Ankara Science University Graduate School of Studies
Management Information Systems

THE USE OF THE TECHNOLOGY ACCEPTANCE MODEL ON THE EMPLOYEES OF THE GENERAL ADMINISTRATION OF THE UNIVERSITY OF DERNA

SALEM, MANSORI

Master's Thesis

Ankara,2023

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APPROVAL OF THE GRADUATE SCHOOL

This study titled " The Use of the Technology Acceptance Model on the Employees of the General Administration of the University of Derna " prepared by Salem Mansori has been found successful as a result of the defense exam held on 14/09/2023 and accepted as Master's Thesis by our jury.

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Salem Mansori

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ÖZET

Mansori, Salem. "Teknoloji Kabul Modelinin Derna Üniversitesi Genel İdaresi Çalışanları Üzerinde Kullanımı." Yüksek Lisans Tezi, Ankara, 2023.

Bu çalışma, Derna Üniversitesi'ndeki kamu yönetimi çalışanları üzerinde teknoloji kabul modelinin kullanımını belirlemek ve test etmek amacıyla yapılmıştır. Tanımlayıcı yöntem, çalışmanın amacına ulaşmak için kullanılacaktır. Araştırma verileri, üniversitenin genel idaresinde çalışanlardan oluşmaktadır. Araştırma evrenini kamu yönetiminde çalışan 320 çalışan oluşturmaktadır ve evreninin %93,75'ine eşdeğer 300 anket analiz için kullanılmıştır. Araştırmadan elde edilen nicel veriler analiz edildikten sonra, bazı önemli sonuçlar tespit edilmiştir. Bu bulgular arasında, teknoloji benimseme modelinin boyutları arasında güçlü bir korelasyonun tespit edilmesi yer almaktadır. Özellikle, algılanan kullanım kolaylığı ve kullanışlılığın teknoloji benimsemeyi olumlu yönde etkilediği; ancak altyapının teknoloji benimsemeyi olumlu yönde etkilemediği görülmüştür.

Farklı üniversiteler, bölümler ve yüksekokullar arasında iletişim için bir dış iletişim ağı (extranet) sağlayarak teknoloji altyapısını geliştirmek; idari karmaşıklıklardan uzak günlük işlemleri kolaylaştırarak ve basitleştirerek teknolojiyi benimseme kavramına olan ilgiyi artırmak; idari işlerin yürütülmesinde geleneksel yöntemlerin ve rutin işlerin kullanılmasından kaçınmak ve bunların yerine modern teknik yöntemleri kullanmak gibi bir dizi önemli öneriler sunulmuştur.

Anahtar Kelimeler: Teknoloji Kabul Modeli, Derna Üniversitesi, Kullanım Niyeti.

ABSTRACT

Mansori, Salem. The Use Of The Technology Acceptance Model On The Employees Of The General Administration Of The University Of Derna, Master's Thesis, Ankara, 2023.

The research aimed to determine "the use of the technology acceptance model and test it on public administration employees at the University of Derna." The descriptive method will be used to accomplish the study's objective. The study community consists of employees in the general administration of the university. The study's participants include 320 employees in public administration, and the number of questionnaires received for analysis was 300, equivalent to 93.75% of the study community. After analyzing the quantitative data from the study, several significant outcomes were determined. Among these findings is identifying a strong correlation among the dimensions of the technology use model. Notably, it has been determined that perceived ease of use and usefulness positively affect technology adoption; however, infrastructure does not positively affect technology adoption.

A set of recommendations were proposed, the most important of which are: enhancing the technology infrastructure by providing an external communication network (extranet) for communication between different universities, departments, and colleges; increasing interest in the concept of adopting technology by facilitating and simplifying daily transactions away from administrative complexities; avoiding relying on the use of traditional methods and routine work and replacing them with modern technical methods in the conduct of administrative work.

Key words: Technology Acceptance Model, University of Derna.

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INTRODUCTION

Technology is crucial for delivering services worldwide; finding a service that isn't dependent on technology is nearly impossible. With technology being extensively used, including in higher education, there's a significant necessity to efficiently harness technology, particularly within the context of universities, to reap its benefits. An essential factor contributing to the global success of universities is the utilization of information technologies. These technologies facilitate a conducive study environment for students, staff, and faculty members, enhance academic achievement, and provide streamlined access to top-notch university services.

Organizations have recently undergone notable development across various management aspects, moving away from conventional methods and traditional transactions to fulfill their functions. This transformation is particularly evident in light of rapid and successive environmental changes. Consequently, the demand for strategies to adapt to these changes and align with ongoing progress has intensified. An especially prominent strategy involves embracing information and communication technology (ICT), which has evolved into an inherent facet of the current era. Beneficiaries' acceptance or refusal of new technology has emerged as a pivotal challenge researchers face in information systems studies. This concern extends to technology producers, who ponder the competitive standing of their products in the market and the extent to which the target demographic will embrace their technology.

Approximately 50% of new capital investments are projected toward information technology and communications (Westland & Clark, 2000). This shift underlines the significance of incorporating technology as a central component of modern organizational strategies. Since this investment improves the production rate for organizations, accepting the individual or the user of this modern technology is considered a gain and a point of strength for the organization (Venkatesh et al., 2003).

For this reason, many theories and models have emerged that explain how beneficiaries accept a particular technology. In this context, the central focus lies on the Technology Acceptance Model (TAM), conceived by Davis. This model represents one of the most widely employed frameworks for comprehending the factors that shape technology acceptance among users. It provides discerning predictive components established through quantitative and qualitative studies (Ali, 2017). The Technology Acceptance Model's dimensions were harnessed to assess public administration employees at Derna University.

SECTION 1:

PROBLEM STATEMENT

1.1 Problem Statement

The complete reliance of the university's public administration staff on conventional methods and daily routines, coupled with their limited adoption of contemporary technologies in their work processes, results in various complexities and hinders efficient operations. Recognizing this, the current study focuses on integrating technological tools within the educational realm. To achieve this, the Technology Acceptance Model (TAM) is employed as a theoretical framework. TAM is particularly suited to anticipate user interaction and their acceptance of information technology (Su-Houn et al., 2005).

Examining a multitude of preceding studies pertinent to technology acceptance, including research by (Meligy et al., 2017), a comprehensive understanding emerges. During the pilot study phase, primary data was collected through personal interviews with various administrative leaders, such as department directors, office heads, and the director of the Documentation and Information Department at the university administration. This initiative was conducted between June 3, 2023, and April 20, 2023. Additionally, a survey was distributed to gauge the disposition of university employees toward embracing technology for their work.

Based on the study questions revolve around About the extent of acceptance of the use of technology by public administration employees at the University of Derna, and an attempt to verify this by answering the following main question: What is the extent of acceptance of the use of technology from the point of view of employees in the public administration at Derna University through the following dimensions: (infrastructure, technology awareness, ease of use, perceived benefit, technology adoption)?

1.2 Importance of The Research

This research holds significant importance due to its focus on information and communication technology, an essential subject in administration. This subject substantially impacts the overall performance of organizations, particularly the organization under investigation. The study's significance stems from its relative rarity in the Libyan context. As far as the researcher's knowledge extends, there are limited studies of this nature in the Libyan environment. This research assesses the extent of technology acceptance among public administration employees at the University of Derna.

Through the analysis of data gleaned from personal interviews and survey responses, this study aims to uncover the evaluation of university employees to integrate technology into their work processes. Doing so will give a comprehensive understanding of the study's problem. This endeavor not only contributes to enriching the literature surrounding information and communication technology but also aligns with contemporary approaches in the field of business administration.

1.3 The Procedural Concepts of The Study

1.3.1 Technology

Refers to a collection of accumulated knowledge and experiences, as well as organizational and administrative tools that individuals employ to carry out their tasks and functions within their daily lives. These resources are utilized to fulfill material and moral requirements, encompassing individual and societal dimensions (Al Soufi, 2005).

1.3.2 Technology Acceptance Model

The TAM posits that accepting a specific technology hinge on two primary factors. First, the perceived benefit, which gauges a person's confidence belief in how utilizing a given system will increase their performance; second, the perceived ease of use, which assesses a person's anticipation that employing a particular system will require minimal effort (Al-Lami, 2003).

1.3.3 The Employee

The Supreme Court in Libya has established the designation of this individual as someone tasked with ongoing responsibilities within a state-operated public utility. Consequently, all the applicable civil service laws and regulations, encompassing associated rights and responsibilities, are applicable to this individual (Al-Harari, 2010).

1.3.4 Derna University

It is one of the Libyan public universities located in the Al-Fataeh area in the city of Derna, an Institution of higher education and scientific research, as it includes five faculties between humanities and applied sciences.

1.3.5 Information Technology

The realm of information technology has experienced substantial growth in recent years. This has led many organizations across diverse sectors and levels to invest in integrating this technology into their operations, activities, and services. The primary motivation behind this integration is enhanced efficiency, effectiveness, and a competitive edge within both local and global markets (Elayan, 2010). Integrating technology into management has direct cost-reduction implications while augmenting available resources (Ray & Rao, 2004). Furthermore, as Jaeger and Thomason (2003) noted, electronic systems carry indirect benefits, including bolstering organizational transparency and accountability. It's essential to underscore that one of the pivotal success factors for contemporary organizations is their ability to adopt a transparent and user-friendly program that fosters employee acceptance and utilization of information and communication technology (Marciniak et al., 2012).

Consequently, numerous countries are strategically harnessing this technology's potential, developing comprehensive development plans, and investing across various sectors. The term "technology" originates from ancient Greek, a composite of "techno," signifying technical skill, and "logy," denoting science or study (Hassan & Helal, 2006). Technology is defined by its dynamism and continuous evolution to enhance existing skillsets (Al-Baz, 2001). It seeks to harmonize the hard components, like hardware, and the soft components encompassing software and cognitive elements into a unified whole (Ali, 2004). Moreover, technology interconnects science, knowledge, and their application across diverse production fields (Kanaan, 1998).

1.3.6 Information and Communication Technology Components

In addition to the variables that were identified when addressing the technology acceptance model, the rest of the components related to information technology constitute an important aspect, the most important of which are.

1.3.6.1 Infrastructure

The concept of infrastructure encompasses both its tangible and intangible aspects. The tangible facet is embodied in machinery, equipment, and tools—essentially, the physical factory itself. Additionally, it encompasses written records like confidential technical reports, patents, and documented relationships that require authorization from their proprietors for exploitation. Also within this category are informational materials and written data on machine installations and operational models (Bukaresh, 2012). Conversely, the intangible aspect pertains to technical knowledge and expertise. It signifies a collection of knowledge owned by the institution, empowering it to execute all tasks necessary to achieve its objectives.

1.3.6.2 Perception of Trust

Several studies and research endeavors have employed the technology acceptance model as their foundation. In certain instances, this model has been extended by incorporating supplementary variables, with trust perception emerging as a significant factor (feeling) in influencing the adoption of technological information across diverse contexts (Lian, 2015).

1.3.6.3 Perceived Ease of Use

Gauges the extent to which a person anticipates the straightforwardness of employing a given system, both in terms of physical and mental aspects, and its ease of acquisition (Yang & You, 2004). As noted by Farhat (2012), PEOU encompasses the expectation that the utilization of technology will demand minimal physical and cognitive exertion. This notion emphasizes that the higher the user's perception of a system's user-friendliness, the more inclined they become to utilize it.

1.3.6.4 Perceived Usefulness

Pertains to the extent to which a user believes that adopting a particular system translates into enhanced performance and amplifying their capabilities through technological means (Davis, 1992). This implies that the system will facilitate more

efficient and effective task completion. Another aspect involves an individual's outlook that their computer utilization will elevate their task performance, as affirmed by Davis, who stipulates that individuals are inclined to embrace a system if they believe its adoption will result in improved job execution. Further accentuates that perceived benefit plays a dual role in influencing a person's technology adoption intention: A direct impact on the person's intention to employ technology. An indirect influence is mediated through the individual's predisposition toward technology use (Maryam et al., 2016).

