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College of Business Administration

Department of Management and Marketing



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Management in Business Administration

Understanding Behavioral Intention of Employees in Adopting Technological Changes at Workplace: A Study of the Ministry of Industry, Commerce and Tourism in Bahrain

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The student is awarded a grade A- in the thesis subject.

- ☐ Without making any changes to the thesis.
- ☒ After making the modifications attached with this decision.

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Declaration

I hereby declare that this thesis which I have submitted to the University of Bahrain, for the degree of master's in business administration (MBA) has not been submitted, published or copyrighted partially or wholly before, aside from the literature review which is quoted from various published sources have been appropriately acknowledged.

I hereby declare that I am the sole author of this thesis.

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I hereby declare that; the anticipation of this thesis was administered as per rules on supervision of thesis set by the University of Bahrain (UOB), and I certify that the above statements are true with the best of my insight.

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ABSTRACT

The aim of this study is to understand the employees' behavioral intention in adopting technological changes in the workplace. This research followed a qualitative approach and data are derived from semi-directed interviews. Interview questions were constructed based on the research themes derived from the literature review. Respondents in the study are made up by employees who are under management level, have been working in the ministry for more than one year and that the employee is a permanent employee in the ministry. Purposive sampling techniques are used to identify the respondents. Data analysis occurred in multiple stages based on themes that answer each research question. The study reveals that most of the participants have positive attitudes toward embracing technology. From this study, it was found that the positive attitude of the participants was derived from factors such as performance expectancy, effort expectancy, supervisor's influence, colleagues' influence and facilitating conditions.

Keywords: acceptance, change, behavior, technology, employee, performance, effort, facility, colleagues, supervisors, adopting, behavioral intention

ABSTRACT (ARABIC)

الهدف من هذه الدراسة هو فهم الرغبة السلوكية للموظفين في تبني التغيرات التكنولوجية في مكان العمل، وقد تم استخدام نهج البحث النوعي لإتمام هذا البحث، بحيث أن جميع البيانات مستمدة من مقابلات شبه موجهة مع الموظفين، اما أسئلة المقابلات فقد تم وضعها بناءً على بحوث سابقة ومراجعات دراسية من اجل جمع وتحليل البيانات، تتكون عينة المشاركين في الدراسة من موظفين دائمين تحت مستوى إداري ويعملون في وزارة الصناعة والتجارة والسياحة منذ أكثر من عام، وقد تم اختيار العينات بناءً على المعاينة الغرضية المتعلقة بالهدف، ومن ثم تم تحليل البيانات على مراحل متعددة بناءً على الموضوعات التي تجيب على كل سؤال بحثي، وقد تبين من الدراسة البحثية أن معظم المشاركين لديهم مواقف إيجابية تجاه تبني التكنولوجيا، وفي الختام وجد أن السلوك الإيجابي للمشاركين في هذه الدراسة مستمد من عوامل عديدة تتلخص بالآتي : أولاً مستوى الأداء المتوقع، ثانياً الجهد المتوقع، ثالثاً تأثير المشرف، رابعاً تأثير الزملاء، وأخيراً تسهيلات المؤسسة للموظفين.

DEDICATION

This thesis is dedicated to my supervisor, parents, wife, siblings, and friends whom without them it was almost impossible to complete my thesis work.

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First and foremost, I would like to thank God for giving me the strength, knowledge, ability and opportunity to undertake this research study and to complete the research successfully.

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I am extremely grateful to my father and mother for their love, prayers, caring and sacrifices for educating and preparing me for my future. My Father was and always will be a role model for hard work. He has repeatedly told us to shoot for the stars, and if we miss, we will at least land on the moon. Ever since, my desire to push myself to the limit and succeed has been growing with me. Additionally, my mother was my biggest support in every step I make, she always encouraged us to be well educated from early age.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The advancement in technology has rapidly changed the management system in almost every type of organization all over the world. Organization uses a high level of information technology to manage their businesses' operation and communication system (Laudon & Laudon, 2007). The adoption of new information technology has provided great ease to all organizations to run their businesses smoothly. Such transformation has brought a new vision among the organizations to operate their businesses efficiently.

One of the most common utilizations of information technology in organization can be seen through the internet and the world wide web (Ho, 2002). The frequent usage of the internet has transformed society by providing a vast number of facilities in managing communication, business, education, commerce, etc. (Hasibuan & Syahrial, 2019).

Apart from the private sectors, a new trend of using Information and Communication Technology (ICTs) in the public sector has been introduced worldwide to provide better service quality to the residents of the country. This trend has been named by the United Nations “e-government” (Samijadi, 2017). Such e-government initiative was generated with the acceptance of technology in organizational development and changes in government reforms (Lenk & Traunmuller, 2002). This initiative has been taken place with

this motive to emerge the new information technology that can transform the internal operations so that the public administration can be further operated efficiently and effectively (Fang, 2002). The e-government initiative provides the government the opportunity to bring transparency in the organizational operations as well as better public communication effectiveness.

However, the execution of e-government requires a considerable revolution along with the number of challenges in the business processes (Layne & Lee, 2001). Also, a wide range of technology support is needed to transform the business system in the public sector. Apart from all these technical requirement challenges, the organizations must plan further to resolve matters related to the organizational and managerial level (Symonds, 2007; Weerakkody et al., 2007). In particular, Bolgherini (2007) believes that the successes and failures of e-government must be estimated in two ways; firstly, according to the technological point of view, secondly, the perception of society and bureaucratic domain to accept such technology. Hence, this study intended to explore the adoption of information technology among employees in public sector of Bahrain.

1.2 Problem Statement

The computer system affects all the domains of office processes virtually, such as electronic information storage, word processing, recovery systems, management information and support systems the mailing system and official meetings (Millman & Hartwick, 1987). Generally, adopting information technology (IT) in organization has prominent effect on organization performance such as increased productivity, shorten lead time, reduced cost, reduced human errors It was recognized that the application of

information systems in all the public organizations has become the norm rather than the exception (Virkar, Edelmann, Hynek, Parycek, & Zenk, 2019).

The dependency on information technology has been accelerated since this pandemic of COVID 19 in 2019. Public organizations become more rely on digital technologies to run their daily operations during the lock-down precaution measures (Layne & Lee, 2001; Liu & Yuan, 2015; Janowski, 2015; Lindgren, Madsen, Hofmann, & Melin, 2019).

Despite the importance role of digital technologies, McCarroll (1991) and Clegg et al., (1997) found that many organizations do not enjoy the maximum advantages of IT investments. One of the major reasons is the acceptance of IT among the organization's employees (Chou et al., 2022). Thus, it is important to understand the behavioral intention among employees in accepting the IT at public organization to reap the maximum advantages of IT investments.

Realizing the behavioral intention which leads to technology acceptance at workplace, several researchers' have explored the issue of technology acceptance according to the employees' perception to understand why employees are resistant to accept the IT and arrogant to accept the technology. From those studies, Satpathy and Patnaik (2017) explained that some employees feel technological anxiety and technology related stress in learning its techniques and procedures. Cassioli and Balconi (2022) also stressed that the psychological factors of employees to accept the utilization of technology is essential. Hence, it is timely to explore what are the psychology factors that could influence the behavioral intentions of employees in accepting the information technology at work.

In the context of Middle East, previous research reported that the acceptance of technology in the Arabian region has been relatively slow (Hu

et al., 2013). One of the reasons can be attributed to the fact that internet facility was not available till 1997. The utilization of internet facility was about 5.41% of the population in 2003 in this region (Al-Kahtani et al., 2005). Based on El Louadi (2008) research, one of the major obstacles in adopting the imported western technology on the large scale in Middle East context was due to the traditional socio-cultural background in the Arabian region. In particular, Hill et. al (1998) mentioned that Arabs perceived that the technology is developed in North American or Europe which are different in both cultural and social, while Loch et al. (2003) asserted that social norms and technological hindrances greatly affect the adoption of technology acceptance in the Arab world. Therefore, it is timely to understand the behavioral intention in accepting the IT among Arabs employees (Hu et al., 2013).

Realizing the negative perception of the people in Middle East towards the western technology, some of the researchers have started to explore the adoption of internet banking, e-commerce, and e-government (Sukkar & Hasan, 2005; Al-maghrabi & Dennis, 2009; Chatfield & Alhujran, 2009). Nevertheless, most of the research have majorly used specific theory or model to explore different facets of the technology-related phenomenon based on consumer context. Scanty of study examine the interaction between people and technology which composed of both rational and emotional factors. Such deficiency calls for immediate action as failing to identify the importance of understanding human-computer interaction characteristics may create obstacles in IT adoption. Against this background, researcher intent to explore the e-government adoption among public sector employees in Bahrain.

1.3 Research Question

Based on the discussion in 1.1 and 1.2 above, the research question for this study to explore what are the factors influencing employees' behavioral intention in adopting technological changes at the workplace?

1.4 Research Objective

Based on the research questions stated in 1.3, the research objective for this study is to study, in depth, the factors influencing employees' behavioral intention in adopting technological changes at the workplace.

1.5 Proposed Research Methodology

This research was conducted using qualitative approach. Personal interviews was selected as the tool for gathering information in this study. Participants for interview was chosen by purposive sampling as specific criteria was pre-determined by researcher to select the participants. Finally, synthesis of the quotes from participants was performed and hence the research themes was developed.

1.6 Research Significance

According to Mergel, Edelman, and Haug (2019), the first challenge that public organizations must face after implementing information technologies is the requirement of comprehensive change management at both the technical and the organizational level. While the second challenge faced after implementing information technologies was related to how to make the employees understand the use of these technologies. In particular, the usage of technologies mainly depends on the extent to which these employees accept

or resist such technologies. It has been explored that some employees were found doubtful in losing their self-sufficiency, whereas others were found with the fear that if they do not accept these technologies, they might get replaced (Mergel et al., 2019). Hence, to understand the issues related to the users and the hurdles they resist for the acceptance of technology in public administrations is essential. Hence, with this study, it is intended to understand what are the motivating factors that could motivate public employees to embrace technology and provide recommendations that can be adopted by the public organization in Bahrain to accelerate the behavioral intention to adopt new technology at workplace.

1.7 The Study's Setting

This research has been conducted to understand the factors that determine the behavioral intentions of public employees towards adopting the technological changes at the workplace. Specifically, this study investigates the factors that influence the behavioral intention of employees working in the public sector of Bahrain. The Ministry of Industry, Commerce and Tourism was chosen as the public sector to conduct this study. The setting targeted a population comprised of employees drawn from different sections and departments geared towards adopting new technology in their administrations. The primary reason for targeting these employees is because they are the group of employees who had the direct implications with the technological changes done in The Ministry of Industry, Commerce and Tourism. Furthermore, these groups of employees are involved in different phases of the administration procedures as such possess broad experience that would assist them in

envisioning the potential readiness of new technology adoption and challenges that may be encountered.

