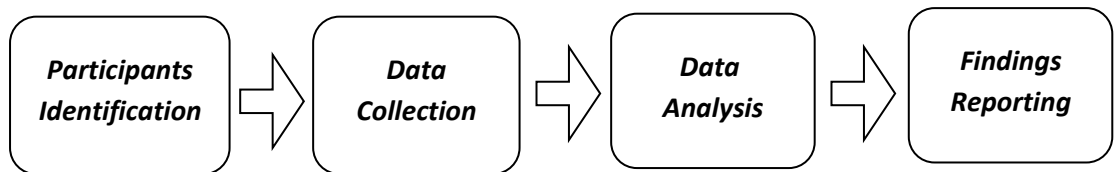


Figure 1: Methodology Stages

3.1. Participants Identification

In the first stage, the purposive sampling method was used for identifying participants of the study, as the sample is usually selected for a particular reason and purpose. According to Douglas [21], the purposive sampling is a method of sampling whereby specific settings, persons, or events are intentionally chosen for providing vital information that cannot be achieved from other choices. In qualitative research, participants are purposefully selected for helping the researchers to understand the

problem and the research questions [22] [23]. Importantly, the participant, in the current study, should be an employee who at least has five years of work experience at organizations in Hadramout, Yemen. The participant should also have a key role that concerns with sensitive information of organization. Therefore, the participants were purposively selected, and 14 employees were identified to participate in this study. The demographic data of the participants are presented in Table 1.

Table 1. Demographic data of experts

Employee (E)	Fields of Work	Current Position	Gender	Highest Educational Level	Age	Years of Working Experience
E1	Education	Executive Manager	Male	Master	35	8
E2	Business	Accountant	Female	High School	26	6
E3	Healthcare	Executive Manager	Male	Bachelor	30	8
E4	Telecommunications	Projects Engineer	Male	Master	51	21
E5	Education	Accountant	Male	High School	55	28

E6	Business	Accountant	Male	Bachelor	25	5
E7	Business	Accountant	Male	Bachelor	28	6
E8	Education	Control Manager	Female	Master	35	5
E9	Business	Accountant	Male	Bachelor	29	6
E10	Business	Accountant	Male	Bachelor	30	6
E11	Agriculture	Accountant	Male	Bachelor	32	8
E12	NGO	Accountant	Male	Bachelor	33	8
E13	Monitoring Entity	Consultant	Male	Bachelor	35	10
E14	Banking	Accountant	Male	Bachelor	40	15

As illustrated in Table 1, all participants work in different organizations, which were sought from various organizations operating in Hadramout, Yemen, including business, banking, education, healthcare, telecommunications monitoring entities, and none-government organizations (NGOs). They have sensitive roles, where six of them are working in administrative position and eight in worker position. In particular, seven are accountants, two are executive managers, one is a control manager, one is a consultant,

and one is a project engineer. The current broad range of employee's roles is very important to enable the triangulation of findings [24]. Thus, different roles provide different insights and perspectives toward the impact of job satisfaction on maintaining organizations' information security. Generally, the majority of participants (65%) are bachelor degree holders, whereas three of them have master degree and two have a high school certificate. The participants were 25-55 years old in average and have an average of 10 years of work experience in their current organizations. However, only 12% of the participants in this study are females, while the majority (86%) are males. This is because females are rarely employed at sensitive positions in Yemen organizations.

3.2. Data Collection

In the second stage, the interview method was used for data collection, as it appears very suitable method to explore such in-depth sensitive topics on human behavior and social interactions [25]. The interview method gives in-depth information about a particular case and saves time since the respondents only answer the questions that had been asked [22]. In addition, interviews provide comparable and reliable qualitative data [23] as the researcher directly contacts the participants during data collection. The direct contact enables gaining deeper understanding of participants' perspectives as well as concerns [24].

In this stage, a semi-structured interview, a technique commonly used in conducting an interview method, was used as it allows the interviewer to be prepared and appeared competent during the interview session [23]. Thus, we developed the semi-structured interview on the extent to which the participants are satisfied with their jobs and its environments. Moreover, we asked the participants about the reasons and motivations that lead employees to disclose the organization's information. Furthermore, we

attempted to know the participants perspective on how organizations increase their employees' satisfaction and maintain their information security? In this study, 14 employees, identified in the first stage, were interviewed for the purpose of collecting primary data on the impact of job satisfaction on maintaining organizations' information security. The interviews took place between September 2022 and March 2023, and the sessions were digitally recorded and subsequently transcribed to report the employees' responses.