1.3.6.5 Technology Adoption

According to (Rogers, 2018), adopting technology goes through five basic stages, as it begins with awareness and knowing the existence of technology, forming convictions about the direction of technology. Deciding to adopt or reject it comes with the implementation stage and then confirming the decision.

1.3.7.6 Intent of Use

The technology acceptance model was formulated by Venkatesh and Davis in 1996. As a result, perceived usefulness exerts a more pronounced impact on users' intentions. Additionally, the influence of perceived ease of use on behavioral intent was also evident. A noteworthy finding underscores the robust correlation between behavioral intention and actual utilization, prompting the exclusion of a variable, namely (user orientation position).

1.4 Structure of The Thesis

The current master's thesis contains around six chapters, which include: Chapter 1 is an introduction that shows the importance of technology and its part in increasing the efficiency of employees for universities, and the relationship between technological devices and accepting the technology model, which includes ease of use and perceived benefit, the aim of the present study, the problem statement, the research hypotheses, and the structure of the thesis. Chapter 2, the background, contains three parts: Information technology, technology in education, and the adoption of TAM in different studies. Chapter 3 reviews some historical theories of technology acceptance models, including the different main models and the stages of developing the TAM. This chapter will also focus on the primary model used in this research thesis. Chapter 4 discusses research methodology, descriptive research, the research instruments, the material of study, the participants in this research, and Individual descriptive data for constructs and corresponding items. Chapter 5 includes the outcomes of this study, which collected data from the survey. Chapter 6 concerns the conclusion and recommendations.

SECTION 2:

THEORETICAL BACKGROUND

This chapter contains three areas, which will begin with information technology and its importance in all life domains, technology in education, and the adoption of technology acceptance models (TAM) and their different studies.

2.1 Information Technology

The literature has emphasized the importance of using Information Technology at all environmental fields, including education, economics, health, corporate, etc. Also, Humans began inventing technology by transforming natural resources into easy-to-use tools such as electric machines and computers operated by people. It is clear that IT significantly affects economic companies' productivity, and it is a necessary tool in enhancing competitiveness between countries around the world (Oliveira & Martins, 2011). Using IT in the sustainable development of firms can increase their attractiveness and profits (Marinagi et al., 2014). Furthermore, IT also helped to reduce the cost of economic activities without causing any harm to transactions related to them (Clemons et al., 1993). On the other hand, IT has contributed to the evolution of studying and learning, and it can reduce time and obstacles, increase the teacher's and students' productivity, and give them more chances to exchange suggestions, views, and ideas (Netwong, 2016). Using IT in educational institutions can support organizational learning by collecting and retrieving information (Iyengar et al., 2015). In addition, using new technology can benefit humans personally, socially, and academically (Brown & Brown, 2010).

2.2 Technology in Education

Recently, using modern technologies in our scientific areas, especially in education, has become the most important way to improve the skills of students and teachers. During a literature review, the researchers found that the importance of digital technologies plays a big part in the future of education and that they have a good advantage, utility, and positive effects on students and teachers (Henderson et al., 2017). The specified goal of using technology in education is to improve productivity and establish the information required to reach good educational aims (Brown & Brown,

2010). Moreover, most previous studies have found that technology-supported education is more privileged than traditional teaching, and technology can increase students' intellectual development and knowledge (Jwayyed et al., 2011). Specialists agree that technology tools can create new cultures and ways of learning, and they can upgrade the approaches to education to improve and get great learning (Yáez et al., 2015).

Technology can resolve many issues and reduce the worry faced by all employees in the education sector. Recently, most students of higher education have been using technology tools in their learning, known as digital devices such as phones, tablets, and laptops (Conley et al., 2016). Twenty years ago, the world saw pervasive technology in public and private libraries, achieving several victories (Wright, 2000). In addition, in the 20th century, technological devices were considered the foremost inventions of great significance in the future that could improve the interaction between digital devices such as the computer and humans (Wang & Lin, 2010).

2.3 Adoption of Technology Acceptance Model and Different Studies

Starting in the 1970s and continuing with the persistent advancement of technology, numerous investigations have delved into the realm of information systems. Scholars have frequently directed their focus toward pinpointing the catalysts facilitating the assimilation of technology into various enterprises (Legriset al., 2003), as well as constructing frameworks to anticipate technology utilization across diverse scenarios. The technology acceptance model represents an information systems model aimed at comprehending users' adoption and utilization of novel technology (Davis, 1989).

Davis developed the Technology Acceptance Model by drawing from his rational action theory (Fishbein & Ajzen, 1980) and incorporating elements from the planned behavior theory. Both theories are grounded in the fundamental premise that consumer behavior exhibits rationality; individuals systematically gather and assess available information while contemplating the consequences of their various actions (Kuwaider & Ahmed, 2019). This model is designed with the purpose of elucidating user behavior in the face of novel technology and prognosticating both their intention to utilize it and their actual usage patterns (Bashir, 2017).

The technology acceptance model stands as a highly trustworthy and dependable framework for deciphering the adoption and utilization of information systems. It has undergone extensive and thorough scrutiny across diverse samples and contexts, proficiently forecasting intentions for the genuine application of technological advancements (Al-Taweel, 2011).

Davis introduced the technology acceptance model in 1989, highlighting the critical significance of user acceptance in the triumph of technology systems. The obstruction posed by users' inability to engage with technological systems is a pivotal challenge for technology's success (Davis, 1989). Unraveling the enigma of why individuals opt to embrace or shun a particular technology stands as a paramount dilemma for researchers in information systems. TAM persists as one of the most renowned theories, is widely adopted, and is still pertinent today. This model has found application in assessing the degree of technology acceptance, as underscored by its incorporation in numerous scholarly investigations published in peer-reviewed journals (Maryam, 2016).

The technology acceptance model during the past years ranked first among the models that try to explain the success and failure of organizations, and it was considered one of the theories that explain and predict the user behavior of information systems. The model was then experimentally tested extensively and intensively, which led to the belief in its strength, credibility, documentation, and adoption by the academic community to study the success of information systems or the adoption and acceptance of technology (Al-Taweel, 2011).

Since the commencement of the 21st century, scholars have embarked on tailoring this model to diverse contexts, encompassing educational institutions (Nair et al., 2012). These adaptations find pertinence in various educational settings, including specialized education (Courduff et al., 2016). Furthermore, within the realm of education, TAM has been expanded by researchers to scrutinize the dynamics of technology acceptance and utilization among both students and educators (Teo et al., 2013).

While there exists an extensive array of studies that have adopted the Technology Acceptance Model (Chen et al., 2010), the pioneering inquiries were primarily centered in the realms of business and marketing (Davis, 1989). These initial investigations aimed to elucidate the general inclination and approval of technology or specific devices in particular contexts. These initial frameworks amalgamated diverse mediating factors to achieve a more comprehensive comprehension of the elements bearing higher explanatory potential—in essence, TAM delineates the correlation between internal psychological factors like beliefs, attitudes, behavioral intent, and actual system usage (Davis, 1985).

The quick progress in IT is considered one of the most important reasons for developing TAM, where acceptance and usage are considered the most important behavioral rules that helped to develop TAM (Al-Aulamie, 2013). Davis (1989) developed a model known as TAM, which explains how modern technologies are acceptable to users. Moreover, TAM explains the behavioral intentions of the end user (Yang et al., 2014).

Numerous scholars in the field of information systems and technology acceptance have evaluated the practicality and efficacy of TAM in forecasting and elucidating individuals' behaviors related to technology adoption (Aldhaban, 2016). Mathieson (1991) and Taylor and Todd (1995), for instance, conducted extensive assessments, revealing that TAM was capable of providing a comprehensive understanding of intentions and attitudes toward technology use. Their research further indicated that TAM's applicability was more straightforward and that it served as an accurate and beneficial predictor of technology adoption. In a study investigating TAM's effectiveness, determined that it aligned well with available data, concluding that it was the most potent general model for exploring both initial and sustained adoption of assistive technology. Additionally, researchers have undertaken comparisons between TAM and TRA, both in a general context and with a specific focus on actual technology usage (ChanLin et al., 2006).

Teacher attitudes and efficacy are critical to successfully integrating technology into education. Comparing teacher attitudes and efficacy in rural and non-rural settings sheds light on the importance of considering geographical context when addressing

technology needs in education. Personalizing technology solutions for rural areas, which often face technological deficits, is crucial to optimizing technology use and supporting teachers effectively. This study provides valuable insights for policymakers, educational institutions, and stakeholders seeking to increase technology integration in rural locations and create equitable educational opportunities for all students, regardless of their geographical setting (John, 2022).

Acknowledging the growing significance of blended learning within higher education, comprehending students' willingness to adopt this method becomes imperative for successful integration. In the context of Jordanian university students, the study utilized the Technology Acceptance Model (TAM) to investigate the acceptance of blended learning courses. While this research yields valuable student insights, it creates a notable gap by excluding the viewpoints of academic staff and General Administration Employees. To bridge this gap, future research endeavors should adopt a comprehensive approach involving all stakeholders. Such inclusive investigations would provide a holistic understanding of the factors influencing the acceptance of blended learning not only within Jordanian universities but also in broader contexts. This incorporation of diverse perspectives stands to enrich decision-making and facilitate effective strategies for the implementation and support of blended learning initiatives within higher education institutions (Haya, 2022).

The study illuminates the efficacy of assistive technology-based mobile adaptive learning applications in enhancing the learning experience for individuals with visual impairments. The research underscores the significance of external influences, underscoring the necessity of considering a range of factors beyond mere technological attributes. Nonetheless, it's pivotal to acknowledge the requirement for a comprehensive dataset, encompassing variables such as marital status, psychological facets, and financial considerations. Gaining a deeper insight into these factors holds the potential to facilitate more precise and individualized approaches for effectively supporting visually impaired learners. Further exploration and data compilation in these realms will significantly advance inclusive education and ensure the seamless integration of assistive technology within mobile adaptive learning applications for individuals with visual disabilities (Akram, 2022).

The Technology Acceptance Model (TAM) highlighted the significance of e-learning awareness. However, the limited focus on students and faculty members leaves a gap in the literature concerning the participation and role of other employees within educational organizations. To fully realize the benefits of e-learning and electronic libraries, including all employees, such as administrators, technicians, and other staff, in e-learning initiatives is crucial. By understanding their perspectives and providing adequate support and training, educational institutions can create a more inclusive and supportive environment for the successful implementation of e-learning technologies. Future research should consider a comprehensive approach involving all stakeholders to understand the factors influencing e-learning adoption and effectiveness in educational settings (Rahma, 2022).

In other words, the experts have shown TAM is flexible and not complicated for the users, which gave them a positive effect, and they can help them better predict how to use the smart electronic equipment of the education system (Jung et al., 2008). Technology has become a major and important center in the literature department of technical education. There is a powerful connection between TAM and the didactic circle that has worked together to attempt, improve, and foster traditional learning, as well as provide some new skills to students and help them solve their problems through technology (Ernst et al., 2014).

Previous research has provided valuable information on how to adopt and use technologies in education. TAM is important in education, which has a big influence on it. Experts and researchers have found that using the theoretical model of TAM has a good effect and contributes to improving the equipment of technology, especially electronic tools in education (Jung & Tseng, 2008).

2.4 Reasons for the Need for Technology Acceptance Model

The technology acceptance model focuses on technology adoption behaviors and factors affecting acceptability. It reveals that acceptance is determined by perceived ease of use and expected benefits. Educational institutions can use the technology acceptance model framework to understand employees' perceptions of technology and behavioral intentions. The model helps system implementers predict employee behavior and analyze external variables that impact attitudes and beliefs. By enhancing cognitive factors related to EOU and PU, the TAM can reinforce employees' confidence in adopting e-learning without imposing additional burdens (Arafa & Meligy, 2017).