To select the participants to be comprised in the final sample, a purposive sampling technique was used (Hennink & Kaiser, 2020). Purposive sampling was used because of its flexibility, which would allow researcher to save time. The sampling technique was also used because it was thought that all the target participants experienced technological changes in different sections and departments in the organization.

1.8 Research Terminology

The research terminology in this thesis as below:

Behavior intentions

An individual's behavior is a noticeable act, which gets influenced or convinced by other individual attitudes or acts (LaRose & Eastin, 2004). Such acts of individuals, known as behavior, are mostly unpredictable. It can be based on the positive and negative feelings that may get generated because of anyone's observations or performance.

Facilitating conditions

According to Venkatesh et al. (2003), facilitating conditions (FC) are well-thought-out as the individual believes that he will receive a supportive organizational and technical infrastructure to use the technological system.

Performance expectancy

The term performance expectancy (PE) describes the confidence level of employees working in the organization that utilizing IT in the job will provide beneficial results and effective job performance (Venkatesh et al., 2003).

Effort expectancy

Effort expectancy describes the level of comfort related to IT usage (Venkatesh et al., 2003).

Supervisor influence

The term supervision describes the supervisor's behavior towards their subordinates, which significantly influences the organizational work environment (Cammann, Fichman, Jenkins, & Klesh, 1983).

Colleague influence

Colleague influence (CI) refers to employees' perception about the belief of other employees for the utilization of the new system or technology (Venkatesh et al., 2003).

1.9 Organization of the Remaining Chapters in this

Thesis

The first chapter has thoroughly described the problem statement, research question, research objectives, significance of the research topic, study setting and explained the terminology in this study. The second chapter explains the extensive literature that will support the research topic based on previous research that helps in the respective domain to be explored in a wide range. The third chapter explained the research methodology and design

employed in this research. In this chapter also discusses the analysis and data collection process technique. Chapter four reports the qualitative findings of the research study. The final chapter discusses in detail the study's analysis, provide the conclusion of the research study and a thorough explanation of research findings, limitations of this study will be put forward.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter contains a comprehensive discussion from the extant literature related to employees' adoption of technological changes at the workplace. In this chapter, literature related to behavioral intention, studies associated with accepting the technological changes will be majorly focused. Based on the previous literature, propositions for this study were developed.

2.2 Past Studies Related To Behavioral Intentions

According to Zhou (2008), users' intention plays a vital role in accepting and adopting technology. The term behavioral intention has remained the core interest of research among different perspectives of researcher in the information system domain.

Reviewing the past studies revealed that were several factors have effect on behavior intention. For instance, in the domain of information technology, factors like perceived risk and perceived relative benefit, compatibility, ease of use, perceived usefulness, perceived system quality, and computer self-efficacy have significant effect on behavioral intention (Chang & Tung, 2008; Lu, Cao, & Yang, 2010).

In the medical sector many studies determined that factors such as ease of use and perceived usefulness were influential towards the behavioral intention of users (Al-Marroof et al., 2021; Jian et al., 2022). In the study of Jian et al., (2022) which tested the behavioral intention of patients toward using voice-based control system for smart hospital wards, among 30 samples the study found that ease of use and perceived usefulness positively affects the attitude toward using, hence, positively affecting behavioral intention to use technology.

While in some of the previous studies oriented on providing a particular service, factors such as services quality, attitude, subjective norm, and self-efficacy were also found influential towards the behavioral intention of users (Pan & Truong, 2018; Hung et al., 2016). For instance, in the study of Pan & Truong (2018) among 620 samples found that service quality, subjective norms, attitudes and technology self-efficacy positively influence the behavioral intention to use low-cost carriers.

In the marketing and commerce domain, the instinct purchase orientation, quality orientation, brand orientation, perceived trust, and prior online purchase experience along with perceived price, security, enjoyment, social influence, motivation and habit has showed influence in consumers' adoption of technology (Yunus et al., 2022; Dakduk et al., 2020). For instance, in the study of Dakduk et al., (2020), which consists of a sample of 344 participants from Ecuador, showed that motivation, habit and perceived trust positively affects behavioral intention towards the adoption of ecommerce.

Some other factors like perceived risk, privacy concerns, facilitating conditions, effort expectancy, performance expectancy, price value, cultural contexts, individual characteristics, social responsibility, access to

technologies, perceived benefits and perceived credibility are those variables that affect the behavioral intention of the users (Hassan et al., 2022; Zetterholm et al., 2021) In the study of Hassan et al., (2022) among the 720 respondents in Malaysia reported that performance expectancy, effort expectancy, price value, facilitating conditions, perceived risks, and privacy concerns are do infect influence behavioral intention to adopt healthcare and e-government applications.

In addition to empirical studies, scholars in the field of technology management have introduced several models to understand the complexity of individual behavioral intention. Theories such as Theory of Reasoned Action (TRA) Model and Theory of Planned Behavior are to understand the human intention while the theories related to adoption of technology in the organization are (1) Technology Acceptance Model (TAM), (2) Technology Acceptance Model 2 (TAM2) and (3) Unified theory of acceptance and use of technology (UTAUT Model).

2.3 Theoretical Framework

An explanation of all the mentioned theoretical models is found in the next part of the literature review:

Technology Acceptance Model (TAM)

A considerable amount of literature is available related to the technology acceptance model (TAM), in which the significance of attitudes, beliefs, behavioral usage, and intention are thoroughly discussed (Davis, 1989; Davis et al., 1989; Mathieson, 1991; Taylor & Todd, 1995). However,

the relationship among the factors is majorly concerned that the adoption of any technology should be on individuals' volitional choices (Sheppard et al., 1988; Ajzen, 1991). But in some cases, it has been explored that the relationship among the variables gets variation if the factor of behavior becomes mandatory. It can be further explained that if in any organization the employers are compelled to perform activities in some specific behaviors, in that case, the antecedents of their beliefs and attitudes while performing those particular behaviors started to get minimized. Over here, the situation will be recognized as the mandatory use environment in the organization, according to which the organizations' employers are liable to adopt specific technology or system to accomplish their job requirements. Thus, in such situations, the organization's environment was not favoring the employees.

The terms related to ease of use or usefulness of technology cannot be described as the dependent variable in the discussed situation or environment (DeLone & McLean, 1992). Thus, the employers become liable to adopt the technology that has been introduced by the higher authorities to achieve their desired outcomes as they don't have other choices or alternatives. Thus, according to such a situation, if employers of the organizations are compelled to use any technology, then why is there a need to explore further antecedents related to official usage of technology.

In literature, some researchers have observed that if employers get forced to use any technology, it ultimately negatively affects their job satisfaction, attitudes towards their subordinates, and level of loyalty (Zuboff, 1988). Hence to avoid such counterproductive behaviors in the organizations, it is essential to prevent the interference and unfaithful appropriation of technology to achieve the desired targets. Several research highlighted the fact

that many times the employees adopt the technology to fulfill the requirement of their jobs, but on the other hand, they get involved in destructive behaviors, sometimes intentionally and sometimes unintentionally (Markus, 1983; Leonard-Barton, 1988; Zuboff, 1988; Davis et al., 1992).

In the technology acceptance model, it has been thoroughly discussed that the external factors in the organizations play a significant role in influencing the beliefs, attitudes, or intentions of employees to adopt or accept any of the technology (Szajna, 1996). According to the Orlikowski (1993), the utilization of information technology in organizations cannot be solely affected because of the features of IT. In contrast, the external factors comprised of organizational or social context, individual characteristics, behaviors, and attitudes also play an essential role. To explore these factors and identify their core significance, the researchers have thoroughly focused on the fundamentals related to the interaction of humans and computer-based on the socio-technical systems theory (Land & Hirschheim, 1983).

One of the research projects conducted by Brown (2002) explores the characteristics of both the technological and individual users to determine the factors of perceived usefulness and ease of use. In one another research, it has been discussed by Chang et al. (2008) that in adopting the technology, the organization and its employers are considered the actors. However, the other related predictors that highly influence the employers and organizations majorly contribute to such adoptions' decision process. Thus, from a decade, the researchers and practitioners are found to explore the facts that influence the acceptance and usage of Information technology (IT) in the organization. The organizations in technology contribute a considerable number of investments to increase their products successfully. Though, it has been

observed that if such technological systems fail to run in the organization, it might result in undesirable consequences like financial losses and dissatisfaction among employees. The definition for each variable in the model is provided in Table 1.

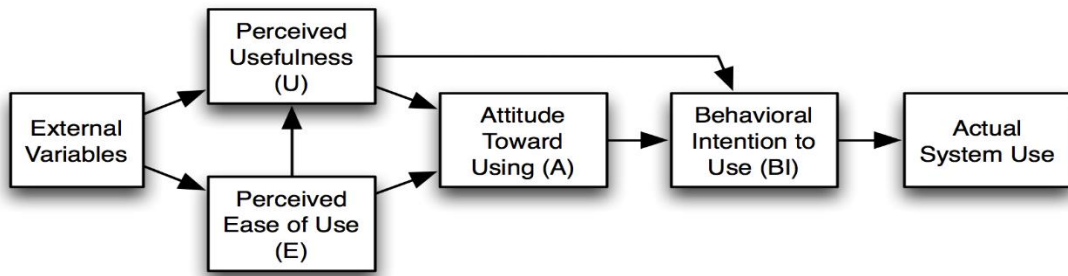


Fig 1: Technology Acceptance Model (TAM)

Table(1)Variables describing the TAM Model

Model	Core Constructs	Definitions
Theory Acceptance Model (TAM)	Perceived Usefulness	The degree to which a person believes that using a particular system would enhance job performance
	Perceived Ease of Use	The degree to which a person believes that using a particular system would be free of effort
	Subjective Norm	Adapted from TRA/TPB. Included in TAM2 only

Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology (UTAUT) was explored (Venkatesh, Davis and Davis 2003). In this theory, the researchers

identified four major components that exposed four different dimensions showing the relationship of intention and usage. These four factors were performance expectancy, effort expectancy, social influence, and facilitating conditions (Figure 5). The core concept of formulating this theory was to determine the user acceptance and usage behavior on technology.

According to this theory, self-efficacy and anxiety indirectly influence users' attitudes and intentions (Kriponant 2007). At the same time, the other moderating factors was included in the theory such as age, gender, voluntariness, and experience. Based on UTAUT, the factors of behavioral intention change with time (Venkatesh et al., 2003). Though a decade has been passed, it has been evidenced that despite many technological advances and increasing organizational investment in these technologies, still, the issues related to the utilization of these technologies remain problematic issues in the efficient and successful operations of the businesses (Moore, 1991; Norman, 1993; Wiener, 1993; Johansen & Swigart 1996).

All constructs of this model are a result of merging different constructs of other models and theories, each construct is paired with a bundle of the original constructs in Table 2.