3.3. Data Analysis

In the third stage, the data collected from the interviews were analysed qualitatively using content analysis method. According to Creswell [22], content analysis is an effective research method employed to identify the presence of specific concepts or words within texts derived from the recorded interviews. In this study, content analysis of the interviews was primarily based on the two main concepts: job satisfaction and organizations' information security. In the data analysis, we did not mention the names of those 14 participants. Instead, we encoded the participant from E1 to E14.

3.4. Findings Reporting

The final stage was directed to report the study findings and to highlight the major implications to the body of knowledge. Besides, a conclusion was drawn and future directions were also identified based on the knowledge gained from this study.

4. Results and Discussion

This section presents the study results, which are a transcription of the interviews conducted with 14 employees from different organization in Hadramout, Yemen. The results are discussed based on the answers of the RQs identified previously.

4.1. The Participants' Job Satisfaction

In order to measure the job satisfaction of participants, they were firstly asked whether their job salaries and rewards can cover their living expenses. Only a third of the participants, E2, E6, E7, and E12, indicated that their salary is enough, while the remaining participants were dissatisfied and argued that their jobs income is not sufficient in comparison with the performed work. To this end, the dissatisfied participants justified their argument to the current situation in Yemen as a result of the increasing prices as well as the deterioration of the local currency against the foreign currencies as their salaries remained the same.

Secondly, the participants were asked about the suitability of their current job positions in relation to their qualifications and experience. As a result, half of the participants believe that their current jobs are indeed suitable for them as they understand the work, and they got jobs based on their qualifications and specializations. However, E1, E4 and E12 acknowledge that they still need qualification, promotion, and improvement in different administrative aspects. In addition, E6 said: "Actually, I could not improve myself since I got my job. This is because I work according to specific restrictions that prevent me from thinking out of the box."

Thirdly, the participants were asked whether their work environment is well prepared or not? They were also asked to recommend the appropriate conditions that organizations should provide. In response, half of the participants confirmed that their work environment is suitable and all work facilities are available, whilst the other half are not happy about their work environment. For example, E4, E10, and E11 affirmed that some equipment, technical materials, and tools which are necessary for their job are unavailable. Moreover, E12 added: "My work environment is completely inappropriate."

Accordingly, the participants recommended numerous conditions that organizations should provide. The majority of participants argues that organizations should also offer a suitable offices and environment, together with providing all requirements needed for work completion would help to ease and perform the work on potential and predetermine time. Furthermore, E10 said: "Quiet, clean, and essential needs are not existing in my work organizations." Additionally, E1, E3, and E5 claim that organizations should explicate their work rules, instructions, and procedures for employees, as well as working hours and time.

4.2. The Reasons Behind Disclosing Organization's Information

In order to recognize the participant's background on the importance of organization's information, they were firstly asked to express their opinion about the employees who disclose them. In this context, all participants confirm that disclosing the critical information of organization is inappropriate behavior and immoral approach that does not comply with professional ethics. They believe that the employee who releases information is dishonest, who must be dismissed from the job and referred to investigation.

The participants were then asked on how they would behave in the case they were asked to disclose serious information of their organization. As a results, they confirm that they will reject this offer as this is considered confidential. In a particular response, E8 thinks that disclosing critical information of organization usually happen due to jealousy of an efficient employee. E14 shortened his perspective by saying: "Disclosing serious information of an organization can result in hacking the organizations' security and rights, and this will cause a serious harm to the employee before the organization". After that, the participants were asked to express their attitude towards the motivations that

lead employees to disclose their organization's information. In response to the question, they provided several reasons that lead employees to disclose the organization's information. The participants, E1, E7, and E11, believe that existing problems between employees and managers are a key reason, while E9 and E14 think that some employees are unaware of the extent to which disclosure of information can be dangerous. The participants, E2, E3, E5, and E10, confirm that financial temptation for an employee would be a reason in case that the employee needs money, whilst E13 indicates that the emotional motivation of employees would lead them telling friends or relatives about certain confidential information. E6 and E8 expressed their opinion by saying: "The lack of organization loyalty can be a main reason, and this can be happened because organizations do not support employees morally or financially. E4 and E14, however, summarized their point of view by saying: "Organizations do not appreciate employees for work."

In general, some participants identified different reasons for disclosing information, such as antagonism, indifference, the lack of morals, little religious faith, and the lack of honesty, awareness, and conscience.

4.3. The Organization's Role towards their Employees and Information Security

Organizations play significant role towards their employees. Yet, there is still a gap between organizations and their employees. Therefore, the participants were asked to express their opinions on how organizations can increase their job satisfaction. In their response, all participants claim that dealing with employees fairly is the main factor that yields job satisfaction. In addition, they argue that giving the employees appropriate salaries with rewards and increasing their dues when required would achieve their

loyalty. This claim is in line with Parvin and Kabir [26] who emphasized that employees payment is one of the most significant factors that impact job satisfaction and loyalty.