The technology acceptance model is notable for its consideration of employee orientations. Additionally, it demonstrates adaptability to accommodate the unique contexts of various educational institutions and contributes to offering a comprehensive understanding of the acceptance of diverse technology systems. TAM stands as a robust and effective predictor, offering insights into employees' inclinations toward utilizing technological tools and their embracement of such tools across varying circumstances. The model's proficiency extends to explaining the behaviors of technology users across diverse environments (Ali, 2017).

2.5 Review Some of the Historical Theories of Technology Acceptance Models

Amid the escalating technology demands of the 1970s and the mounting instances of system adoption failures within organizations, the prediction of system utilization emerged as a topic of significant interest for numerous researchers. Nevertheless, many of these studies struggled to establish dependable measures that could elucidate the acceptance or rejection of systems (Davis, 1989). In 1985, Fred Davis introduced the technology acceptance model as part of his doctoral thesis at the MIT Sloan School of Management (Davis, 1985). He pointed out the utilization of a system can be comprehended or foreseen through user encouragement, which, in turn, has a direct impact on an external stimulus encompassing the actual system's qualities and capabilities (see Figure 1).

response organism Stimulus

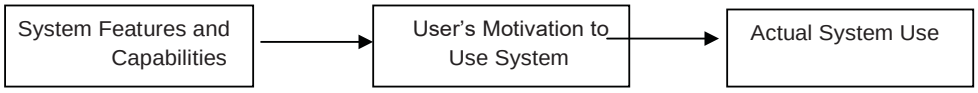


Figure 1 Conceptual model for technological acceptability (Davis, 1985, p. 10).

Davis subsequently developed his conceptual model, which he used to propose the TAM, as illustrated in Figure 2, by drawing on previous work by Fishbein and Ajzen (1975), whose developed the Theory of Reasoned Action.

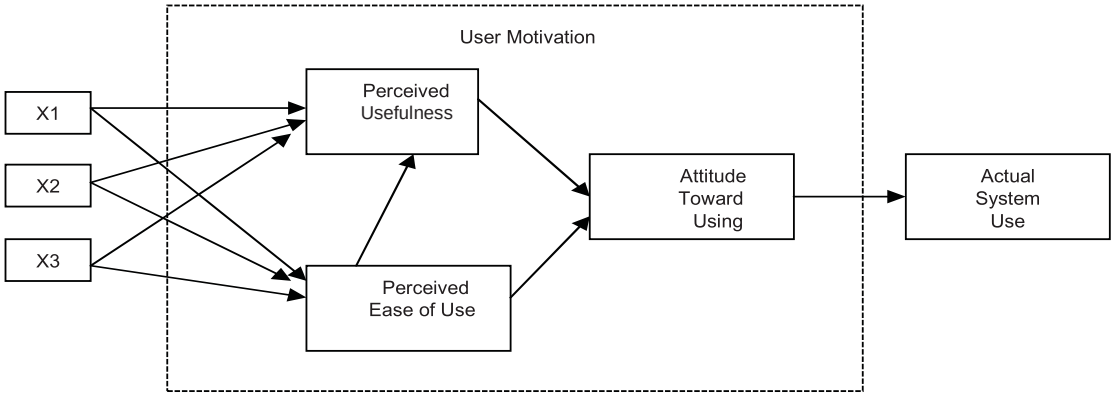


Figure 2 The Original TAM proposed by Fred Davis (Davis, 1986, p. 24)

According to Davis (1985), users' PEU, PU, and attitude toward using the system may all be used to clarify why they are motivated to use it. He proposed that one of the key factors in a user's decision to utilize or reject a system was their attitude toward it. Finally, it was proposed that both views were directly impacted by the system design traits shown in Figure 2.5.2 by X1, X2, and X3.

Later phases of experimentation would allow Davis (1985) to improve his model by adding additional variables and changing the linkages he had originally proposed. Similar to this, additional studies used and suggested several adjustments to the technology acceptance model, resulting in the gradual development of TAM into a leading paradigm for comprehending and using forecasting systems. TAM has grown so popular that it has gained so much traction that it has been used in the bulk of research on how users embrace technology (Lee & Larsen, 2003).

2.6 The Theory of Reasoned Action

Fishbein and Ajzen's (1975) Theory of Reasoned Action is depicted in Figure 3 as a model.

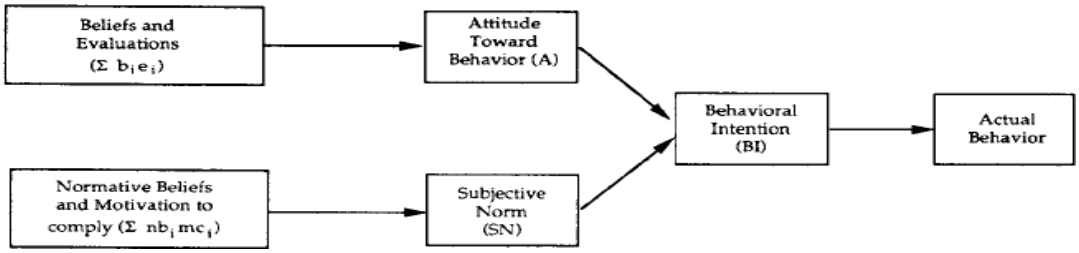


Figure 3 The Theory of Reasoned Action model (Davis, Bagozzi and Warshaw, 1989).

Considering a person's prior goal and the ideas that person would have towards the hypothetical activity, it is possible to anticipate their actual behavior, according to Fishbein and Ajzen's theoretical model (Davis, 1985). They described behavioral intention as a measure of one's purpose to conduct behavior and referred to it as the intention a person has prior to an actual activity. Additionally, Fishbein and Ajzen suggested that behavioral intention may be established by taking into account a person's attitude toward the targeted conduct as well as the subjective norm that is connected to it. They suggested that a person's attitude toward behavior (A) can be gauged by taking into account the whole of the salient beliefs (bi) concerning consequences of performing that

behavior and an evaluation (ei) of those consequences, as demonstrated by the formula below: $A = \sum b_i e_i .$

As well, they defined the subjective norm connected with conduct as the individual's view of what most significant others believe about whether or not they should or should not engage in the action. Then, Fishbein and Ajzen proposed that one might calculate a person's subjective norm (SN) by taking into account the total of that person's normative beliefs (nbi), or perceived expectations of other people or groups, and what drives him or her to conform (mci). They recommended the following approach for calculating the subjective norm connected to a particular behavior: $SN = \sum nb_i mc_i .$

The following formula may be utilized to calculate a person's behavioral intention (BI) to engage in a behavior, with A serving as a gauge of attitude toward the conduct and SN serving as a gauge of the subjective norm related to the action under consideration.

BI = A + SN.

2.7 Developing Measurement Scales for PU and PEU.

Davis (1989) referenced psychometric scales used in psychology when creating assessment measures for PU and PEU. An individual is often asked to answer various questions relevant to a particular scenario on these scales. Responses to these prompts can then be examined to determine a person's internal views in the setting under consideration. In the instance of TAM, Davis created his psychometric scales in three stages: a pretesting stage, experimental field research, and a laboratory trial, and each time he updated and improved the scales for perceived utility and simplicity of use. A positive association among self-predicted future and scales consumption was discovered by Davis (1985). Davis also utilized regression analysis to find the connections in his TAM model. Figure 2.7 illustrates how Davis would find other correlations in addition to the first hypothesis that he had proposed. Thus, contrary to what he had first projected, perceived usefulness may also directly impact how a system is actually used, according to Davis (1993). In addition, as shown in Figure 4, he found that system characteristics might have a direct impact on a person's attitude toward using the system without needing the individual to hold firm trust in the system.

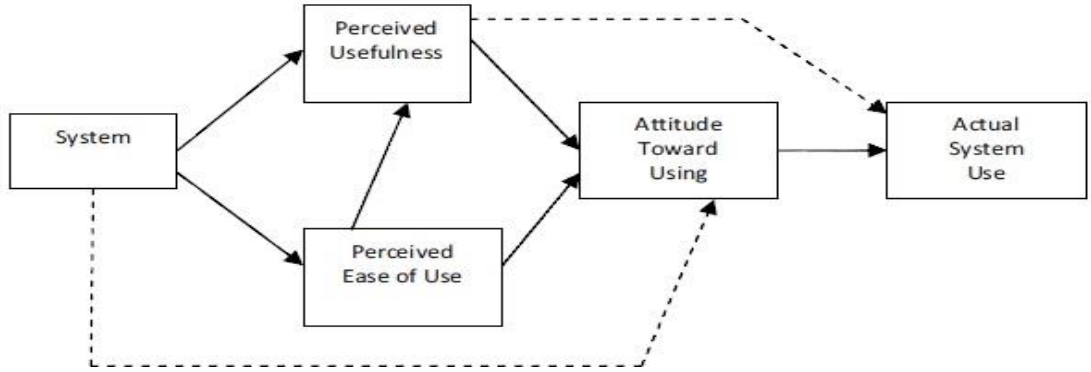


Figure 4 New relationship formulation in TAM (Davis, 1993, p. 481).

2.8 TAM Evolving

The Behavioral intention would be a new factor that would be directly controlled by the perceived usefulness of a system in later TAM development (Davis & Bagozzi, 1989). A modified version of the TAM model, as shown in Figure 5, Proposed by David and his/her colleagues (1989), who hypothesized that there would be situations in which, given a system that was regarded as valuable, an individual may generate a powerful behavioral intention to use the system without adopting any attitude.

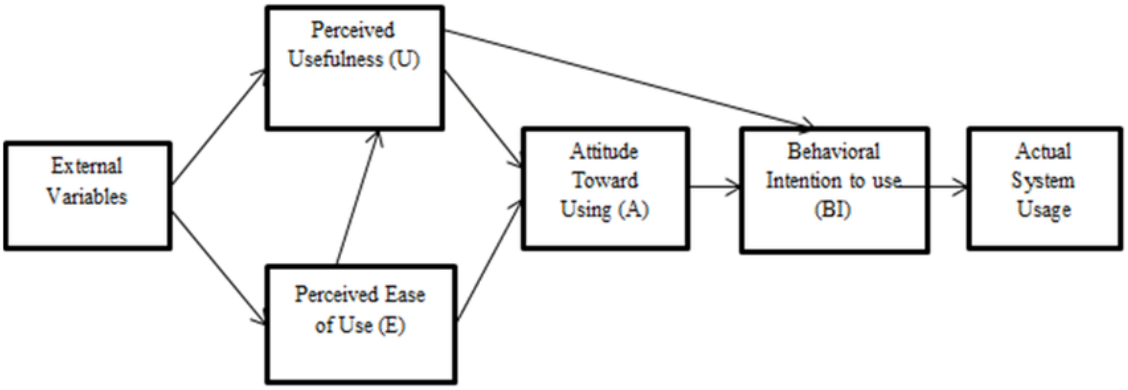


Figure 5 The first modified version of TAM (Davis, Bagozzi, and Warshaw, 1989, p. 985)

Using the aforementioned model, Davis, Bagozzi, and Warshaw (1989) conducted longitudinal research that revealed a substantial association among reported intention and self-reported system utilization, with PU being the main factor affecting people's intention. PEU, however, was shown to have a transient but considerable impact on

behavioral intention. The model depicted in Figure 6 did not require the attitude construct since it was discovered that perceived utility and simplicity of use directly influenced behavioral intention. Figure 6 depicts the final model.