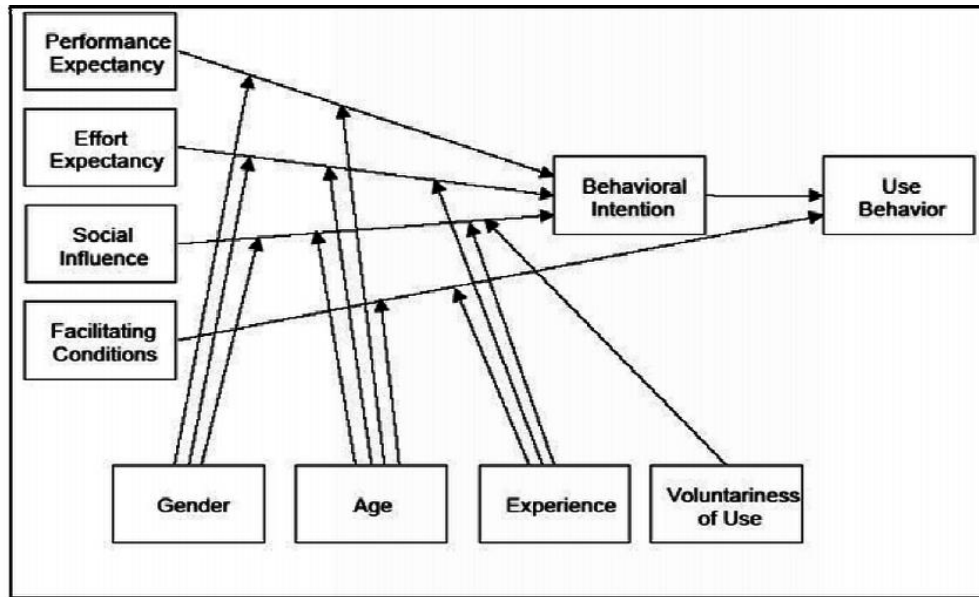


Fig 2: Unified theory of acceptance and use of technology (UTAUT Model)

Table (2): Variables used in the UTAUT model

UTAUT	Original constructs	Theory/model
Performance expectancy	Perceived usefulness Extrinsic motivation Job-fit Relative advantage Outcome expectations	TAM/TAM2 and C-TAM-TPB MM MPCU IDT SCT
Effort expectancy	Perceived ease of use Complexity Ease of use	TAM/TAM2 MPCU IDT
Social influence	Subjective norm Social factors	TRA, TAM2, TPB/IDTPB, and C-TAM-TPB

UTAUT	Original constructs	Theory/model
	Image	MPCU IDT
Facilitating condition	Perceived behavioral control Facilitating conditions Compatibility	TPB/DTPB, C-TAM-TPB MPCU IDT

Notes: (TAM= Technology Acceptance Model, TRA= Theory of Reasoned Actions, TPB= Theory of Planned Behavior, C-Tam-TPB= Combined TAM and TPB, MM=Motivational Model, MPCU= Model of PC Utilization, IDT= Innovation Diffusion Theory, SCT= Socio-Cognitive Theory). Source: Venkatesh et al. (2003)

2.4 Conceptual Framework and Propositions

Venkatesh et al. (2003) unified all the above-related variables and theorized the UTAUT model. This model further explored that 70% variance in users' behavioral intention in adopting the technology is due to the aforementioned variables (Alharbi, 2017). Based on the work of Venkatesh et al. (2003), four primary constructs of the UTAUT model: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions were used to frame this study. Accordingly, the propositions for this study were formulated:

2.4.1 Performance Expectancy and Behavioral Intentions

The factor of performance expectancy explores the perception of employees that if they use the technology, it will improve their performances,

and they will accomplish their tasks efficiently. The existing literature has observed that performance expectancy significantly impacts using technological skills (Wang et al., 2009). Based on the study from Arenas-Gaitán, Peral-Peral, and Villarejo-Ramos (2016), they found appropriate in exploring the main determinants of adoption, along with some additional factors that allow analyzing the effect of different moderators and variables because of which this model gives a chance of generalizability.

In one of the research conducted by Calvert et al. (2005) with a sample of 1065 US parents explored no gender discrimination in the utilization of technology, it has been observed that the ages have some significant effects on females' utilization of computers. Thus, in some research, it has been found that the utilization of computers depends on the age and student-level factor (Afarikumah & Achampong, 2010). The factors that were found similar to performance expectancy in different models are known as the perceived usefulness of technology acceptance model (TAM), a relative advantage in innovation diffusion theory (IDT), job-fit in Model of PC Utilization (MPCU), outcome expectancy in social cognitive theory (SCT) and extrinsic motivation in Motivation Model (MM). The literature has exposed an interesting factor that age and gender are the most influential factors on performance expectancy while investigating behavioral intention. Thus, different researchers have explored various factors like internet banking, e-sharia portal usage among Shariah court Judges, perception of entrepreneurs towards the behavioral intention of users (Foon & Fah, 2011; Yahya, Nadzar, Masrek, & Rahman, 2011; Alrawashdeh et al., 2012). Based on the analysis of these studies' performance expectancy has a positive and significant impact on behavioral intention. The results of these studies are found similar because of

the similar level of technological development in the Malaysian contextual or cultural sectors.

In context of the Ministry of Industry, Commerce and Tourism, performance expectancy may play a major role in affecting the behavioral intention to accept or reject the adoption of technology, that is due to the fact that the ministry employees are mostly young and ambitious and always seeking opportunities to excel. Hence, the first proposition of this study is mentioned below:

Proposition 1: Performance expectancy motivates employee's intention to use technology.

2.4.2 Effort Expectancy and Behavioral Intention

Effort expectancy refers to the degree of easiness and accessibility that employees received in the organizations when using the technological systems. Effort expectancy is also found as the factors that influenced perceived ease of use in previous study conducted by Moriuchi (2021). This is because when the employees feel comfortable and at ease in using the system, it will encourage their behavioral intention to utilize the technology.

Previous literature revealed that if there is less effort expected by the employees when adopting technology, it will eventually lead them towards the technological improvement (Chiu & Wang, 2008). This findings collaborates with previous studies which confirming the positive effect of effort expectancy towards the intention to use (Lee & Kim, 2022; Pham & Dau, 2022; Camilleri & Camilleri, 2022; Fitrianie et al., 2021). For example, in the study conducted by Camilleri & Camilleri (2022) on 777 students in a

university college in Malta, Europe, the researcher found that effort expectancy positively affects the behavioral intention of students when adopting video conferencing technologies for remote learning.

Another good example to illustrate the influence of effort expectancy on behavioral intention, Liu et al., (2022) conducted a study on 326 customers, aged from 40 to 59, to middle aged customers' acceptance of mobile payment apps in Taiwan, which resulted in the support of effort expectancy positively affecting the behavioral intention in using mobile payment apps.

However, in some studies, these findings were found in contrast. For instance, in the study of Surya et al., (2021) which was conducted in Jakarta, Indonesia with a sample of 315 resident, effort expectance does not affect the behavioral intention to use online food order-delivery feature. Another study is by Raman et al., (2014) and on 65 postgraduate students from University Utara Malaysia, the study proved that effort expectancy does not affect the behavioral intention of postgraduate students to use learning management systems.

In context of the Ministry of Industry, Commerce and Tourism, effort expectancy may play a major role in affecting the behavioral intention to accept or reject the adoption of technology, this is due to the fact that ministry employees tend to be more efficient, by reducing the effort required to complete a task; they can focus on other major tasks. Hence, the second proposition of this study is mentioned below:

Proposition 2: Effort expectancy promotes employee's intention to use technology.

2.4.3 Supervisor Influence and Behavioral Intention

Social influence refers to the perception of individuals who get influenced by what other individuals will think about using the technology (Venkatesh et al., 2003). Thus, it has been observed that there is a significant impact of social influence on the behavioral intentions of individuals while using the technology. The managers, colleagues, and other fellows at the workplace substantially impact the behavioral intention to use the IT system. In prior research, it has been observed that the support of other individuals has a significant impact on behavioral intention in some mandatory settings (Hartwick & Barki, 1994). The social influence factor is known as the subjective norms in TRA, TAM, and TPB models. Further, in the models of MPCU, this factor is considered the social factors and image correspondingly. Like other variables, these variables were also found to have a strong significant impact on behavioral intention among the women and those with experience in mandatory situations when the factors of age, gender, experience, and voluntariness of use are used as the moderators (Venkatesh et al. 2003).

In some research, findings contradict the relation between social influence and behavioral intention. The research study of Al-Shafi and Weerakkody (2008) proved the significant relationship, whereas Birch and Irvine (2009) researched denied the relationship among the factors. Whereas in support of positive relationship among the variables are found by various researchers (Lai et al., 2009; Sumak et al., 2010; Yamin & Lee, 2010; Foon & Fah, 2011; Pappas et al., 2011; Huang & Qin, 2011; Yahya et al., 2011; Cheng et al., 2011; Moghavvemi et al., 2012; Alrawashdeh et al., 2012; Yu, 2012; Zhou, 2012; Wu et al., 2012). While the contrast findings were found

among the other researchers in which there was an insignificant relationship among the social influence and behavioral intention (Wang & Cheng, 2010; Deng et al., 2011; Gao & Deng, 2012; Wong et al., 2013).

In context of the Ministry of Industry, Commerce and Tourism, supervisor influence may play a major role in affecting the behavioral intention to accept or reject the adoption of technology, ministry supervisors are the main motivators of the ministry employees, they are the front line of any influence that is related to work. Hence, the third proposition of this study is mentioned below:

Proposition 3: Supervisor influence is associated with employee's intention to use technology

2.4.4 Colleagues Influence and Behavioral Intention

The colleague influence is the factor that describes the mindset of individuals in which they get influenced by their own age persons because of which their attitudes, interests, and circumstances change (Lin, Chan & Jin, 2004). It has been observed that society or colleagues strongly influence human behavior in general and specifically while using the information technology adoption (TA) (Asch, 1953; Triandis, 1980; Venkatesh et al., 2003). In particular, of colleague influence can be defined initially as the inspiration that individuals adopt from other colleagues' expertise, which brings a change in their thoughts, feelings, attitudes, or behaviors (Kelman, 1958; French & Raven, 1959).

Research that has been conducted in the context of IT systems (IS) has explored the role of colleagues' influence as the interactive reflections among

individuals towards the technology adoption (Chan et al., 2010). This can be further described as the individuals take such decisions or get influenced collaboratively, with this vision or aim to remain fit in the system or accomplish the job's requirement that affects their performances (Fulk et al., 1990; Bagozzi, 2007). Past literature explores a significant relationship between the colleague influence and individuals' behavioral intention to adopt the technology at the workplace. The integration of this factor is found in all prior models like TPB, TAM and in UTAUT (Ajzen, 1991; Venkatesh & Davis, 2000; Venkatesh et al., 2003).

Past studs have also revealed that colleagues influence has a significant impact on technology acceptance based on the social norms and identity that are supported by the organizational technology environments (Shen et al., 2013; Tsai & Bagozzi, 2014).