E13 stated that: "Providing the suitable environment and preparing the work necessities desired by employees would assist achieving their satisfaction." However, E4 claimed that: "Training employees in different fields and providing them with practical experience and skills are key requirements needed by employees for attaining their satisfaction". This is in line with Turkyilmaz [27] who argue that the most successful factors for improving job satisfaction are training and personal development. In this regard, E2 and E12 said: "Organizations can increase job satisfaction by stimulating employees by providing them with moral and financial support." Besides, E8 and E9 added: "Involving employees in decision making and making them feel that they are a main part of the organization would improve their job satisfaction."

The participants were also asked to express their thoughts on how organizations can maintain their information security. As a result, they provided several recommendations that would help organizations keep information safe and secure. Firstly, organizations should use computer software and special programs, such as protecting-information systems and accounting systems, which have high ability in securing and coding the information. Secondly, organizations should achieve satisfaction of whole employees by respecting their personalities and opinions as well as giving them their rights and rewards, especially employees who are responsible for information. This is in line with Zhen, et al. [14] who affirmed that the employee's behavior towards information security is affected by how well their psychological needs are met.

Thirdly, organizations must not disclose the key information to the whole organization's employees. Specific employees might be assigned for this crucial task, i.e.

the organization's information security. Fourthly, organizations should conduct training programs for employees that aim at confirming the importance of organization's information security. Special focus, however, should be given on clarifying that the disclosure of organization information is a serious matter, which leads to the legal accountability. This is in line with Rostami, et al. [4] who argued that maintaining information security could be yielded by conducting education and training programs. Finally, organizations should put regulations for violation of professional ethics and, must clarify the organization rights in referring the violator employees to the public prosecution.

At the end of each interview, the participants were asked to add such comments or further suggestions related to the current study. E1 sent a message to organizations saying: "Respect is the basis of every work. Thus, organizations should appreciate all employees, regardless of their nature of work whether the top management, staff, or even caretakers." E6 added: "All organizations should be fair with all employees, based on their qualification and experiences. Discrimination between employees due to their family or personal relations has negative impact on other employees." However, E7 said: "I wish all organizations, government, and private sectors should take care of human resources, as the success of organizations depends on their employee's satisfaction."

5. Conclusion, Limitations, and Future Work

The concept of information security focuses on protecting data away from unauthorized access, disclosure, replication, modification, or destruction. Organizations data usually contain sensitive information which, if revealed, would result in significant financial loss. Job satisfaction is a key factor that plays a critical role and has a robust relation with organizations' information security. This study has been conducted to

examine the impact of job satisfaction on maintaining organizations' information security. Therefore, fourteen employees from different organizations in Hadramout, Yemen have been interviewed and expressed their perspectives and viewpoints.

The study may contribute to the existing body of literature through the participants perspectives on suitable work environment and essential requirements. Moreover, it revealed numerous reasons which could lead the employees to disclose their organization's information. The participants recognized general reasons, including the existing problems between employees and managers, poor knowledge for some employees about the risks of information disclosure, financial temptation for some employees, emotional motives of employees towards their friends or relatives, and the lack of organization loyalty. However, some participants provided particular reasons for information disclosure, such as antagonism, indifference, lack of morals, little religious faith, in addition to the lack of honesty, awareness, and conscience. Significant reasons identified in this study may serve as a guide for maintaining organizations information safe. Furthermore, the study results confirm that there is still a gap between organizations and their employees, thus participants suggested numerous arguments that would help achieve employees' satisfaction. For instance, courteous and fair dealing with employees, paying them adequate salaries with rewards, increasing their dues when required, are ideas for achieving their loyalty.

In addition, providing the ideal environment and preparing the work necessities desired by employees, training employees in different fields and providing them with practical experience and skills, stimulating employees through the moral and financial support, involving them in decision making, are also claims for attaining their job satisfaction. The arguments provided by participants in this study are valuable for

bridging the gap between organizations and their employees. Moreover, the study findings confirm that organizations should protect their information security from being hacked or destroyed. The participants provided several recommendations that would help the organizations keep their information safe and secure. Firstly, organizations should use computer software for protecting information systems, should achieve employees' satisfaction especially the employees who are responsible for information, must not disclose the key information to all employees at the organization, should conduct training programs that confirm the importance of organization's information security, and should put regulations for any potential violation. The vital recommendations provided by participants in this study are indeed valuable for the sake of keeping information safe and secure.

The main limitation of the current study is concerned with the sample and other existing limitations in the qualitative research. In particular, the sample of 14 interviews needs caution when generalizing the study findings to other different contexts. Thus, further study would focus on involving suitable number of participant as well as from different countries. Besides, future work should investigate the current state of cyber security within the business organizations, as it is a key research topic at the current digital age.

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