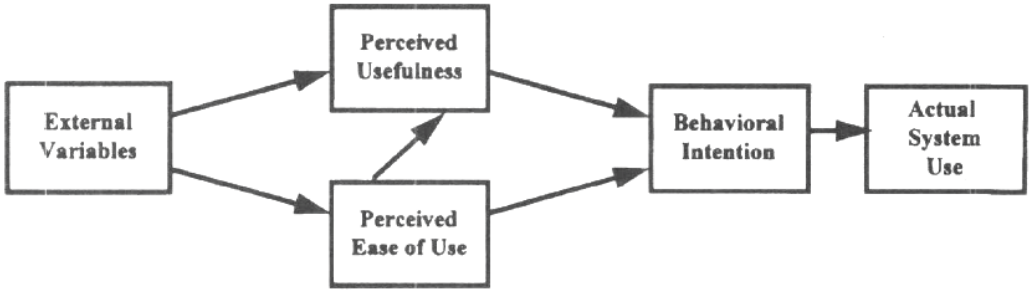


Figure 6 The Final Version of TAM (Venkatesh & Davis, 1996, p. 453)

One of the crucial improvements made to TAM by Venkatesh and Davis (2000), who proposed the TAM2 model depicted in Figure 7, was their recognition that TAM had some shortcomings in elucidating the causes behind a person's perception of the usefulness of a particular system. Consequently, they suggested that extra variables could be added as antecedents to the perceived usefulness variable in TAM. This modern model was given the name TAM-2. Davis and Venkatesh were also curious about how TAM 2 might function in a situation where it was required.

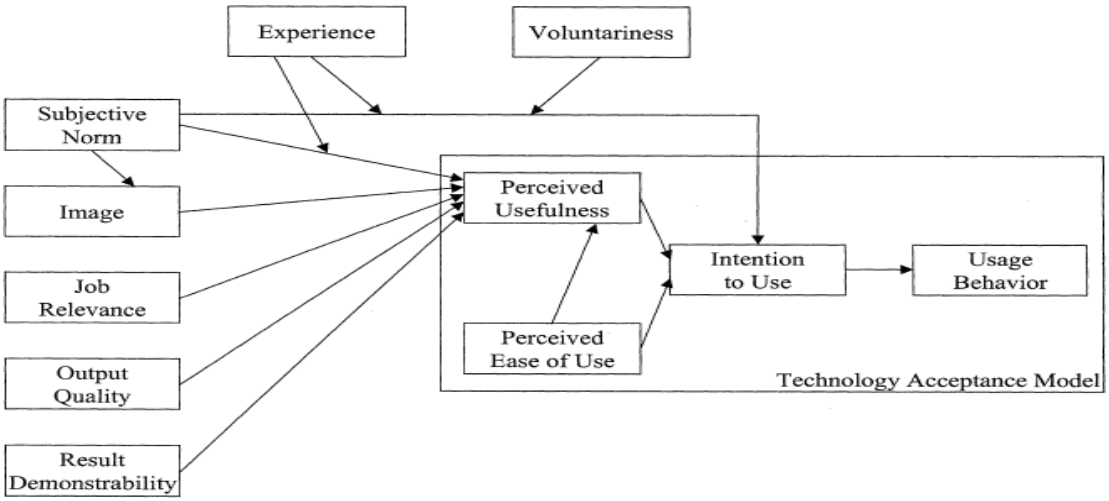


Figure 7 TAM 2 (Venkatesh and Davis, 2000)

Venkatesh and others provided more thorough justifications for why participants regarded a particular system as effective using the TAM 2 paradigm. Additionally,

according to their findings, TAM 2 worked admirably in both required and voluntary contexts, except those subjective norms had an impact in mandatory settings but not in voluntary ones. Identifying the antecedents to the TAM model's perceived ease of use variable is the focus of a second essential expansion. Figure 8 demonstrates two major categories of ancestors for perceived usability: anchors and modifications. Adjustments were viewed as beliefs based on first-hand experience with the target system, whereas anchors were viewed as universal ideas about computers and computer usage. Several factors, mostly from earlier studies on determining the antecedents to perceived usability, were provided for both groups (Venkatesh et al., 2000).

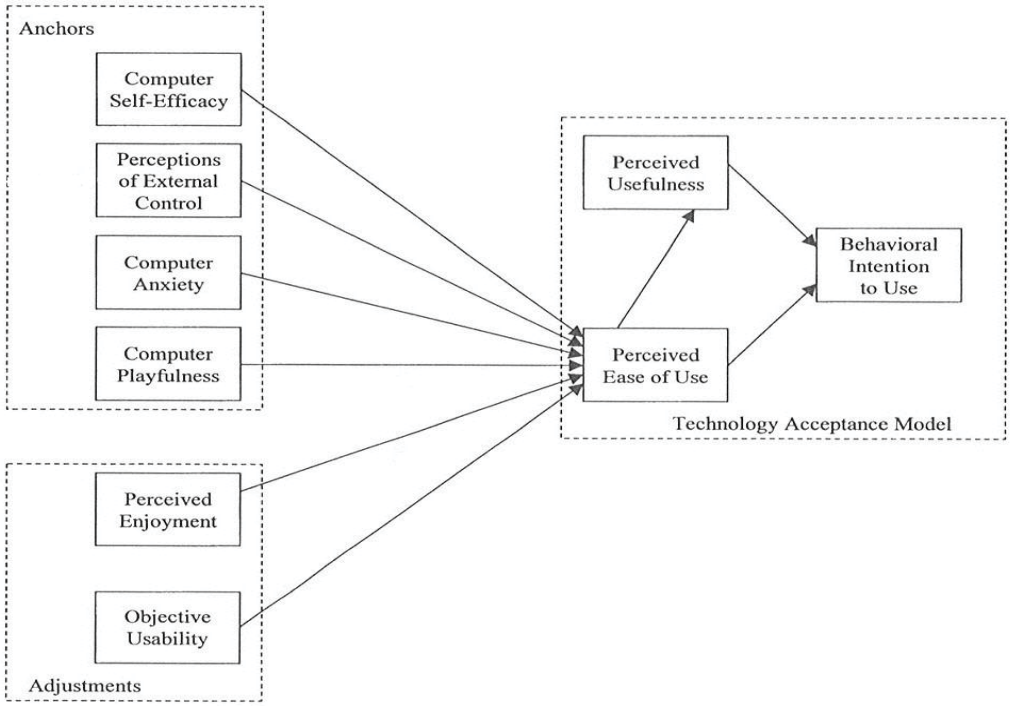


Figure 8 The Extending TAM to include determinants for perceived ease of use (Venkatesh, 2000)

2.9 Important Variables in Technology Acceptance Model

The technology acceptance model focuses on user motivation for information systems, which may be divided into three factors: perceived benefit, ease of use, and attitude toward using the system. Davis suggests that user attitude significantly influences actual use or non-use and is influenced by realized utility and ease of use beliefs. These

beliefs are directly impacted by perceived benefits and external variables (Abdullah, 2018).

Based on the above and after reviewing previous common models and theories in technological acceptance (Elmael, 2011), considering that the success of a system in the field of application information systems depends on the factors of acceptability and usage (Venkatesh et al., 2003), the Unified Theory of Acceptance and Use of Technology as it is, it is shown in table 1.

Abbreviation	**Model**	NO
TRA 1975	The Theory of Reasoned Action, (Fishbein & Ajzen, 1975)	1
TAM/TAM2 1989	The Technology Acceptance Model, (Davis, 1989)	2
TPB 1991	The Theory of Planned Behavior (Ajzen, 1991)	3
MM 1992	The Motivational, Model, (Davis, Bagozzi & Warshaw, 1992)	4
C-TAM-TPB 1995	Technology Acceptance Model/ Theory of Planned A Combined Behavior, (Taylor & Tood, 1995**)**	5
MPCU 1991	The Model of PC Utilization, (Trianedis, 1991)	6
IDT 2003	Theory Innovation Diffusion, (Moore & Benbasat, 2003)	7
SCT 1995	Theory Social Cogitive, (Compeau & Higgins,1995)	8

Table 1 Common theories of acceptance and use of technology.

SECTION :3

HYPOTHESIS DEVELOPMENT

The research model and hypothesis formulation chapter discuss the factors considered during this study to form associated hypotheses. This present thesis aims to analyze the relationship between the university's employees' intention to use technology and TAM variables: infrastructure, perception of trust, perceived ease of use, perceived usefulness, technology adoption, and intention to use. To verify the object of this thesis, it must follow and test the main research hypotheses to investigate it:

3.1 Infrastructure

The hypothesis regarding the relationship between the infrastructure variable of the Technology Acceptance Model (TAM) and university employees' intention to use technology suggests that the quality, accessibility, and reliability of the technological infrastructure provided by the university influence employees' attitudes and intentions toward using the technology. Infrastructure is an external factor that can affect technology use. is a facilitating condition by providing the necessary resources, tools, and support for technology adoption. A well-developed infrastructure can ease the technology use process and positively impact users' intention to use. A robust technological infrastructure enhances resource availability, including network connectivity, hardware, software, and support services. When employees have easy access to the required resources, they are more likely to develop positive perceptions of the technology and have a higher intention to use it (Venkatesh et al., 2008).

A reliable and efficient infrastructure provides the foundation for seamless technology use, reducing barriers that might hinder adoption. Employees are more likely to develop positive attitudes when they perceive that the technology functions reliably and without significant technical glitches. The quality and accessibility of the technological infrastructure significantly impact employees' perceptions and intentions related to technology use. The relationship between Infrastructure and University Employees' Intention to Use Technology emphasizes the role of external factors in shaping the technology acceptance process within the university context.

H1. There is a positive relationship between Infrastructure and University Employees' Intention to Use Technology.

3.2 Perception of Trust

Trust is a psychological construct that plays a critical role in technology acceptance. When employees perceive the technology as trustworthy regarding reliability, security, and data protection, they are more likely to develop positive attitudes toward using the technology, which, in turn, influences their intention to use it. Trust is closely related to risk perception. Employees who perceive the technology as trustworthy will likely perceive lower risks associated with its use. This reduced perceived risk contributes to positive attitudes and higher intentions to use the technology (Hampton & Koufaris, 2005).

The relationship between the Perception of Trust and University Employees' Intention to Use Technology underscores the pivotal role of trust in shaping users' attitudes and behaviors toward technology adoption. This relationship emphasizes the need for a strong foundation of trust to facilitate successful technology implementation within the university context.

In the current study, the hypothesis regarding the relationship between the Perception of Trust variable of the Technology Acceptance Model (TAM) and university employees' intention to use technology suggests that employees' perceptions of trust in the technology and its associated elements significantly influence their attitudes and intentions toward using it .

H2. A positive relationship exists between Perception of Trust and University Employees' Intention to Use Technology.

3.3 Perceived Ese of Use

Davis defined perceived ease of use as "the degree to which a person would be free of effort by believing in the use of a particular system." When employees perceive that the technology is easy to understand, learn, and operate, they are more likely to have positive attitudes toward using it. Reduced cognitive effort required for technology use contributes to more favorable intentions. An intuitive and user-friendly technology interface enhances employees' experiences and perceptions of ease. When employees find the technology accessible and straightforward, they are more likely to express an intention to use it consistently (Davis, 1989).

The hypothesis regarding the relationship between the Perceived Ease of Use variable of the Technology Acceptance Model (TAM) and university employees'

intention to use technology suggests that employees' perceptions of how easy it is to learn and use it significantly influence their attitudes and intentions.

H3. Perceived Ease of use positively affects university employees' intention to use technology

3.4 Perceived Usefulness

Davis defined it as "the degree to which an individual believes that using a particular system would enhance his/her job performance". Perceived Usefulness is based on the concept of utility. Employees who perceive the technology as valuable and advantageous in supporting their work tasks are likelier to have positive attitudes toward using it. The technology's ability to fulfill specific needs and contribute to efficiency influences intentions to use it. The perceived impact of the technology on task performance is a key aspect of perceived usefulness. If employees believe using the technology will enhance their productivity and effectiveness in achieving their objectives, they are more likely to use it consistently (Davis, 1989). Moreover, the relationship between Perceived Usefulness and University Employees' Intention to Use Technology emphasizes the role of practical benefits and value perception in shaping technology acceptance. This relationship underscores the need to showcase how technology can positively impact employees' work outcomes and intentions to use it effectively (Chen et al., 2007).