In context of the Ministry of Industry, Commerce and Tourism, colleague influence may play a major role in affecting the behavioral intention to accept or reject the adoption of technology. Since the ministry employees that are working under supervisors are mainly young and ambitious, it is safe to say that these employees understand and support each other and there is a great deal of teamwork. Hence, the fourth proposition of this study is mentioned below:

Proposition 4: Colleagues influence inspires employee's intention to use technology.

2.4.5 Facilitating conditions and Behavioral Intentions

According to Venkatesh et al. (2003), facilitating conditions (FC) are well-thought-out as the individual believes that he will receive a supportive organizational and technical infrastructure to use the technological system. In particular, facilitating conditions explain that there is always a necessity to have resources that ease using and accepting the technology. When employees facility support from their concerned organization, it enhances the behavioral intention of using the technology (Venkatesh et al., 2003).

In a study conducted in Taiwan by Wang & Yang, (2005) on adopting an online stocking system with a sample of 196 participants. The factor of facilitating condition was related with the behavioral intention with moderating effects of personality traits comprised of extraversion, openness, agreeableness, conscientiousness, and neuroticism. According to this research study, the facilitating condition had a positive relationship with behavioral intention related to internet experience (Wang & Yang, 2005).

However, one research, which was conducted by Marchewka et al., (2007) with a sample of 132 graduates and undergraduates at a large Midwestern university in the United States, found that in regards of the education sector related to adoption of course management software, the study shows that there is no direct relationship between the facilitating conditions and behavioral intention (Marchewka et al., 2007). Thus, some of the researchers think that this difference is because of factors that determine facilitating conditions such as infrastructure is not considered as a problem in developed countries, whereas in developing countries, these factors have a significant role (Gholami, Ogun, Koh, & Lim, 2010; Rehman, Esichaikul, & Kamal, 2012; Yaqub, Bello, Adenuga, & Ogundeji, 2013). In contrast, in one

of the studies conducted in developed countries like Canada exposed that facilitating conditions were insignificant predictors of behavioral intention. This study was conducted on ICT integration in classrooms in Canadian universities (Birch & Irvine, 2009). However, to support the results of the above study, one more study by Wong et al., (2013) was found in the educational context, the study consists of a sample of 159 teachers in which the same results were observed; this study was based on the acceptance of interactive whiteboards in Australian schools. However, it should be kept in mind that the similarity in context can be one factor behind the similarity in results regarding the relationship between two factors. In other contexts, like a research study conducted in Malaysia in the banking sector, which consists of a sample of 200 participants from 3 different areas, facilitating conditions significantly influence behavioral intention to use internet banking (Foon & Fah, 2011). According to Huang and Qin (2011), a research study conducted in China among 226 employees could not significantly influence facilitating conditions on behavioral intention to use virtual fitting rooms in China. Contradictory to this research, research conducted by Alrawashdeh et al., (2012) in Jordan with a sample of 290 public sector's employees found a significant relationship between facilitating condition and behavioral intention to use web-based training system. Though according to the classification of International Monetary Fund (2012), these Asian countries like China, Jordan, and Malaysia are developing countries, however, their infrastructure still requires some stability like the developed economies (Gholami et al., 2010; Rehman et al., 2012; Yaqub et al., 2013).

In the context of Ministry of Industry, Commerce and Tourism it is deemed importance to provide suitable facilitating condition to employees;

this is because facilitating condition may play a major role in affecting the behavioral intention to accept or reject the adoption of technology. The ministry tends to provide all the required resources (hardware, software, training, etc..) to their employees to ease the adoption of new technology. Hence, the fifth proposition of this study is mentioned below:

Proposition 5: Facilitating conditions enhance employee's behavior intention to use technology.

2.5 Conclusion

The chapter focuses on literature review based on different theories such as the theory of reasoned action, the theory of planned behavior, Theory of Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). The chapter summarizes the concept of behavioral intention as one of the core interests of research among different perspectives of researcher specifically in the information system domain. Based on the discussed literature, propositions were stated accordingly.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter explains the research approach, sampling method, interview protocol, interview questions and the data analysis approach used in this study.

3.2 Research Approach

This study is using qualitative approach to explore the factors that influence the behavioral intention of public employees in adopting technological changes at workplace. Therefore, non-statistical data was collected and analyzed to answer the research questions. The most tools used in qualitative studies are either in-depth interviews or semi-structured interviews, and analyzed using thematic analysis or grounded theories (McAllister, 1995).

Semi-structured interviews gives the researcher insider's view of the topic, which allows the researcher to gain information that are often missed in quantitative studies and may be unavailable to the public. Semi-structured interviews should consists of a duration of approximately half an hour to more than an hour (McAllister, 1995). In this study, the interviews took about 30 minutes to conduct.

In the following section, the sampling method and data collection method is explained.

3.3 Sampling Method and Data Collection Technique

Purposive sampling technique is used in this study. This type of sampling technique is to gain the participant's correspondence (Bryman, 2006). The respondents selected in the interviews were according to the criteria of tenure, and job function. Accordingly, researcher was targeting employees who are from non-managerial position because the study employee from this group are the first line employees who are dealing the most with regards to the technological changes at the workplace, also, non-managerial employees are the employees that will actually use the new technology. The second criteria of the respondent are that the person must be working in the ministry for more than one year. This criterion is to make sure that he/she has a sufficient experience in the ministry and could answer based on their experience in using the technology. The third criteria are that the person must be a permanent employee in the ministry, and this is to make sure that all the gathered information is not bias due to the job status.

Personal interviews have been selected to be the tool for gathering information in this study. This is because the aim of this study is to understand human experience. The most common way to gather information about human experiences is through interviews, where with the open end questions the researcher may gain a lot more information than planned for which can be beneficial (Ryan et al., 2009).

To maximize the quality of the gathered information from the interview, the selected participants defer from each other at a demographic level, where each of them work in a different department / section, a mixture of males and females and different age groups.

3.4 Interviews Protocol

To identify the respondents of this study, an official email was sent to the Human Resource department in the Ministry of Industry, Commerce and Tourism. The letter indicated the purpose of the study, the criteria of the respondents that are qualified for the interviews. The letter requested the human resource department to provide the list of suitable interviewee names and contact information.

After two weeks, the Human Resource department replied with a list of names with all the required information.

Next, researcher contacted the employees from the list through email. In the email explained the details of the study, a list of questions also shared with the potential respondents. An assurance that all provided information will be confidential and that only the researcher will have access to them was also provided. Respondents were requested to confirm of accepting the interview and suggest the convenience date and time to conduct the interview. The interview letter is appended in Appendix 1.

After receiving the reply from respondents, a Microsoft Teams meeting was arranged and the meeting link was sent to each participant according to their preferred date and time. The online meetings were taken as the precaution measures to combat covid-19.

All conducted interviews took place between October and December 2021. In the beginning of the interview with each participant the purpose of the study was again briefed to the participants. After that, the participant was notified that the interview will be recorded and only the researcher will have access to the recording, it was also explained that the recordings will be destroyed after they are transcribed. The applicant was also noted that everything he/she says in the interview will be held with full confidentiality. The approximate duration of the interview was informed. All participants are aware that their participation is voluntary. The participant was also notified that he/she can stop at any time if he/she feel uncomfortable. After gaining the participant's consent, the interview questions were asked.

3.5 Interview Questions

In total, there were six questions. First, participants were given line of questions a google forms link to fill up some demographical questions. The demographic questions are presented in Table 3. While Table 4 showcases all the questions that were asked related to this study. The questions related to the study were adapted from the research of Venkatesh et al., (2003).

Demographics:

Table (3): Demographical Questions

No	Items					
01	Gender	Male			Female	
02	Age	18-25	26-35	36-45	46-55	56 and above

03	Education	Secondary school	Diploma	Bachelor	Masters and above	Other: _____ (Please specify)
04	How long have you been working in this organization?	Less than 1 year	1-5 years	6-10 years	11-20 years	More than 20 years
05	Nationality	Bahraini		GCC Country		Others
06	Job Status	Permanent Employee			Contract Employee	
07	Grade Scale	General		Professional		Executive

Interview Questions:

Table (4): Interview Questions

No	Items	Questions
1	Behavioral Intention	Whenever new technology is available, what is your thoughts on using this new technology?
2	Performance expectancy	How did technology help you in performing your work?
3	Effort Expectancy	Can you share with me about your experience in learning new technology at the workplace?
4	Supervisor Influence	In general, how do supervisors in your organization support you in the use of new technology at work?

5	Colleagues Influence	In general, how do colleagues in your organization support you / influence you to the use of new technology at work?
6	Facilitating Conditions	What resources did the organization provide to use new technology (example: training hardware, software, subscriptions, etc.)?

The participants were asked probing questions like “can you please elaborate” “can you give an example on that” and “why do you think that is” during the interview if the answers did not give enough details. That is to gain more information and to get the full picture as much as possible. Some of the participants did not require any probing questions due to their full explanation of their thoughts and experiences.

A total of 13 interviews were conducted, that is because the data have reached data saturation and no new information was brought up. Data saturation is basically when no additional data was found which could allow the researcher develop properties (Saunders et al., 2018). The duration of each interview was about 30 minutes.

3.6 Data Analysis Approach

All interviews were recorded and transcribed to ease the data analysis process. All transcribed interviews were sent to the participants for final approvals before further analysis. Data analysis in this study occurred in two stages. At first stage, the researcher reviewed the transcripts and identify the repeated factors mentioned by all the participants. While reading, the

researcher noted the important quotes that could answer the research question in this study. In addition, the researcher also reviewed the transcripts multiple times until constant insights of participants occurred clearly. In the second stage, the researcher performed the synthesis of the quotes given by participants and hence developed the research themes. In the end, the outcome of the study will be divided into those themes.

3.7 Conclusion

This chapter explained the methodology of this research. First, the researcher mentioned research approach and explained that the approach was qualitative. The sampling method for this study was purposive sampling method which was justified with 3 criteria: that the selected employees are under management level, the selected participants have been working for more than one year and that all the participants selected for this study are permanent employees. The interview protocol was then explained. After that the interview questions were mentioned and showed that there were two parts: the first part was the question related to this study and the second part was demographical information from participants. Then, the data analysis approach used in this study was explained. The next chapter reports the findings of the study.

CHAPTER 4:

FINDINGS

4.1 Introduction

In this chapter focus on the findings of the study. The first section presents the profile of the participants in this study. Then, the interview data will be synthesis and categorized into various themes. A conclusion of the finding will be explained in the final section of this chapter.

4.2 Demographics of Respondents

Thirteen participants participated in this research study. Among them, eight are males, while five are females. All the participants are between the age of 26 to 45 years. There are four participants aged 36 to 45 years old. The most senior participants are men. All the participants used have served in the ministry. Some have done for a year, while others have served for twenty years. All the participants in this research study have either a bachelor's degree or a master's degree. The total numbers of master's degrees are six, three females and three males. The total number of bachelors' degrees is seven, three females and four males.