The hypothesis regarding the relationship between the Perceived Usefulness variable of the Technology Acceptance Model (TAM) and university employees' intention to use technology suggests that employees' perceptions of how valuable and beneficial the technology is in enhancing their tasks and responsibilities significantly influence their attitudes and intentions toward using it .

H4. Perceived Usefulness positively affects Employees' Intention to Use Technology.

3.5 Technology Adoption

Technology acceptance model is rooted in behavioral consistency, which posits that individuals tend to align their behaviors with their attitudes and intentions. When employees have successfully adopted and incorporated the technology into their workflows, their positive attitude and intention to use it are more likely to be translated into actual use. Employees who have directly experienced the technology's functionalities and benefits are likelier to have positive attitudes and intentions toward its continued use.

Positive prior experiences contribute to higher intentions to use technology consistently. In addition, the relationship between Technology Adoption and University Employees' Intention to Use Technology emphasizes the significance of tangible adoption experiences in shaping users' attitudes and behaviors. This relationship underscores the importance of ensuring smooth adoption processes to facilitate positive technology acceptance within the university context (Venkatesh & Davis, 2000) .

The hypothesis regarding the relationship between the Technology Adoption variable of the Technology Acceptance Model (TAM) and university employees' intention to use technology suggests that employees' actual adoption and incorporation of the technology into their routines significantly influence their attitudes and intentions toward using it .

H5. Technology Adoption positively impacts on University Employees' Intention to Use Technology.

SECTION :4

RESEARCH METHODOLOGY

4.1 Research Plan and Methods

This study will depend on the descriptive approach to reach its results by setting questions and testing them according to the appropriate statistical criteria. Analytical research will be conducted on the employees of the General Administration University of Derna", and survey data will be verified and interpreted using statistical instruments.
Within this, the appropriate approach is the previous studies that dealt with TAM and took advantage of them by adopting ready-made standards represented in the questionnaire. Where TAM is used, it will shed light on the elements that can serve as trustworthy indicators of how well new technologies will be accepted by users.

The survey approach was chosen as the most effective strategy for this research's nature and objectives. This research design was chosen to assess and uncover the degree of readiness among university employees to embrace technology usage. Furthermore, this descriptive research design centers on creating research questions, data analysis, and design that significantly address issues and challenges. In particular, these aspects play a crucial role in evaluating the technology acceptance model within the educational context (Knupfer & McLellan, 1996). Additionally, descriptive research encompasses structured plans that clearly outline the reasons, timing, and locations for data or information collection and analyze participants' responses to inquiries (Gilgun, 2005). This approach helps gauge the level of technology usage acceptance across various dimensions: infrastructure, perception of trust, perceived ease of use, perceived usefulness, technology adoption, and intent to use within the organization.

4.2 Sources of Data and Means of Collection

The sources that will be relied upon to obtain the appropriate data for the study are of two main types: Secondary Sources: It consisted of conducting a desk survey of the theoretical literature on the subject of the study. Through sources, references, books, periodicals, previous studies, and others. Primary sources: The sample's vocabulary will be selected from the original research community.

4.3 Study Limits: The Study Limits Are as Follows:

The spatial limits of the study: These boundaries are confined to the University of Derna in the city of Derna. Human limits of the study: They are the employees in public administration at the University of Derna. Temporal limits of this study: This is the period during which the study was conducted: the end of 2022 and the beginning of the year, spring 2023. Objective limits of this study: It was limited to studying the subject of the technology acceptance model and testing it on the study sample in public administration at the University of Derna.

4.4 Study Community and Sample

The study population consists of all staff at the various administrative levels in the public administration of Derna University, whose number is 320 for the 2022–2023 academic year.

This study relied on a survey in which data were collected from all employees at the various administrative levels in the public administration of Derna University. Thirty questions were used for this using the checklist, checkbox, and rating scale. One of the new techniques for gathering and compiling data has been adopted: the internet-based questionnaire. This indicates that all the responses were received and responded to by each person via the internet through a constantly distributed link, which is: https://docs.google.com/forms/d/e/1FAIpQLSdGAAYxnRqWtE8HRhRlUr1hVx5PDtLI1L2qYc7WYDmv9u_UYg/viewform?usp=sf_link.

The questionnaire was constructed utilizing Google Drive forms, which offer extensive and cost-free capabilities for analysis, result extraction, and overall assessment. The best outcomes for evaluating the data set from the questionnaire were obtained using the statistical analysis tool (SPSS) offered by IBM. The aforementioned link, created and prepared using Google Forms on the Web, was used to acquire the replies from the 302 respondents whose data and opinions were input.

4.5 Research Tools Design

To collect the study's data, achieve the research objectives, and test its hypotheses, the researcher chose the appropriate tool for that, which is the questionnaire. The questionnaire is still the primary tool used to conduct survey research, and it effectively obtains a large amount of data directly (Newby, 2010). By asking a series of questions to a wide range of people in many ways and at an appropriate time, it is more appropriate when the study community is large and more effective in terms of time and cost-effectiveness. The questionnaire was built and adjusted, and its suitability for use was confirmed according to the scientific and methodological steps, and the details of that are as follows: Preparing and designing the questionnaire in its initial form by reviewing previous studies and depending on the variables of the current research, the questionnaire was designed preliminarily as it consisted of two parts.

4.5.1 The First Part

It contains the introduction, general information about the subject of the study, as well as demographic information about the employees, including gender, age, job title, educational level, and job experience. The total sample participants were 302 employees working at the University of Derna. The demographic results showed that faculty members and administrative employees had elevated' percentages and ranged in age from 30 to 49 years. The percentage of administrative employees was 44.3%, the percentage of faculty members was 40%, and the rate of male participation (68%) was higher than that of females (32%). Table 2 outlines the responses to the survey collected from employees.

Variables	(%)	(N)
Age		
Less than 30	19.9	60
30– 39	45.0	136
40 – 49	32.1	97
Above 50	3.0	9
Gender		
Male	68.5	207
Female	31.5	95
Job title		
Clerical employee	125	41.4
Faculty member	136	45.0
Head of Office	14	4.6
Head of Department	24	7.9
Dean of the University	3	0.1
Educational level:		
Higher diploma	62	20.5
Bachelor of Arts	13	4.3
Bachelor's degree	114	37.7
Postgraduate studies	113	37.4
Job Experience:		
less than 5 years	40	13.2
From 5-10 years	48	15.9
From 10-15 years	91	30.1
From 15-20 years	97	32.1
More than 20 years	26	8.6

Table 2 Information of demographic of the study

4.5.2 The Second Part

The second part refers to the level of the employees' agreement and knowledge of the importance of using devices of technology in their university based on the proposed model TAM of the research study, which includes the infrastructure dimension, the perception of trust dimension, the perceived ease of use dimension, the perceived usefulness dimension, the technology adoption dimension, and the intent of use dimension. Table 3 shows the outline of variables in the survey that have targeted the employees.

Constructs	Questions Of Items
Infrastructure	5
Perception of trust	5
Perceived ease of use	5
Perceived usefulness	5
Technology adoption	5
Intent to use	5
	Total number questions of Items=30

Table 3 Constructs, and Items

These six variables have 30 sub-question that were assessed by using a five-point which knows "Likert-type scale," and every point represents („Strongly Agree, ‟ „Agree, ‟ „Neutral, ‟ „Disagree, ‟ and the last point represents „Strongly Disagree‟). Shown in the subsequent table:

Likert scale	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Weight scale	1	2	3	4	5

Table 4 Likert-type scale source (Sekaran & Bougie, 2010)

The range (5-1 = 4) was determined to determine the size of the cells on the five-point Likert scale. It was then divided by the number of classes to obtain the right cell length (4/5 = 0.79), and this value was then added to the scale's lowest value (or its starting point, which is one). This establishes the cell's upper limit (Al-Omar, 2004). As a result, the table's cell lengths are shown in the table.

Likert scale	Interval	Description
1	1.00 - 1.79	Strongly disagree
2	1.80 - 2.59	Disagree
3	2.60 - 3.39	Neutral
4	3.40 - 4.19	Agree
5	4.20 – 5.00	Strongly Agree

Table 5 Five-point Likert scale

4.6 Methods of Analysis

4.6.1 Cronbach (Alpha) Stability Coefficient

The concept of stability is considered one of the fundamental concepts that are considered when evaluating a test's quality. It is defined as: "It measures the extent to which the same data will be obtained if the questionnaire is repeated more than once." questions directed to the study sample the (Alpha) Cronbach test was used to ensure the stability of the questionnaire questions and the extent of their credibility (Trochim, 2006).

4.6.2 Correlation (Internal Consistency)

In assessing internal consistency, the focus is on measuring the degree of correlation among the various expressions and dimensions included in the questionnaire, particularly in the Technology Acceptance Model (TAM) context (Hair et al., 2010).

4.6.3 Shapiro Normal Distribution Test

This test was used to determine whether or not the data follows a normal distribution, The significance level value must be larger than 5% for the data to be accepted (Razali & Wah, 2011).

4.6.4 Structural Model

The extent to which the public administration employees at the University of Derna accept the use of technology using the technology acceptance scale Through previous research, we developed questions based on the primary constructs of TAM to measure the acceptance of technology by employees at their university. This part aims to know the relationship among the study constructs and items to get meaningful results. All these variables may influence usage behavior. The following table 6 shows an overview of latent variables and associated items (Hair et al., 2010).

Constructs	Reference Study	Items	Questions
Infrastructure	Rogers (2018)	(IN)	The university administration has equipment, hardware and software in all administrative offices.
			The university administration provides an internal communication network (the Internet) between all departments.
			The university administration provides an external communication network (extranet) for communication between different universities, departments and colleges.
			Modern electronic systems are available in the university administration.
			The university administration has the appropriate information systems and protection.
perception of trust	Lian (2015)	(POT)	The university administration encourages the use of technology.
			The university administration is working to benefit from the information provided by the university's website.

			The university administration works on training employees to keep pace with technological developments on a regular and continuous basis.
			The university administration supports the use of technology to reduce errors committed during the implementation of administrative work.
			Technology gives a great deal of autonomy and a sense of responsibility to users.
perceived ease of use	Venkatesh (2000)	(PEOU)	The university administration facilitates the use of technology to obtain information and accuracy in work.
			The university administration encourages interaction with information technology.
			The university administration facilitates the acquisition of capabilities and expertise that deal with technology.
			The university administration facilitates the participation of technology users in group work.

			Technology can be easily dealt with without participating in the training courses organized by the university.
perceived usefulness	Faqih & Jaradat (2015).	(PU)	The use of technology greatly improves work. Technology makes users more aware of their work. Using technology helps save time and effort. The use of technology enhances the efficiency of daily transactions. Technology contributes to making work more flexible.
Technology adoption	Cha-Jan Chang King (2005)	(TA)	The university administration adopts quality in communications (internet and speed of interaction). The university administration provides the technical facilities to finish the work in a timely manner. The university administration adopts technology to exchange skills and knowledge among employees.

			The university administration relies on technology to work and avoids the use of traditional methods.
			The university administration is having difficulty adapting to the rapid developments in the use of technology.
Intent of use	Fishbein Aizen (2000)	(IOU)	Information technology makes it easier for users to make decisions.
			The university administration works to provide appropriate environmental conditions for employees when using technology.
			The university administration motivates employees to use technology.
			The use of information technology helps in improving work performance.
			Information technology helps users quickly make the right decision.

Table 6 Constructs, their Source of Study, and Items.

SECTION :5

RESULTS

5.1 Demographic and Frequency Analysis

The thesis aims to assess technology acceptance among University of Derna employees using a replicated TAM study. A Google Drive survey was distributed to participants, collecting data on their technology adoption. It contains the employees' demographic information, such age, gender, job title, educational level, and job experience. The total sample comprised 302 employees currently employed at the University of Derna.

Gender	Frequency	Percentage
Male	207	68.5
Female	95	31.5
Total	302	100.0

Table 7 Gender distribution

According to the study's findings on the respondents' gender, men made up the majority of respondents, with 207 (68.5%) of the sample's male respondents being male and 95 (31.5%) females. The respondents' gender distribution is seen in Table 7.

Age	Frequency	Percentage
Less than 30	60	19.5
30–39	136	45.5
40–49	97	32.5
Above than 50	9	3.0
Total	302	100.0

Table 8 Age distribution

According to Table 8 above, 136 (45.0%) respondents were between 30 and 39. Those between the ages of 40 and 49 were represented by 97 (32.1%) respondents, those under the age of 30 by 60 (19.9%), and those over 50 by 9 (3.0%).

According to the above analysis, it can be construed that most respondent employees were young adults working at Derna University. Information gathered from them could be trusted and looked at as an accurate representation of the information the researcher sought.

Job title	Frequency	Percentage
Clerical employee	126	41.4
Faculty member	137	45.0
Head of Office	14	4.6
Head of Department	24	7.9
Dean of the University	1	0.1
Total	302	100.0

Table 9 Job title distribution

According to the results of a study on job titles, faculty members made up the majority of respondents with a participation rate of 137 (45.0%), followed by office workers with 126 (41.4%), followed by heads of departments with 24 (7.9%), heads of offices with 14 (4.6%), and deans of the university with 1 (0.1%).

Education level	Frequency	Percentage
Higher diploma	62	20.5
Bachelor of Arts	13	4.3
Bachelor's degree	113	37.4
Postgraduate studies	114	37.7
Total	302	100.0

Table 10 Education level distribution

According to the education level findings, the highest number of respondents had postgraduate studies, comprising 114 (37.7%). They were followed by those with bachelor's degrees, accounting for 113 (37.4%), then those with higher diplomas, making up 62 (20.5%), and lastly, individuals with bachelor of arts degrees, constituting 13 (4.3%). This suggests that the respondents possess a substantial level of education, which enhances the credibility of the information gathered for this study.

Job Experience	Frequency	Percentage
less than 5 years	40	13.2
From 5-10 years	48	15.9
From 10-15 years	91	30.1
From 15-20 years	97	32.1
More than 20 years	26	8.6
Total	302	100.0

Table 11 Job Experience distribution

Table 11 above demonstrates that the majority of those respondents had job experience ranging from 15 to 20 years, 97 (32.1) respondents, followed by 10-15 years, represented by 91 (30.1%), followed by 5–10 years, 48 (15.9), and less than 5 years, represented by 40 (13.2%), and those above 20 years, represented by 26 (8.6%).

5.2 Descriptive Analysis

The concentration of the responses around the average value of the research variables and their dependent dimensions was calculated using arithmetic means and standard deviations along the following axes:

5.2.1 The Infrastructure Dimension

Table 12 displays the research sample's arithmetic means and standard deviations, showing a high degree of practice in the responses, ranging from 3.91 to 3.97.

NO	Paragraphs	Mean	SD
1	The university administration has equipment, hardware and software in all administrative offices	3.97	0.449
2	The university administration provides an internal communication network (the Internet) between all departments	3.91	0.524

Table 12 Statistical analysis results of the infrastructure dimension

The results showed that the average total response to the infrastructure dimension is 3.94, a medium value.

5.2.2 The Perception of Trust Dimension

Table 13 demonstrates the arithmetic means and standard deviations of the study sample responses for each paragraph according to the perception of trust dimension. The answers obtained from the study sample ranged in arithmetic averages between 3.95 and 3.97; the following table shows this.

NO	Paragraphs	Mean	SD
1	The university administration encourages the use of technology	3.97	0.457
2	Technology gives a great deal of autonomy and a sense of responsibility to users	3.95	0.443

Table 13 Statistical analysis results of the perception of the trust dimension

The findings showed that the average total response to the perception of trust is 3.92, a medium value.

5.2.3 The Ease-of-Use Dimension

Table 14 demonstrates the mathematical means and standard deviations of the research sample responses for each paragraph according to the ease-of-use dimension. The answers obtained from the study sample ranged in arithmetic averages between 3.86 and 3.95; the following table shows this.

NO	Paragraphs	Mean	SD
1	The university administration encourages interaction with information technology	3.95	0.466
2	The university administration facilitates the acquisition of capabilities and expertise that deal with technology	3.86	0.628
3	The university administration facilitates the participation of technology users in group work	3.92	0.526
4	Technology can be easily dealt with without participating in the training courses organized by the university	3.94	0.503

Table 14 Statistical analysis results of the ease-of-use dimension

The findings showed that the average total response to the ease-of-use dimension is (3.91), which is a medium value, and that the university administration lacks the expertise to deal with this development. This is due to some difficulties, for example, in obtaining capabilities and expertise in dealing with technology.

5.2.4 The Perceived Usefulness Dimension

Table 15 demonstrates the mathematical means and standard deviations of the research sample responses for each paragraph according to the perceived benefit dimension, indicating a high degree of practice in technology use. The responses obtained from the study sample ranged in arithmetic averages between 4.00 and 4.03. The results suggest that the university administration seeks to improve technology usage.

NO	Paragraphs	Mean	SD
1	Technology makes users more aware of their work	4.00	0.492
2	Technology contributes to making work more flexible	4.03	0.527

Table 15 Statistical analysis results of the perceived usefulness dimension

The results showed that the average total response to the perceived usefulness dimension is (4.02), which is a very high value. This shows that the opinion of the study sample was very high towards practice, and this means that the perceived benefit of using technology saves time and effort and enhances the effectiveness of daily transactions, making this perceived benefit one of the most influential factors in employees accepting the new technology.

5.2.5 The Technology Adoption Dimension

Table 16 demonstrates the mathematical means and standard deviations of the research sample responses for each paragraph according to the technology adoption dimension. The answers obtained from the study sample ranged in arithmetic averages between 1.60 and 2.50. And based on the results obtained, it is clear that the opinions were in the direction that the degree of practice is weak for this dimension. The following table demonstrates this.

NO	Paragraphs	Mean	SD
1	The university administration provides the technical facilities to finish the work in a timely manner	2.50	0.946
2	The university administration adopts technology to exchange skills and knowledge among employees	2.48	0.932
3	The university administration relies on technology to work and avoids the use of traditional methods	1.60	1.250

Table 16 Statistical analysis results of the technology adoption dimension

The results showed that the average total response to the technology adoption dimension is 2.19, a weak value.

5.2.6 The intent to use dimension.

Table 17 shows each paragraph's arithmetic means and standard deviations for the study sample answers according to the intent to use dimension. The answers obtained from the study sample ranged in arithmetic averages between 3.98 and 4.03. The following table demonstrates this.

NO	Paragraphs	Mean	SD
1	Information technology makes it easier for users to make decisions.	4.03	0.330
2	The university administration works to provide appropriate environmental conditions for employees when using technology	3.98	0.355
3	The university administration motivates employees to use technology	4.03	0.292
4	The use of information technology helps in improving work performance	4.03	0.325
5	Information technology helps users quickly make the right decision	4.02	0.315

Table 17 Statistical analysis results of the Intent to Use dimension

The results showed that the average total response to the intent to use dimension is (4.02), which is a high value; also, it's an indicator for the organization under study by working to make a big effort to catch up with technological development and upgrading the education level of the organization.

5.3. Measurement Model

5.3.1. Model Fit Indices

The many indices to evaluate the data for the conceptual model are provided by the AMOS program. The degree of interconnection between variables is indicated. To assess the model's fitness, the study makes use of Chi-Square (CMIN/DF), Parsimony Goodness of Fit Index (PGFI), Comparative Fit Index (CFI), Route Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Model (AGFI).

According to (Hooper et al., 2008), researchers take into account three different forms of model fit indices:

- Absolute fit indices ($\chi 2$/df, RMSEA, SRMR, GFI and AGFI)
- Incremental fit indices (CFI and NFI)
- Parsimony fit indices (PGFI and PNFI; AIC and CAIC)

• Recommended thresholds that will help to determine the goodness of fit are the followings:

• p-value > 0.05 (Hooper et al., 2008).

• CFI ≥ 0.95 (Schreiber et al., 2006)

• GFI - the values close to 1.00 demonstrate a good level of fit (Byrne, 2010)

• AGFI > the values close to 1.00 demonstrates a good level of fit (Byrne, 2010)

According to Byrne (2010), values for the SRMR run from zero to 1.0, with well-fitting models acquiring values under.05. However, values as high as 0.08 are acceptable (Hu & Bentler, 1999).

• SRMR ≤ 0.05 (Byrne, 2010) or ≤ 0.08 (Schreiber et al., 2006)

• RMSEA – the values between 0 and 0.08 (Hooper, Coughlan and Mullen, 2008) or ≤ 0.06 to 0.08 (Schreiber et al., 2006) demonstrate good level of fit

• PCLOSE > 0.05 (Byrne, 2010)

Follow these steps to make modifications in AMOS about indices and adjust the structural or measurement model based on the results of model fit indices.

First, open AMOS, load the dataset, specify measurement and structural models using paths, latent variables, and indicators per the research hypothesis, estimate the parameters, and run the initial model to obtain the fit indices. After that, examine the fit indices such as CMIN/DF, GFI, AGFI, CFI, TLI, NFI, RMSEA, and others to assess how well the model fits the data. Compare the fit indices to the commonly used thresholds. However, the values of its absolute fit indices were taken from Hooper's study (Hooper, 2008). Then, identify areas of the model where the fit indices indicate poor fit. That includes paths with non-significant estimates, large modification indices, or fit indices that fall below acceptable thresholds. Finally, considering the poorly fitting areas, Add or remove latent variables to better capture the underlying constructs, modify the model, and add or delete arrows between variables in the path diagram. Add or remove latent variables and indicators. Adjust the covariance arrows for correlated errors between indicators.

The chi-square is 613.300 and the degrees of freedom are 171, with a probability level of.000, which shows the model fit indices. The CMIN/DF value is 3.587, which is less than 5, indicating a good fit. The PGFI value is 0.802, which is >.50, indicating that the model is good to fit. The GFI value for the model is 0.802, which also shows that the model is good to fit. The table below presents a summary of the findings. However, the values of its absolute fit indices were taken from Hooper's study (Hooper, 2008).

Measure	Benchmark Value	Results	Decision
CMIN/DF	< 5 Good Fit	3.587	Good Fit
PGFI	> .50	.802	Good Fit
GFI	Near to .90 Good Fit	.802	Good Fit
AGFI	> .80 Good Fit	.802	Good Fit
CFI	Near to .80 Permissible	.904	Good Fit
RMSEA	0.05 - 0.10 Fair Fit; >.10 Poor Fit	.093	Fair Fit

Table 18 Model fit Indices

Therefore, measurements for the model are accepted as supported by Chi-square, CMIN/DF, PGFI, GFI, AGFI, CFI, and RMSEA.

5.4 Reliability and Validity

5.4.1 The Composite Reliability Analysis

To guarantee internal consistency, three significant measures were used: Cronbach's alpha, Dillon-Goldstein's rho, and average variance.

- According to (Tasar & Celik, 2011), if the values of Cronbach's alpha are higher or equal to 0, 60, then the scale has reliability.
- According to (Moradi et al., 2013), the D.G. rho must be higher than 0.70 to obtain reliable results for variables.
- The average variance of the composite reliability has to be greater than 0.5. If the results of the variance average are greater than 0.5, that means the outer variables are satisfactory (Moradi et al., 2013).

Latent Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
IN	0.867	0.872	0.938	0.882
IOU	0.880	0.894	0.913	0.679
PEOU	0.914	0.923	0.940	0.796
POT	0.833	0.837	0.923	0.857
PU	0.844	0.844	0.928	0.865
TA	0.944	0.945	0.964	0.900

Table 19 Composite reliability analysis indices

Table 19 shows an analysis table of three reliability indexes: Cronbach's alpha, D. G. rho, and AVE, where each reliability scale had higher or equal specific or fulfilling values. As a result, all of the variables or constructs' results have an acceptable range, according to Moradi study (Moradi et al., 2013).