All the participants in this study are Bahraini. All the participants have been employed at the ministry as permanent basics. Participants in this study were attached in different departments / sections such as Industrial Areas, Duty Exemption, Foreign Trades, SMEs, Land Management, Registration, Licensing, Inspection and Specification, Industrial Development, Investor

Relations, Industrial Operations, IT and Information and Reporting. Besides, they were either under the professional category or general category. The summary of the participants is presented in Table 5 below:

Table(5): Demographics of Respondents

No.	Gender	Age	Education	Organization Tenure	Nationality	Job Status	Department \ Section	Job Category
1	Female	26-35	Masters	6-10	Bahraini	Permanent	Industrial Areas	Professional
2	Male	26-35	Masters	6-10	Bahraini	Permanent	Duty Exemption	Professional
3	Female	26-35	Bachelor	1-5	Bahraini	Permanent	Foreign Trades	General
4	Female	26-35	Masters	1-5	Bahraini	Permanent	SMEs	General
5	Male	36-45	Masters	11-20	Bahraini	Permanent	Land Management	Professional
6	Female	36-45	Bachelor	6-10	Bahraini	Permanent	Registration	General
7	Male	26-35	Bachelor	1-5	Bahraini	Permanent	Licensing	General
8	Female	26-35	Bachelor	6-10	Bahraini	Permanent	Inspection and Specification	Professional
9	Male	36-45	Masters	11-20	Bahraini	Permanent	Industrial Development	Executive
10	Male	26-35	Bachelor	6-10	Bahraini	Permanent	Investor Relations	Executive
11	Male	26-35	Bachelor	6-10	Bahraini	Permanent	Industrial Operations	Professional
12	Male	36-45	Masters	11-20	Bahraini	Permanent	IT	Professional
13	Male	26-35	Bachelor	1-5	Bahraini	Permanent	Information and Reporting	Professional

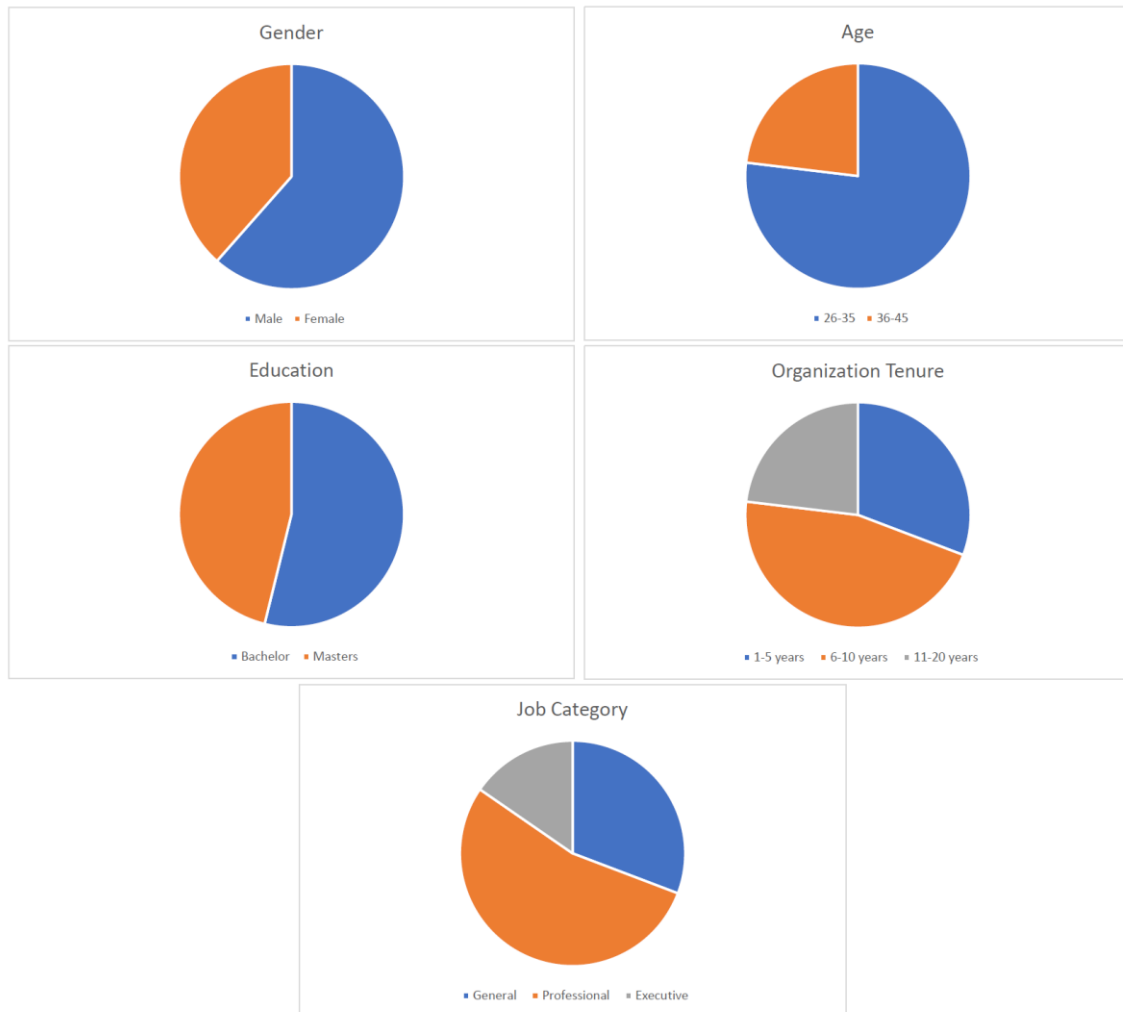


Fig 3: Demographics of Respondents

4.3 Behavioral Intention of employees in adopting technological changes at the workplace.

Based on the 13 interviews conducted, the behavioral intention of employees in adopting technological changes at workplace can be categorized into four themes, namely: positive attitudes, beneficial features of the technology, easy to operate and learning.

Positive attitude

Participants showed a positive attitude towards implementing technology in the workplace. Eleven out of thirteen participants showed a positive attitude toward implementing technology in the workplace. The number is high considering that only two participants did not give any thought about implementing technology in the workplace. The first participant who works in the Industrial department areas states, *"Regarding my opinion on using new technology, I'm open to it."* This shows that the participant is ready to learn about technology. It becomes easy to implement changes in the organization if the workers are ready to embrace the changes and withstand the learning process. The first participant states that she is open to it and ready to learn, this shows that she is open-minded and ready to deal; with the challenges that might emerge from these changes. The sixth participant who is from the registration department states, *"I would be happy because it's something new. I would always like to work with something new. Technology makes things easier and faster."* The registration department deals with many people, and it is important to embrace the changes so that the registration process becomes easier and more accurate. Clients can be advised to register online to confirm that all the details entered are correct. Besides, technology

makes things work faster; hence one can finish a heavy workload within a short time.

Considering that this ministry is serving the general public , embracing technology is highly encouraged. The tenth participant who works in the Investor Relations department states, "*I will welcome any new technology that will facilitate the flow.*". These participants' positive attitudes helped the management introduce the changes and work together with the supervisors to guide the employees on how everything is done.

Beneficial features of the technology

From the interview, it was understood that participants are positive towards adopting new technology because they see the features of the technology in assisting them in accomplishing their daily routine, such as supporting the organization plan, helping in decision making, which in turn enable them to be more productive. In particular, seven out of thirteen participants agreed that the technology's beneficial features will make it easy to work towards achieving the ministry's objectives and supporting the organization's plan. Participant number seven, who works in the licensing department, explains that "*I always believe the new technology improves the work quality and the efficiency.*" It is important to be efficient, especially in the licensing department, to ensure that the right persons are given the correct licenses. Also, technology will make it easier during the renewal of licenses since the clients will apply online, pay online and download the receipt online. Following this, the technology will make work easier by ensuring all the work is done efficiently and with minimal effort. The effectiveness and efficiency of the system will lead to customer satisfaction. As a result, more customers will be attracted, and they will seek the organization's services. The ministry

will continue to grow, and the organizational plan and objectives will be met through this. The first participant who works in the Industrial areas states, "*I believe that the new technology will support the organization's path or plan.*" It is hard to achieve organizational goals without embracing plans. So many organizations are currently embracing new plans and ensuring that they adopt the technology. Following this, the organization has to invest in technological advancement. Otherwise, it will be hard to deal with competition from similar organizations. One of the ministry's goals is to grow and serve more people, which will enhance the ministry's image. Therefore, the new technology will help support these goals and ensure that everything is working as planned. The third participant who works in Foreign Trades states that "*any technology that will come and solve any problem we face in our work.*" Various challenges affect workers, especially when they are not into technology. Some files get lost or misplaced; hence the workers will spend a lot of time looking for them. Sometimes the registration is not done correctly, making the clients repeat the process. Such things waste a lot of time, making it hard to achieve some set goals and objectives. Besides, the work becomes too much since the workers deal with many clients. Following this, the workers experience burnout since they do not have enough time to rest or take a break. They are supposed to serve more clients with limited resources and time. Once an employee experiences burnout, there are higher chances of making errors while working. These errors limit the chance of delivering quality work; hence the organizational goals will not be met. Through technology, more work will be done within a short time, making it easy to serve many clients within the given timeframe. Following this, the set goals and objectives will be met. The fifth participant elaborated that "*Technology makes life easier, reduces the time, and many other things.*"

Easy to operate

Some participants expressed that their intention to use is conditioning the system if it is easy to operate. Some systems might be hard to operate; hence the management needs to prepare the employees and guide them on the dos and don'ts of the system. Two participants commented on the ease of use, stating that it should be user-friendly and help make their work easier. The second participant who works in the Duty Exemption department states that *“if it's going to do the job or tasks easier, traceable, and user-friendly, we will use the system with a big smile.”* This shows that they are ready to use the system, but it must be user-friendly. The users need not strain or take too long to learn how to use it. If this happens, it will be hard for them to embrace it as it will prove to be more tiresome instead of helping them save on time and deliver quality work. Although it seems like the managers are given an ultimatum, it is a good request since it will help the IT department make the relevant system changes. the first participant who works in the industrial areas states, *"We need to make them (systems) easier and more efficient.* “The IT department should therefore consider these requests and ensure that the system is not complicated for any of the workers. This will help limit resistance from the workers; instead, they will embrace the changes since it will help them work smarter and faster.

Training

Some participants expressed that their intention depends on the sufficiency of training on how to operate the system. Changes in the workplace cannot be implemented without training and preparing the employees. This is why the participants stated that the training programs should be sufficient and help them grasp all the technology areas. Some people have been working in the ministry for so long; hence, they might take a long time to understand the systems and adapt them to their daily activities. Four participants commented on the issue of training and why it is important to ensure that everyone gets the right training. The second participant who works in Duty Exemption states that *“I will ask for help to know about it more, and then I will experience it.”* This means that the participant is ready to undergo any training that will help them learn more about the system. Besides, the users will seek help from the IT department and their colleagues. This will help them experience the system positively and ensure that they have captured all the aspects of the system. The fourth SME department participant stated, *“I’d like to figure it out, find my way through it, research it.”* This shows that the workers are ready to carry out their research and ensure that they have learned as much as possible about the system. Following this, the management must ensure that the workers have all the available resources to carry out more research. For example, the internet connection must be stable, and this will ensure that people can research any time they are free or stick with an aspect. The first participant explains that *“I cannot implement before training.”* Following this, training is very important, and the way it will be conducted will determine how well the workers will embrace the new system.

4.4 Factors Influencing employees in adopting technological changes in the workplace

Based on the 13 interviews conducted, factors influencing employees in adopting technological changes at the workplace can be categorized into five themes, namely: performance expectancy, effort expectancy, supervisor influence, colleague influence, and facilitating conditions.

4.4.1 Performance Expectancy

The term of performance expectancy can be defined as the individual's mental state that they will receive some more benefits in their job performances if they know how to use the technology (Venkatesh et al., 2003). From the interview, participant responses related to performance expectancy can be categorized into three sub-code namely “useful”, “Saving time” and “Information Availability”.

Useful

Twelve participants have stated that adopting technology in the workplace is very “useful”. For example, one of the participants mentioned that technology eased the application process and made it easier for the clients to make payments and get the receipts online. The second participant working at the Duty Exemption states, *"The portal allows all the applicants to apply all the applications online and get the approval online"*. This is very useful as the users can easily send messages online, and the workers can check on them. This helps improve our service delivery to the clients and ensures that everything is working correctly. In addition, the employees can communicate through video calls and voice calls with clients when problem arises.

Participant seven, who works in the licensing department, states said, “*We could do instant video calls; instant audio calls, and we could share our screen to learn new things.*” All in all, participants revealed that the technology is useful since all approvals can be done online, the applicants do not need to go to the office for confirmation.

Saving time

Eight participants stated that technology enhances performance by saving time. Adopting technology helps in reducing the time and the effort used in reviewing all the applications. Before the system was adopted, the workers had to go through the applications manually. One of the disadvantages is that it was easy to lose some applications or fail to note some parts which are not filled. The entire process took some time since the worker had to go through all the files and ensure that every detail was filled up. Participant one, who works in the Industrial Development Department, says that “*it reduces the effort and the time to review the application.*” As a result, it becomes easier for the ministry to achieve the set organizational goals and objectives. Besides, the work has become more accurate as there are minimal chances of errors. When the applicant fills the form online, it becomes hard for them to submit it if all the details are not supplied. Before the system was implemented, workers frequently skip some forms or fail to see some blank spaces on the files, making the application process messier. In addition, saving time makes it easy to serve many clients within a short period. More clients are satisfied, and the goals and objectives are met.

Information Availability

Seven participants commented about information availability and how it has enhanced performance expectancy. One of the most essential aspects of technology is that it helps keep records. Following this, it becomes hard to lose essential files needed in the future for references. *“If I need any old information, I can get it easily now.”* It becomes easy to retrieve the files, and other important information is stored online. Considering the old method of storing files on shelves. Technology is safer since only restricted persons can access the essential details. While participants who is working at the Duty Exemption Department explained that *“The applicant receives the approval letter or the certificate online.”* Following this, one does not need to go to the office to collect the letters and the application forms. If the information is not filled in correctly, the system has a way of rejecting the application until all the details are filled up. If one wants to refer back and change some of the details, it is easy and manageable. Following this, information availability ensures that the workers and the applicants have all they need at the right time.

4.4.2 Effort Expectancy

The term effort expectancy describes the individual's mindset, in which they expect to have ease when they struggle to use any technical system (Venkatesh et al., 2003). From the interview, “Easy to learn” emerged as single code.

Easy to learn

Eleven participants commented on this, and it is evidence that they are all anxious to learn more about technology and adopt it in their daily activities at the workplace. Participant one, who works in Industrial Areas Department

stated, *"I love to learn new technology; I watch many technology videos and read about them in my free time."* In addition, with the help of the IT department, the workers believe that it will be easy to learn new ways of doing things.

Anything new must indeed have its challenges. However, the workers are ready to deal with those challenges and learn how to use the systems to make work easier. They are also prepared to take the training since they believe that they will become more efficient after the training. Once the employees are practical and efficient, achieving the set organizational goals and objectives becomes easy. The training can take a couple of weeks, but one will enjoy the training results and hard work with enough practice and determination. Participant six, who works at the registration department, says, *"After we were trained, we become more knowledgeable about this, and we become more efficient and more effective"* The employees have a positive attitude towards embracing technology since they believe that it has helped them to serve more people. However, it is not easy at first. Participant ten, who works in investor relations, says, *"You have to be adaptable trying to learn and implement"*.

4.4.3 Supervisor Influence

The term of Supervisor Influence can be defined as social influence, which can be explained as the perception of individuals who get influenced by what their superior will think about using the technology (Venkatesh et al., 2003). From the interview, responses from the participants related to supervisor influence can be categorized into three sub-code namely "supportive", "motivator for learning" and "communication".

Supportive

Eight out of thirteen participants agree that the supervisors were quite supportive during the change process and technology adoption. When the supervisors support the employees, it becomes easy to embrace the changes and agree to use technology. Participant one, who works in the Industrial Areas Departments, stated *“They were very supportive of the change and transformation into using technology in the workplace.”* The support was essential as it helped the workers to learn how to use the online portal. Following this, the workers are now confident that they can serve more applicants and help them to fill the files online. It was easy to contact relevant departments through the process, especially when the workers needed help. Participant four, who works in the SMEs Department, stated that *“They will support by contacting the concerned department to solve the issue”* Following this, the supervisors were there to make sure the change process was as easy and comfortable for the employees. Participant six, who works in the Registration Department, stated that *“the supervisors provide 110% of the support needed”*. Following this, it was easy to deal with challenges, especially at the beginning when everything was new. Some of the concepts introduced at the front were complicated. However, the supervisors always arranged for training so that the employees could learn how to maneuver through the system. The support given helped ensure that the changes were implemented, and that no employee was left behind during the transition process.

Helpful Time Allocation

Four participants commented about their superior was the motivator to adopt the technology at work. Some supervisors forced the employees to work with the IT department to commit some of their time. This was a necessary measure as it ensured that the workers had enough time to learn how to use the technology to make the work easier. The supervisor had to ensure that the workers followed the instructions and attended the trainings. The supervisors arranged for the trial meetings to determine how far the workers were into embracing the new systems. Participant four, who works in the SMEs Department, responded, *“We will always use trial meetings, so our supervisors would ensure that we already know what we’re going to do and how to use it.”* This helped the workers concentrate and ensure that they were at par and mastered all the training content. Besides, the trial meeting was a good platform for the workers, supervisors, and trainers to interact and ensure that everybody is working towards achieving all the set goals. Participant three of the Foreign Trade Department states, *“They will make some meetings so we can share the problem and solve it together”* The meetings helped the workers interact and exchange ideas. Following this, the growth was a group effort, making it easy for everyone to embrace the changes.

Communication

Five of the thirteen participants responded about communication and how it helped ensure that the change processes were easier. Supervisors provided that all the workers memos and announcements to make the changes more effective. Participant four of the SMEs Department said, *“They motivate us to attend training workshops and courses to be more experienced with this technology”*. Following this, the supervisors communicated all the details

regarding workshops to the relevant workers. For example, details about time and venues were given to ensure 100% turn up. The supervisors were also willing to learn about the workers' challenges during the process. Participant two of the Duty Exemption Department states, *"They are always meeting with us and asking us about the difficulties we face in the new system."* This made it easier for the management to deal with the challenges and develop better and more effective ways of embracing technology. The supervisors also asked for ideas on the system to make them user-friendly. This made it easier for the workers, hence better results.

4.4.4 Colleagues Influence

The term Colleague Influence is the factor that describes the mindset of individuals in which they get influenced by their peers because of which their attitudes, interests, and circumstances change (Lin, Chan & Jin, 2004). From the interview, responses from the participants related to colleague support can be categorized into two sub-code namely: "encouragement" and "knowledge sharing". .

Encouragement

Six participants responded that the colleagues' influence was significant. Participant one from the Industrial Area stated shared that *"We kind of pushed each other and encouraged each other."* Following this, it was hard for the employees to give up since they wanted to embrace the changes together. Supporting participant one, participant five from the Land Management Department stated that *"It was the support of the colleagues that mattered the most, and that was always helpful."* The colleagues were ready to help each other to work towards embracing technology. It is evident that

some employees are older than others; hence it might be challenging for them to embrace the technological changes. However, it became easier to embrace the changes and learn how to use the portal through support from peers. In sum, the encouragement from each other so that each person could deliver the best in their department is deemed important to adopt new technology at work. On the other hand, the rest of the participants (7/13) did not give a clear answer, these seven participants have a longer tenure in the organization, and maybe that is why they are not easily influenced by colleagues.

Knowledge Sharing

Almost every participant responded about knowledge sharing apart from one. Participant seven from the Licensing Department stated, "*We are experiencing new technologies together, finding difficulties, and troubleshooting these difficulties together*" This means that the workers were ready to share new information with their colleagues. This was happening since participant twelve from the IT department stated that "*If I don't know anything about, let's say, new technology, our colleagues share the information with me*". The IT department is very crucial; hence the colleagues must be ready to help each other learn about new technologies and new ways of doing things. The employees will then share the knowledge with the rest of their colleagues from other departments. Participant two from the Duty Exemption Department confirms this by saying that "*whenever you're not familiar with something in the system directly if they have an easier way to do the job or task, they will share the information with the team and us.*" Employees are always encouraged to ask for help in case the system is not working or something is complicated for them. It will be easy to save on time and limit mistakes through this; participant five from the Land Management

Department states “*We can solve problems together*”. When an organization is united and working together to achieve common goals and objectives, it becomes easy to solve the challenges and implement changes such as embracing technology.

4.4.5 Facilitating Conditions

Facilitating conditions are the individual believes that he/she will receive a supportive organizational and technical infrastructure to use the technological system (Venkatesh et al., 2003). From the interview, responses from the participants related to facilitating condition can be categorized into three sub-codes namely: “Training”, “hardware, software, and subscriptions” and “updates information”.