5.4.2 Factor loadings

Indicator reliability: Hair et al. (2017) say the outer loadings of the indicator should be higher than 0.70. Remove indicators with outer loadings between 0.40 and 0.70 only if the deletion increases composite reliability and AVE above the suggested threshold value (Hair et al., 2017). All values within the range are shown in Table 20.

	IN	IOU	PEOU	POT	PU	TA
Q1	0.945					
Q2	0.934					
Q6				0.920		
Q10				0.931		
Q12			0.935			
Q13			0.817			
Q14			0.931			
Q15			0.880			
Q17					0.931	
Q20					0.929	
Q22						0.959
Q23						0.956
Q24						0.930
Q26		0.795				
Q27		0.739				
Q28		0.948				
Q29		0.844				
Q30		0.780				

Table 20 Results of measurements with model-convergent validity

5.4.3 Discriminate validity analysis

As shown in Table 21 below, the Fornell and Larcker (1981) criteria for discriminant validity resulted from latent variables that showed a strong relationship with manifest variables (Fornell & Larcker, 1981) because the values of the AVE of variables were better than those associated with the latent variables.

	IN	IOU	PEOU	POT	PU	TA
IN	0.939					
IOU	0.247	0.824				
PEOU	0.538	0.424	0.892			
POT	0.630	0.397	0.799	0.926		
PU	0.124	0.486	0.222	0.251	0.930	
TA	0.101	0.497	0.217	0.199	0.288	0.948

Table 21 Fornell-Larcker criterion indices

5.4.4 Cross loadings

Cross-loading is an additional method for evaluating discriminant validity. Discriminant validity is established when an indicator's loading on its assigned construct is higher than its cross-loading with other constructs. Cross-loadings were executed to check the convergence's measurements and discriminate validity. Moreover, according to Gefen and others, all results of cross-loadings are perfect (Gefen et al., 2000).

	IN	IOU	PEOU	POT	PU	TA
Q1	**0.945**	0.252	0.522	0.629	0.144	0.146
Q10	0.522	0.363	0.762	**0.931**	0.253	0.139
Q12	0.546	0.417	**0.935**	0.768	0.221	0.269
Q13	0.391	0.338	**0.817**	0.598	0.146	0.152
Q14	0.473	0.387	**0.931**	0.715	0.209	0.187
Q15	0.496	0.364	**0.880**	0.755	0.209	0.155
Q17	0.143	0.457	0.164	0.208	**0.931**	0.301
Q2	**0.934**	0.210	0.488	0.551	0.087	0.038
Q20	0.087	0.448	0.250	0.260	**0.929**	0.233
Q22	0.122	0.466	0.198	0.222	0.278	**0.959**
Q23	0.110	0.482	0.221	0.216	0.282	**0.956**
Q24	0.053	0.467	0.196	0.125	0.258	**0.930**
Q26	0.192	**0.795**	0.304	0.259	0.286	0.357
Q27	0.179	**0.739**	0.278	0.284	0.359	0.419
Q28	0.254	**0.948**	0.418	0.407	0.452	0.495
Q29	0.196	**0.844**	0.299	0.289	0.484	0.434
Q30	0.188	**0.780**	0.434	0.379	0.395	0.328
Q6	0.649	0.373	0.716	**0.920**	0.210	0.232

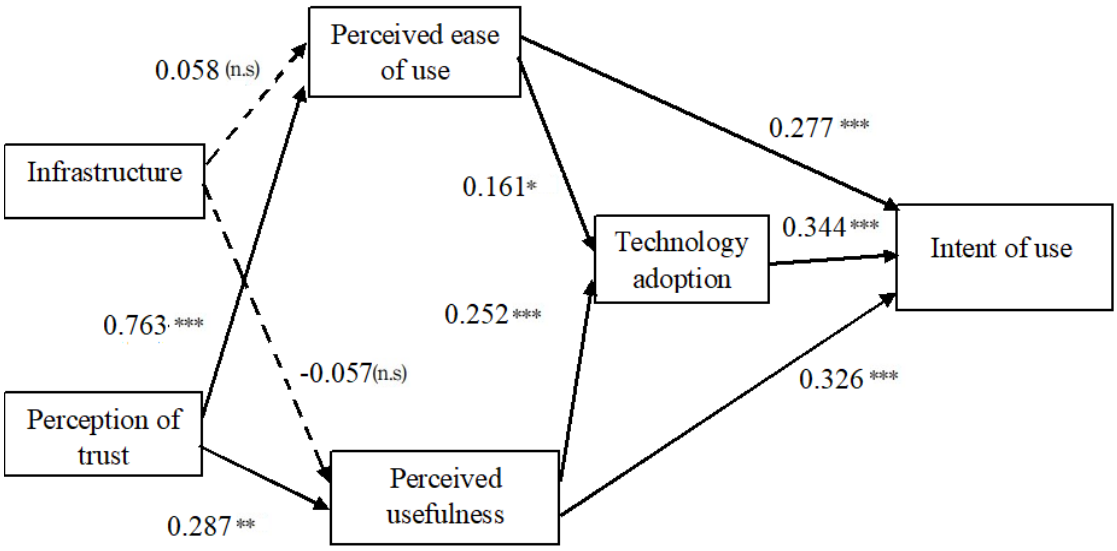
Table 22 Results of Cross-Loading

5.5 Structural Equation Modeling (SEM)

Is a multivariate statistical analytic method used to examine structural correlations. The measurement model (i.e., CFA) simultaneously examines the connection among the latent variables and their measurements. The main goal of structural equation modeling is to examine and assess the structural link between the proposed comparison of SEM and CFA. SEM extends the probability of the relationship among the latent variables and envelops two parts:

1. Measurement model, which is essentially the CFA.
2. structural model.

The suggested model (Figure 9) depicts how several regression equations interact with latent components and observable variables. Within this approach, both direct and indirect impacts are taken into account. The impact of an independent variable (exogenous) on a dependent variable (endogenous) is represented by a direct effect. The influence of an independent variable (exogenous) on a dependent variable (endogenous) through a mediating variable is depicted as an indirect effect (Baron & Kenny, 1986).



Note: ***p<0.001, **p<0.01, *p<0.05. The dotted line indicates that the path relationship is not significant.

Figure 9 Structural Equation Model

5.5.1 Hypotheses

	Std. Beta	Std. Error	T. Value	P values	Decision
IN -> PEOU (H1)	0.058	0.129	0.450	0.653	No Supported
IN -> PU (H2)	-0.057	0.114	0.499	0.618	No Supported
PEOU -> IOU (H3)	0.277	0.065	4.229	0.000	Supported
PEOU -> TA (H4)	0.161	0.072	2.223	0.026	Supported
POT -> PEOU (H5)	0.763	0.109	7.029	0.000	Supported
POT -> PU (H6)	0.287	0.107	2.691	0.007	Supported
PU -> IOU (H7)	0.326	0.063	5.191	0.000	Supported
PU -> TA (H8)	0.252	0.070	3.616	0.000	Supported
TA -> IOU (H9)	0.344	0.076	4.500	0.000	Supported

Table 23 Path coefficient of the research hypotheses

The path coefficient of an exogenous variable plays a significant role in the endogenous variable of the construct, which means if one unit of the path coefficient of the exogenous variable changes, it will directly affect the endogenous variable of the construct. Table 23 shows a positive relationship between PEOU and IOU (H3) in a study model since the standard beta was 0.277 and the P-value was 0.000. This proves that the hypothesis is accepted. Table 23 shows a positive relationship between PEOU and TA (H4) in a study model since the standard beta was 0.161 and the P-value was 0.026. This proves that the hypothesis is also accepted. Furthermore, Table 23 shows a positive relationship between POT and PU (H6) in a study model since the standard beta was 0.287 and the P-value was 0.000. This proves that the second hypothesis is also accepted. Moreover, Table 23 shows a positive relationship between POT and PEOU (H5) in a study model since the standard beta was 0.763 and the P-value was 0.007. This proves that the hypothesis is also accepted. Additionally, Table 23 shows a positive relationship between PU and IOU (H7) in a study model since the standard beta was 0.326 and the P-value was 0.000. This means that the third hypothesis is also accepted. Furthermore, PU affected TA (H8), where the standard beta was 0.252, and the P-value was 0.000. This proves that the hypothesis is accepted. The last positive relation in this table is between TA and IOU (H9) in a study model since the standard beta was (0.344) and the P-value was (0.000). This proves that the hypothesis is also accepted.

Finally, Table 23 shows that there was no relationship between IN and PEOU (H1) in a study model since the standard beta was (0.058) and the P-value was (0.653). This indicates that the hypothesis is not accepted, and there is also a negative relationship between IN and PU (H2) in a study model since the standard beta was -0.057 and the P-value was 0.618. This indicates that the hypothesis is not accepted.

5.5.2 Goodness of fit statistic

To assess the model's fitness, the study makes use of Chi-Square (CMIN/DF), Parsimony Goodness of Fit Index (PGFI), Comparative Fit Index (CFI), Route Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Model (AGFI).

The CMIN/DF value is 3.576, less than 5, indicating a good fit. The PGFI value is 0.800, which is >0.50, indicating that the model fits well. The GFI value for the model is 0.800, proving that the model is good to fit. The results are summarized in the table below. However, the values of its absolute fit indices were taken from Hooper's study (Hooper, 2008). Table 24 shows the statistical model fit result for the structural equation model.

Measure	Benchmark Value	Results	Decision
CMIN/DF	< 5 Good Fit	3.576	Good fit
PGFI	> .50	.800	Good fit
GFI	Near to .90 Good Fit	.800	Good fit
AGFI	> .80 Good Fit	.800	Good fit
CFI	Near to .80 Permissible	.905	Acceptable
RMSEA	0.05 - 0.10 Fair Fit; >.10 Poor Fit	.093	Fair Fit

Table 24 Statistical result of model fit

5.5.3 Coefficient of determination R^2

A useful statistic for assessing how well a regression model fits the data and how much of the variability in the dependent variable is explained by the independent variable(s) is R-squared (R^2), also known as the coefficient of determination.

	R-square	R-square adjusted	Result
IOU	0.447	0.441	moderate
PEOU	0.641	0.638	moderate
PU	0.065	0.059	moderate
TA	0.107	0.101	acceptable

Table 25 Coefficient of determination R^2 Indices

As indicated by Chin (1998), R^2 values greater than 0.67 are regarded as strong, while those range from 0.33 and 0.67 are deemed moderate, those from 0.19 and 0.33 are considered weak, and any R2 values lower than 0.19 are unsatisfactory. A minimum acceptable threshold is an R^2 value of 0.10, according to Falk and Mile studies (Falk & Mile, 1992).

SECTION :6

DISCUSSION AND CONCLUSION

6.1. Discussion and Conclusion

The results showed that the relationships are positive between most of the dimensions of the TAM, and this is evidence that there is agreement and consistency for each statement with the dimension it follows and the suitability of the study tool.

The study sample's answers show that the perceived ease of use (PEOU) dimension is an influential factor in accepting new technology, which means that the perceived benefit dimension is considered one of the essential things. The answers from the study sample ranged in arithmetic averages between 3.86 and 3.95, suggesting that technology saves time and effort, enabling employees to develop their work significantly. The results agree with this (Venkatesh, 2000) and conclude that perceived interest is one of the most influential factors in individuals' acceptance of new technology.

Based on the study sample answers, the results indicate that the perceived benefit dimension is also an influential factor in accepting technology. The answers from the study sample ranged in arithmetic averages between 4.00 and 4.03. Based on the findings obtained, it is obvious that the responses indicate that the university administration seeks to work on the use of technology. That means the perceived ease of use dimension is among the most influential factors in accepting new technology. The results agree with this (Howell, 2016) and conclude that perceived ease of use is one of the most influential factors in accepting technology.