Training

Eight out of thirteen participants responded about training and its importance during the change process. Participant one from the Industrial Areas Department states, “*We didn’t need to be trained, because when they developed the system, they gave us the manual to know how to use it, and it is very straightforward.*” Following this, the participant feels that the training was irrelevant since they could have learned how to use the portal by following the manual. The second participant from the Duty Exemption department’ had a different opinion as he stated that “*After building the system, of course, the training was provided to all of the employees. This training was scheduled, and all the employees got the training. They are now very skilled in providing all the services through the online portal*”. This shows that the training was relevant as it helped the workers grasp the content and use it effectively. Following this, it is easy for them to use the portal and

delivers quality services to the client. If the workers had not invested their time and resources on the training, implementing such technology would be more complicated. In addition, the process of implementing the changes will take more time. Participant four from the SMEs Department explains how the training was given to them, *“They offer us training courses that you can join, they send us some posts via email to explain some functions”*. Since the participants are the ministry’s employees, the training is simple and free. The only effort that the workers have to show is determined to learn and embrace technology. Following this, the workers do not have an excuse for why they do not want to embrace the new system and use it to improve themselves.

Hardware, Software, and subscriptions

Eleven out of thirteen participants responded about this. Participant one from the Industrial Areas Department said, *“We do have some software and subscriptions to certain software like AutoCAD, for example,”* The subscriptions ensure that the workers can use the soft wares. Apart from the Software, responder number nine from the Industrial Development Department explains that *“They provide us computers and if we need any subscription for any type of product that helps in our work.”* The workers connect the computers to the internet and the relevant Software, making it easy to work. Generally, all that is required for the workers to work effectively is prepared and provided. As the eighth participant from the Inspection and Specification Department says, *“They never hesitate in providing us whatever requirement, in terms of equipment, in terms of software that is required.”* This shows that the management was set for the changes hence providing all the requirements needed. Besides, this shows that the management works closely with the employees, making it easier to implement the changes and

help them embrace these changes. It is important to ensure that all the systems and equipment are working perfectly. This will help reduce errors and ensure that anything passed there is eligible.

Updated and information and equipment

Two participants responded about the updated information. Participant one from the Industrial areas department states, "*They also provide regular newsletters regarding the updates and what to be aware of because we use the portal daily.*" Following this, the users are ready, and they deal with current tasks before a system shuts down. Also, the workers know how to save important files so that in case there are updates that will affect the portal, the work submitted will be saved properly. The updates give the workers the chance to research more and develop better ways of dealing with the system. Similarly, participant two from the Duty Exemption Department explains that "*If there is any update in the system or any other piece comes up in the system, they will come on time to tell you what to do, how to deal with it*". This shows that the management is very supportive and ready to help the workers in ensuring they have the updated software and hardware such as computers.

4.5 Conclusion

The first section presented the profile of the participants in this study. Following that, the interview data was synthesis and summarized into various themes. Specifically, the first theme focusses on the behavioral intention of the participants to adopt new technology while in the second theme related to the factors of participants adopt new technology. According to the data gathered from interview, five sub-themes emerged namely performance

expectancy, effort expectancy, supervisor support, colleagues support and facilitating conditions.

CHAPTER 5

DISCUSSION, RECOMMENDATION AND LIMITATION

5.1 Introduction

This chapter discusses the finding, provides managerial recommendation and outlines the limitations in this study as well as the recommendation for future research. A conclusion of the study was presented at the last section of this chapter.

5.2 Behavioral Intention of employees in adopting technological changes at the workplace.

Technological changes are significant in organizations. Organizations embrace technology to reap positive outcomes. From the 13 interviews conducted, it was found that employees adopt to technological changes differently.

Specifically, in this study, it was found that majority of the employees (11/13) have a positive attitude towards technological changes. Such attitude was derived from their understanding in which technology can aid them to accomplish their work. more efficiently. They perceived that technology increase their efficiency and enable them to focus their energy and time on other organizational activities.

When asked about their experiences and views on change in technology. It is found that the participants were open-minded and ready to work hard in ensuring that the system was fully operational.

Participants also revealed that the technology changes should be applied to all the departments as it will help their organization to run seamlessly.

The findings in this study are in harmony with the literature. Different authors have explained how technological changes are embraced in the workplace. According to Zhou (2008), users' intentions play a crucial role in accepting and adopting technology. In this study, the employees were willing to embrace the changes and were determined to work hard until they were equipped with the necessary skills. Following this, the employees work closely with the IT department to seek clarifications and help them learn how to use the system effectively. Besides, some of the workers explained that they were ready to do their research about how to use the system if they got confused while using the system since a lot of information online about different technologies and how to use them in the workplace. In addition, the management had provided them with the necessary resources which made it easy for them to embrace the changes, ensuring the system was in use within a short time.

5.3 Factors Influencing employees in adopting technological changes at the workplace.

Different factors affect how employees adapt to technological changes in the workplace. Based on the thematic analysis, there are five main factors

have been identified namely performance expectancy, effort expectancy, supervisor influence, colleagues influence and facilitating conditions.

Performance Expectancy

Performance expectancy is the individual's mental state and the assurance that they will benefit from the changes. According to Venkatesh et al. (2003), performance expectancy assures the employees that their job performance will improve once they learn how to use the system. In this study, the majority of the participant (12/13) had high-performance expectancy since they knew that the system would help them work more effectively and efficiently. In addition, the employees' wanted a plan that would help them manage their tasks efficiently. Through the system, it was easy to deal with more clients within a short time. The participants in this study expressed their expectancy as saving time, helpful, and information availability.

Out of the thirteen participants, twelve participants stated that it is beneficial to embrace technology in the workplace. According to Venkatesh et al. (2003), employees should understand how technological change is helpful to make it easier for them to embrace it. In this case, the computer system made it easy for the applicants to make payments and et receipts online. Following this, the applicants did not need to go to the office physically. If one experiences errors when filling the forms, it is easy for them to edit. Before the system was implemented, the employees had to go over the applications one by one and eliminate the ones filled successfully. Sometimes some of the applications got lost in the process.

Some of the participants shared that the system is helpful because it enhances communication among colleagues and clients. According to Venkatesh and Davis (1996), organizations must ensure an effective

communication strategy. The communication strategy should help the workers communicate easily with the clients, the management, and each other. In this research study, there is a messaging system whereby the applicants can communicate with the employees about their concerns. Following this, it is easy to solve challenges and issues affecting the applicants when using the system. In addition, one of the participants stated that it is easy to do video calls and audio calls, share information online, and learn new things. As a result, it becomes easy for the workers to ask for clarifications and learn how to use the system more effectively. Also, this saves time as one does not need to leave their office to go to the other office to ask for help.

Technological changes should always aim at saving time and enhancing efficiency (Venkatesh and Davis, 1996). Eight of the participants used in this research stated that technology helps in reducing the time and effort of reviewing the application. Before the system was implemented, the employees had to go through the applications manually. However, following the changes and implementation of the system, it is easy to review the applications since the system filters any wrong information. Following this, the applicants cannot submit inaccurate information. This ensures that the workers do not need to fully go through the applications, saving time. The time saved is used to learn more about the system and improve their skills and knowledge. As a result, it is easy to achieve the set goals and objectives (Kriponant, 2007).

Information expectancy is another factor that influenced how the employees embraced the changes. Information availability makes it easy for the employees to embrace changes and adapt to the new ways of doing things (Kriponant, 2007). The management ensured that information was readily available for the employees to use when in need. One of the participants stated that if they need information, they can quickly get it. The use of the system

makes it easy to store data, and it can be retrieved easily for future references. This is more efficient than the old ways of storing information in hardcopy since the chances of the information getting lost are very high. However, it is crucial to ensure that data stored in the system does not get into the hands of the wrong people. As Kriponant (2007) explains, data can be used against the company if it gets into the hands of cybercriminals. Consequently, the workers must be taught how to safely safeguard the information and ensure that they have set strong passwords. If this is done, the data stored will only be used by the suitable personnel who have access; hence third parties will be avoided.

The findings in this research study corroborates with the findings from previous literature. Various authors have stated why it is crucial to prepare the employees and ensure that they have all the required materials to adapt to the changes. According to Lin, Chan & Jin (2004), the management must ensure that the introduced system helps make the work easier, saving time and enhancing efficiency. The participants in this study explained that they were ready to learn how to use the system since it helped them deliver quality quickly. Also, once the system is in use, the workers must be able to access information quickly to save time. If there is effective communication at all the ministry levels, then it is easy to achieve the set goals within the given time.

Effort Expectancy

Effort expectancy is the individual's mindset whereby the workers expect to use the system easily (Venkatesh et al., 2003). The employees will not be required to show a lot of effort in learning how to use the system. The system should be easy to use, and the resources needed must be readily available. This is to make sure that the employees will not struggle; hence less

effort will be used during the implementation process. The participants stated that the system was "Easy to learn."

Out of the thirteen participants used in this study, eleven participants explained that the system was easy to use since they had all the resources. They could easily access the required information. The first participant who works in the Industrial area stated that he loves using technology since it makes work easier. He added that he is willing to watch videos and read about the system. This shows that the system is easy to use and learn; hence, the employees are eager to read online and learn more about it.

For a change to be easy to implement, it is vital to ensure that the management is ready to deal with challenges effectively (McAllister, 1995). In addition, employees must be prepared to communicate the challenges to the relevant parties so that they are solved effectively (McAllister, 1995). The management should have effective training strategies for all employees. As seen in the profiling, employees are different, and they all work in various departments. Consequently, some might experience challenges trying to transition from manual to electronic working. The supervisors must ensure that training is effective so that each employee becomes knowledgeable and more efficient. It is hard for the system to be easy to learn if the workers are not adaptable and trying to learn and implement the changes. This can be implemented easily by offering individualized training depending on the individual's knowledge and skills. As a result, the workers will have an easy time learning and using the new system.

The findings in this research corresponds with previous literature. For instance, McAllister (1995) explains that any changes in the organization must be ready to learn. In this study, the participant explained that the system is easy to learn since the supervisors have provided all the necessary support.

The supervisors ensure that the workers have enough time to attend the training program. As a result, every employee learning about the system is ready to learn more about using it effectively. Venkatesh et al. (2003) explain that the management must work closely with the workers and the supervisors so that they can learn what is needed for the system to be fully operational. In this study, the participants have all the resources they need. The supervisors ensure that all workers can easily access the IT department. Following this, it will be easy to ask for help, clarification, and guidance. Since the workers can quickly learn how to use the system, it is easy for them to communicate to the relevant parties if they experience any challenges.

Supervisor Influence

A good supervisor can work together with others efficiently. According to Venkatesh et al. (2003), supervisor influence is the perception of individuals influenced by their leaders. The supervisor's experience in this research is helpful, supportive, and enhances communication. Supervisor influence determines how fast the system will be implemented in the ministry

Eight of the participants stated that the supervisors supported the change process. The respective contacts person have been given to all the participants so that they can contact the relevant person for help. The employees had enough support, and the supervisors ensured that everything required was available. Another participant explained that the supervisors provided 110% of the assistance needed. According to Venkatesh et al. (2003), workers do their best when given the necessary support and shown how to handle different things effectively. Since some of the concepts introduced were a bit complicated, the supervisors' approval made it easy for the workers to focus and work towards embracing the given changes.