The responses from the study participants showed similar trends in the other dimensions of the technology acceptance model. These dimensions were generally perceived as having moderate to low importance. The infrastructure dimension had a mean of 3.91. Trust perceptions ranged from 3.95 to 3.97, and technology adoption dimensions were between 1.60 and 2.50. From the researcher's perspective, this outcome likely reflects the challenges faced by the university administration in adapting to rapid

technological advancements. The findings demonstrated that the university administration continued to handle administrative and financial tasks conventionally and lacked the technology and modern management methods to provide services.

6.2 Implication

The outcomes of the questionnaire related to the Technological Acceptance Model (TAM) for the public administration employees at Derna University suggest that enhancing the technology infrastructure, achieved through the establishment of an external communication network (Extranet), is likely to result in increased acceptance of new technology among the employees. Enhancing the technology infrastructure refers to boosting the technological capacities and resources accessible to university administration employees. This might entail enhancing hardware, software, and networking infrastructure to facilitate the integration of novel technologies. The aim is to streamline communication and information sharing across different departments, potentially resulting in heightened coordination and efficiency within administrative operations.

The technology acceptance model (TAM) is a widely used theoretical framework that explains users' acceptance of modren technologies. It posits that perceived usefulness and ease of use are key determinants of technology acceptance. In this case, by providing an extranet and enhancing the technology infrastructure, the perceived usefulness of the new technology may increase due to improved communication and collaboration, while the ease of use may be enhanced through user-friendly interfaces and efficient workflows.

The university administration should hire technologically skilled employees to improve performance standards and operational effectiveness, positively impacting technology adoption and organizational adoption. Employees with technology expertise may drive a cultural shift within the university, fostering a focus on technology and innovation. This shift encourages adopting new technology as positive and necessary, avoiding traditional methods and routine administrative work.

Implementing technology adoption can boost university employee interest by simplifying daily transactions and removing administrative complexities. The university administration can create an environment that encourages and motivates employees to embrace technology, as it makes tasks easier, faster, and more efficient. Creating a

supportive work environment is crucial for university employees to adopt technology effectively. This includes providing necessary resources, tools, ongoing training, and fostering a culture of experimentation and learning. Employees are more likely to feel confident exploring and integrating technology into their work routines if resources, tools, ongoing training, and support are provided.

Provide training courses for employees to familiarize them with technology and its benefits in improving the educational process, ease of use, and positive perceptions. Develop digital tools and electronic content that are more accessible to increase employee satisfaction and use of technology. Empowering employees with the confidence and competence to leverage technology in their daily work is crucial. Training should focus on technical aspects but also emphasize the positive impact of technology on the educational process and overall work experience. Demonstrating how technology improves efficiency, collaboration, and the quality of education can motivate employees to embrace technology. Developing user-friendly digital tools and content that align with university employees' specific needs and preferences can significantly contribute to technology adoption. Creating user-friendly digital tools and content is crucial for successful technology adoption in universities. This creates a favorable environment, reducing frustration and stress associated with complex systems. One of the main barriers to technology adoption is resistance to change. However, if creating easy-to-use and valuable technology can increase acceptance and reduce resistance, employees are more likely to embrace the change positively.

6.3 Limitations and Future Research

Information technologies are becoming increasingly necessary in our lives. The adoption of information technology and its use can favorably influence these different fields, such as business, education, medicine, the economy, and other fields, to achieve benefits (Mokhoff, 1987). In this context, IT has become the main key to improving the performance of workers in organizations. This thesis measured technology accepted by the employees of the General Administration University of Derna", by using the TAM model. The designed survey of TAM with specific items from this study was sent to the participants working at the University of Derna to get data for this study. The reliability results showed the TAM model, which fits this problem. The participants in the questionnaire are 302 employees. The statistical analysis results show that users are satisfied with using technology in their universities.

The researcher suggests the following topics for future studies:

- Use the technology acceptance model in other organizations or make a comparison with similar universities.
- The role of information technology in improving workers' performance in Libyan organizations
- The readiness of the administrative leadership of Libyan organizations towards digital transformation
- Work on developing and converting educational curricula into digital curricula across all university disciplines.

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APPENDIX 1. ORIGINALITY REPORT

ANKARA SCIENCE UNIVERSITY
GRADUATE SCHOOL OF STUDIES
MASTER'S THESIS ORIGINALITY REPORT

ANKARA SCIENCE UNIVERSITY
GRADUATE SCHOOL OF STUDIES
MANAGEMENT INFORMATION SYSTEMS DEPARTMENT

Date: 28/09/2023

Thesis Title : The Use Of The Technology Acceptance Model On The Employees Of The General Administration Of The University Of Derna.

According to the originality report obtained by my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 28/09/2023 for the total of 89 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled as above, the similarity index of my thesis is 20 %.

Filtering options applied:

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I declare that I have carefully read Ankara Science University Graduate School of Studies Guidelines for Obtaining and Using Thesis Originality Reports; that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

Date and Signature

Name Surname: SALEM MANSORI
Student No: 225011018
Department: Management Information Systems
Program: Management Information Systems

ADVISOR APPROVAL

APPROVED.

Assist. Prof. Dr. Görkem Erdoğan

APPENDIX 2. ETHICS COMMITTEE PERMISSION

DERNA ÜNİVERSİTESİ

TERCÜME

ÜNİVERSİTE REKTÖRLÜĞÜ
TARİH: 09/02/2023
REFERANS NO: 2023-5977-6

Derna Üniversitesi Genel Müdürlüğünün saygıdeğer çalışanları.

Saygılarımızı Sunarız...

Ankara Bilim Üniversitesi Yönetim Bilişim Sistemleri Yönetimi Yüksek Lisans Programında kayıtlı ve anket sorumlusu olan, Derna Üniversitesi'nde kamu yönetimi çalışanlarına anket uygulayan "Kamu Yönetimi Çalışanları Üzerinde Teknoloji Kabul Modelinin Kullanılması" başlıklı üniversite tezini tamamlayacağını, elde edeceği bilgilerin gizli tutulacağını ve bilimsel araştırma amacıyla kullanılacağını belirten, öğrenci numarası (**225011018**) olan öğrenci **SALEM MANSORI**'ye mümkün olan olanakların sağlanmasını kabul etmenizi rica ederiz.

Refik Awad Muftah
Üniversite Rektörlük Ofisi İşleri
Mühür/İmza

جامعة درنة
UNIVERSITY OF DERNA

مكتب رئيس الجامعة
التاريخ: ٢٠٢٣/٠٥/٠٩م
رقم إشاري: ٢٠٢٣-٥٩٧٧-٠٦

السادة المحترمون: موظفي الإدارة العامة بجامعة درنة.

تحية طيبة وبعد.

يرجي سنكم التكرم بالموافقة على تقديم التسهيلات السكنة للطالب سالم المنصوري ورقمه الجامعي (225011018) المسجل في برنامج ماجستير إدارة نظم المعلومات الإدارية بجامعة (Ankara Bilim University) والذي يتولى القيام بتوزيع استبانات على موظفي الإدارة العامة بجامعة درنة لاستكمال رسالته الجامعية والموسومة بعنوان" استخدا م نموذج قبول التكنولوجيا على العاملين في الإدارة العامة " علما ان المعلومات التي سيحصل عليها ستبقي سرية و لأغراض البحث العلمي.

APPENDIX 3. DERNA UNIVERSITY QUESTIONNAIRE

The Use Of The Technology Acceptance Model On The Employees Of The General Adminıstratıon Of The Unıversıty Of Derna

The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a well-established framework to assess how users accept and adopt new technology. It has two key dimensions: Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). The main objective of our study was to assess and understand the acceptance of new technology among public administration employees at the University of Derna. Specifically, we aimed to determine the factors influencing technology acceptance and identify the most critical dimension that significantly affects technology acceptance within this context.

The age

- ☐ Less than 30
- ☐ From 30 to 39
- ☐ From 40 to 49
- ☐ Above 50

Gender

- ☐ female
- ☐ Male

Job title

- ☐ Clerical employee
- ☐ Faculty member
- ☐ Head of Office
- ☐ Head of Department
- ☐ Dean of the University

Educational Level

- ☐ Higher Diploma
- ☐ Bachelor of Arts
- ☐ Bachelor's Degree
- ☐ Postgraduate Studies

Job Experience

- ☐ Less than 5 years
- ☐ From 5 to 10 years
- ☐ From 10 to 15 years
- ☐ From 15 to 20 years
- ☐ More than 20 years

The infrastructure dimension

To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work?

1 -Strongly disagree .....5- Strongly agree.

	Questions	1	2	3	4	5
1	The university administration has equipment, hardware and software in all administrative offices					
2	The university administration provides an internal communication network (the Internet) between all departments					
3	The university administration provides an external communication network (extranet) for communication between different universities, departments and colleges					
4	Modern electronic systems are available in the university administration					
5	The university administration has the appropriate information systems and protection					

The perception of trust dimension					
To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work? 1 -Strongly disagree .....5- Strongly agree.					
Questions	1	2	3	4	5
1 The university administration encourages the use of technology					
2 The university administration is working to benefit from the information provided by the university's website					
3 The university administration works on training employees to keep pace with technological developments on a regular and continuous basis					
4 The university administration supports the use of technology to reduce errors committed during the implementation of administrative work					
5 Technology gives a great deal of autonomy and a sense of responsibility to users					

The ease-of-use dimension

To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work?

1 -Strongly disagree .....5- Strongly agree.

	Questions	1	2	3	4	5
1	The university administration facilitates the use of technology to obtain information and accuracy in work					
2	The university administration encourages interaction with information technology					
3	The university administration facilitates the acquisition of capabilities and expertise that deal with technology					
4	The university administration facilitates the participation of technology users in group work					
5	Technology can be easily dealt with without participating in the training courses organized by the university					

The perceived benefit dimension					
To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work? 1 -Strongly disagree .....5- Strongly agree.					
Questions	1	2	3	4	5
1 The use of technology greatly improves work					
2 Technology makes users more aware of their work					
3 Using technology helps save time and effort					
4 The use of technology enhances the efficiency of daily transactions					
5 Technology contributes to making work more flexible					

Technology adoption dimension					
To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work? 1 -Strongly disagree .....5- Strongly agree.					
Questions	1	2	3	4	5
1 The university administration adopts quality in communications (internet and speed of interaction)					
2 The university administration provides the technical facilities to finish the work in a timely manner					
3 The university administration adopts technology to exchange skills and knowledge among employees					
4 The university administration relies on technology to work and avoids the use of traditional methods					
5 The university administration is having difficulty adapting to the rapid developments in the use of technology					

Intent to use dimension					
To what extent do you agree on the following paragraphs with a clear measurement, of the vision of the university employees in using technology in their work? 1 -Strongly disagree .....5- Strongly agree.					
Questions	1	2	3	4	5
1 Information technology makes it easier for users to make decisions					
2 The university administration works to provide appropriate environmental conditions for employees when using technology					
3 The university administration motivates employees to use technology					
4 The use of information technology helps in improving work performance					
5 Information technology helps users quickly make the right decision					

CURRICULUM VITAE

Personal Information

Name Surname : Salem Mansori

Place and Date of Birth :

Education Status

Undergraduate Education : Higher Institute for comprehensive Profession Derna, higher diploma department of Electrical and Electronic Engineering.

Master's Degree : Altinbas University, department of Information Technologies.

Foreign Languages : English

Scientific Activities : N/A

Work Experiences

Internships : Installation and maintenance of automated weather monitoring stations.

Projects : Read and prepared electrical drawings.

Institutions worked so far : weather observer at Derna meteorological station, and Electrical protection engineer at Derna power station.

Contact

E-Mail Address :

phone number :

Date :