Five participants explained that effective communication helped ensure that the change process was more straightforward. According to Alrawashdeh et al. (2012), effective communication in the workplace ensures there is no communication breakdown between the management, supervisors, and the workers. Announcements about the training program were made publicly; hence it was easy for everyone to attend the meetings. All the details like the venue and time were provided to all the workers. This helped reduce confusion and ensure there was a 100% turn up. The supervisors also asked the employees if anything was needed, which made it easy to provide all the required resources. The computer system cannot work if everyone is not doing their responsibilities entirely. Hence, the effective communication among the workers and the supervisors helped ensure the computer system was effective within a short time.

According to Venkatesh et al. (2003) workers must experience total support from their supervisors. This gives them the confidence to keep trying to embrace the changes when there are challenges. Besides, if the supervisors are supportive, it is easy to note the progress and estimate of the change process and if it is completed within the given time. Supervisors show their support depending on how the workers communicate. According to Alrawashdeh et al. (2012), some workers ensure that they report everything to the supervisors to make necessary changes. In this case, the worker could easily communicate about the challenges. Following this, the supervisors would work together with the IT department to ensure that everything is in order and that the workers have all the resources as requested. On the contrary, Yaqub et al. (2013) state that supporting the employers all through might make them lazy to the extent of failing to work hard on their own. If employees are provided with everything, it becomes hard for them to do their

studies and consult with each other about the changes. Gholami et al. (2010) explain that workers need to do their research without depending on the supervisors' help. However, in this study, the supervisors were always available to help the workers and provide them with what they needed until they were entirely acquainted with the system.

Colleagues Influence

Colleagues' influence can be defined as the mindset of individuals being influenced by persons of similar interests because they have similar attitudes and are surrounded by the same circumstances (Wang & Yang, 2005). Colleague influence is evident in this study as the participants agreed that it was easy to use the system since they could ask their colleagues for clarification whenever they faced problems related to the system.

Six participants responded that the colleague's influence was very significant. The support from colleagues helps them to learn how to use the computer system more quickly. According to Wang and Yang (2005), colleagues' influence helps embrace changes and fight challenges together. One of the participants stated that the support of their colleagues mattered the most and that it was always helpful. Particularly, when the IT department was too busy; hence they could take longer to respond to individual needs and requests about the system change. However, if the colleagues are there for each other, they will consult each other to solve the issue

One of the participants said that the employees are experiencing new technology together, finding difficulties, and working towards a solution together. The teamwork made it easy for the supervisors since they did not have to force the workers to do anything to help them achieve the set goals. The workers believed in solving problems together. Following this, both the

management and the employees were determined to find a standard solution. If all the organization's workers are united, it is easy to implement changes, solve challenges, and achieve the set goals and objectives (Foon & Fah, 2011).

The findings in this study are similar to those of the literature used. For example, Foon and Fah (2011) state that workers must work together and help each other achieve the set goals and objectives. Following this, it was easy for the workers to work together to ensure that everyone could use the systems. All the workers employed in the study are from different departments and sections. Besides, some workers have been in the ministry for longer than others. However, they all understood that they have a common goal and have to work towards achieving the set goals. Foon and Fah (2011) state that teamwork enhances success, which is very clear in this study since colleagues' influence made it easy to achieve the ministry's goals.

Facilitating Conditions

Facilitating conditions are the supportive organizational and technical infrastructure that makes it easy for the workers to use Technology (Venkatesh et al., 2003). Most participants categorized the facilitating conditions in this study as hardware, software, updates and information, training, and subscriptions.

Eight participants explained that training is crucial as it helps workers embrace the change process. One of the ways that the management carried out the training is through manual. Even before the system was introduced, the workers had been given manuals to familiarize themselves with the system. Following this, the training process was easy as the workers already knew what they were supposed to do. Another employee states that *"After building the system, of course, the training was provided to all employees. This training*

was scheduled, and all the employees got the training. They are now very skilled in providing all the services through the online portal". Following this, it was easy for the workers to understand how the system works within a short period. The training process is also flexible for most of the workers. For example, some training posts are sent in emails. Therefore, it becomes flexible, and the workers do not need to go to meetings. One can easily go through the email and understand what is required. If they do not understand, they can ask for clarifications from the supervisors, colleagues, or the IT department.

Majority of participants (eleven out of thirteen) explained that they had been provided with the relevant subscriptions, hardware, and software. This means that the workers have the necessary tools to ensure that the change process is effective. According to Kriponant (2007), it is crucial to ensure that the workers have all the resources they need before implementing technological changes. Everyone has computers, and the relevant subscriptions are made on time. This helps in avoiding delays. The workers have access to a stable internet connection and a backup system. Following this, workers are not allowed to be offline since this will affect the quality delivery of services to the clients. The management should always be set for changes and work closely with the employees and the IT department (Van Biljon & Kotzé, 2007). Also, various resources must be set aside so that it will be easy to solve them within the shortest time possible in case of any challenges.

It is vital to give all the workers the proper updates and information. According to Van Biljon and Kotzé (2007), the updates and information help the workers research and develop better ways of doing their work. The second participant who works in the Duty exemption department explained that *"If*

there is any update in the system or any other piece comes up in the system, they will come on time to tell you what to do, how to deal with it" The management, therefore, is very keen on ensuring that employees are prepared and ready to deal with any changes that affect the system. It is beneficial since it limits the chances of making errors and enhances efficiency.

The findings of this study echo the previous study reported by Van Biljon and Kotzé (2007). In their study, Van Biljon and Kotzé (2007) assert that the workers will always embrace changes if all the resources are readily available. Resources such as subscriptions, computer, internet, and information must be readily available for all the employees.

5.4 Managerial Implications

This study aims to understand the employees' behavioral intention in adopting technological changes in the workplace. The study reveals that most of the participants have positive attitudes toward embracing technology. From this study, it was found that the positive attitude in adopting the technological changes among the participants was derived from factors such as performance expectancy, effort expectancy, supervisor's influence, colleagues' influence and facilitating conditions.

Since performance expectancy is the individual's mental state and the assurance that they will benefit from the changes, the management should develop channels that could seek feedback from customers. This can help employees to assure that the system is performing to meet the customer's expectation, and eventually become more confident about the system. Also the management could distribute monthly reports to the employees showing them how the new technology have increased the number of completed work.

Sharing the small achievement to employees will further assure them their effort is paid off.

Effort expectancy is the individual's mindset whereby the workers expect to use the system easily (Venkatesh et al., 2003). Therefore, the management should implement rewarding systems to encourage learning new technology. A good example is when an employee completed a training course to use a particular technology and then uses it at the workplace for a period of time, the employee should be rewarded. Employee recognition systems should also be implemented to encourage more effort, where the employee will be encouraged to be the best at using this new technology.

According to Venkatesh et al. (2003), supervisor influence is the perception of individuals influenced by their leaders. It is suggested that supervisors should implement participative decision-making sessions. The participative decision making will motivate employees to be more engaged and involved with the changes. Also, supervisor should be more flexible with the employee in terms of time needed to adopt the changes. This is because some employees require more time to learn new technology and get used to it.

Colleagues' influence is the mindset of individuals being influenced by persons of similar interests because they have similar attitudes and are surrounded by the same circumstances (Wang & Yang, 2005). It is suggested that periodic meetings should be arranged among peers, to discuss about the problems that they faced when working on the system. Management should also encourage peer learning, where when an employee is well equipped with the skills required to use the new technology, the employee should arrange a session to transfer the knowledge and skills to the other employees.

Facilitating conditions are the supportive organizational and technical infrastructure that makes it easy for the workers to use Technology (Venkatesh et al., 2003). It is suggested that any plans of the organization to improve the facilities should be transparent and communicated to the employees. A yearly survey should be distributed by the organization to the employees in order to see if there are any hardware, software or subscription shortages.

5.5 Limitations and Recommendations for Future Research

The cross-sectional design was used in the study. Nevertheless, the findings of this study must be interpreted with caution as some participants might feel obligated to show a positive attitude towards embracing technology. It would be advantages to replicate the study with longitudinal study since it helps identify behavioral intentions over time. In this study, new technological systems are being introduced. Following this, the workers have not learned the portal's disadvantages. Through the longitudinal study, it will get better conclusive results that have the cause-and-effect relationship (Stritch, 2017).

The study was qualitative in nature. The feedback was gathered through interviews. It is noted that the major shortcoming of qualitative research is that it does not provide statistical representation (Almeida, 2017). The method solely relies on the perspectives from participants. Hence, the less verifiable information is generated since all the data is based on experience.

A qualitative research study is desirable to verify the data in this study the statistical representation used will help make a more detailed conclusion (Almeida, 2017). The study was confined to only one organization to determine how employees embrace technological changes. Future researchers may want to duplicate the current study to include more organizations in order to obtain more insights on the subject as well as to validate the result of this study.

The UTAUT model was used in this study with only changing the factor “social influence” to “colleague influence” and “supervisor influence”. Future researchers way test other factors from outside the UTAUT model on acceptance of new technology, a good example would be “intention of the state organization”.

5.4 Conclusion

Technological advancement has rapidly changed the management system in almost all types of organizations in the world. For the Ministry of Industry, Commerce and Tourism, embracing technology ensures that the operation can run smoothly while providing sounds service to its clients. Such changes require the collective effort across the organization.

Scrutinizing previous literature has provided a foundation to embark this study. In particular, several factors that influenced the employee's behavioral intention in adopting technological changes in the workplace has been identified in this study. In this study, participants show a positive attitude in adopting the technological changes. Such attitude was found to derived from performance expectancy, effort expectancy, supervisor influence, colleagues influence and facilitating conditions.

Based on the findings, several managerial implications were outlined. Specifically, to develop channels that could seek feedback from customers, to distribute monthly reports to the employees, to implement rewarding systems to encourage learning new technology, to implement employee recognition systems, encourage participative decision making sessions, to arrange periodic meetings among peers, to encourage peer learning, to make plans of the organization to improve the facilities transparent and communicate them with the employees, and to distribute a yearly survey to the employees in order to see if there are any hardware, software or subscription shortages.

Although the researcher has taken the utmost care in this study, there are several limitations in this study. Based on these limitations, researcher put forward several suggestions to be considered by future researchers.

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APPENDIX 1

Dear (employee name),

I am conducting interviews as part of a research study to understanding behavioral intention of employees in adopting technological changes at workplace: A study of the Ministry of Industry, commerce and tourism in Bahrain. You have been selected to be interview with us because you have been identified as someone who can provide valuable information

The interview takes around 15 minutes. Our research project as a whole focuses on investigating the factors that determine the behavioral intentions. Our study does not aim to evaluate your experiences. Rather, we are trying to learn more about your experience and hopefully will help us to recommend a transformation in the public sector for optimum performance

If you are willing to participate, please suggest a day and time that suits you and I'll do my best to be available. If you have any questions, please do not hesitate to ask.

Thanks!

Omar Alenezi