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**MÜHENDİSLİK YÖNETİMİ YÜKSEK LİSANS PROGRAMI**  
**YÜKSEK LİSANS TEZİ**

**DETERMINİNG THE FACTORS AFFECTİNG THE QUALİTY OF THE  
İNDUSTRIALENGİNEERİNG EDUCATION SYSTEM WITH THE STRUCTURAL  
EQUATION MODELİNG İN ONE OF THE TURKİSH UNİVERSİTİES**

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## ABSTRACT

The primary objective of this study is to identify the factors that have the most significant role in determining the level of proficiency achieved by graduates in one of the Turkish Universities' educational programs. The results of the research suggest that the educational system at one of the Turkish Universities suffers from a lack of general quality, which is a problem. Using the use of structural equation modeling, the purpose of this research was to determine the aspects of one of the Turkish Universities' industrial engineering education system that contribute to its overall level of excellence. The research focused on determining the elements that affect the quality of the education system for industrial engineering. These aspects were emphasized in the study. This study used the quantitative research technique as its methodology in order to explain and analyze the Determining Factors Affecting the Quality of the Industrial Engineering Education System using the Structural Equation Modelling in one of the Turkish Universities. A total of 550 individuals participated in the study, and each and every one of them was a student at one of the Turkish Universities. The total number of participants in the sample is 226, and they were randomly picked from the strata. In this inquiry, both the UTAUT theory and the variables that were developed from the aforementioned theory were used. The fact that it achieved a significant level of less than 5% demonstrates that there is a direct and positive relationship between quality systems and actual use, as shown by the results of the study. In addition to this, the findings suggest that there is an indirect influence of behavioral intention at the link between the components of a quality education system and the actual use that is made of it in one of the Turkish Universities. This is indicated by the fact that there is a positive correlation between the two variables. The results of the study indicate that one of the most important things to focus on is improving the aspects of one of the Turkish Universities' educational systems that have been identified as needing improvement. In addition to this, it has come to light that the quality policies that have been brought to light are mostly tied to the quantitative aspect of education as well as the physiological capacities of pupils. It is possible to make the point that it is necessary to place a higher focus on the quality aspect of education in comparison to the quantity aspect of quality policies relating to education. One way to put this is to suggest that it is imperative to place more of a focus on the quality of what is produced rather than the number of what is produced.

**Keywords:** Quality System, Behavioral Intention, Actual use, One of the Turkish Universities

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## **CHAPTER ONE**

### **INTRODUCTION**

The total quality of any educational institution is determined by a number of factors, each of which may have a substantial influence on the field as a whole. The availability of skilled faculty members who have experience working in the field of industrial engineering and who are dedicated to teaching students in a way that meets their educational needs is one of the most significant factors to consider. The quantity and accessibility of the resources that are made accessible to students are also very important considerations. These resources include laboratory facilities, computer equipment, as well as relevant textbooks and other publications. Strategies for student recruitment, the design of curricula, and assessment and evaluation procedures are some of the other aspects of an educational system that have the potential to influence its overall quality( Elhmoud, 2021). The nature of the connection that prevails between the teaching staff and the rest of the academic community is yet another significant component that contributes to the overall quality of an educational institution. It is feasible to increase the overall quality of the educational experience if one makes it a priority to ensure that the teaching staff are respected members of the community and that they, in turn, are treated with respect by their students. The necessity to establish curriculum that reflect the most recent trends and advancements in this rapidly expanding discipline is one of the most significant problems that are now faced by schools that teach industrial engineering. It is important for the faculty to keep a close eye on the changes that are taking place in the industrial engineering industry and use this information to develop new courses that incorporate the content that is the most pertinent. In order to address this challenge, it is important that the faculty maintain a close watch on the changes that are taking place. It is also important to



keep a close watch on what is happening in related disciplines such as management, economics, and computer science in order to identify new and innovative ideas that can be applied in an industrial engineering setting. This is done for the purpose of identifying new and innovative ideas that can be applied in an industrial engineering setting (Kim, 2019).

Taking an active interest in professional organizations is another vital thing to do if you want to learn about new advances that may be used to educational methods and remain up to date on the most recent advancements that have been made in the area. If faculty members continue to participate in these activities, they will be able to develop a deeper grasp of the requirements of their students and better assist those students in realizing their full potential (Kutty, 2021).

Students who are getting ready to join the workforce should be the primary emphasis of an Industrial Engineering program's instruction, since this will better prepare them for the workforce. At the same time, it is essential to put a significant focus on developing creative and critical thinking skills, which will be necessary in order to thrive in the profession. These abilities may be developed via a variety of activities. Teamwork, leadership, effective communication, and problem solving are just a few of the qualities that should be emphasized and taught to students over the duration of the program. Students should have the option to learn extra knowledge in particular specialized areas in addition to these essential abilities, since this will help them stand out from the crowd when they are seeking for employment after graduation (Tumsekali, 2021).

The purpose of this investigation is to propose a model that exemplifies the interrelationships between the numerous components that impact the overall quality of the educational system for industrial engineering. This model was developed by the Variables Influencing the Quality of the Industrial Engineering Education System at One of the Turkish Universities in Turkey using the Structural Equation Modelling technique. Structural Equation Modelling is located in Turkey. The

model was then used to identify areas of education in industrial engineering that may be improved, with the end goal of raising the overall quality of the education.

## **Background Of Study**

The quality of education offered in the field of industrial engineering is susceptible to being adversely affected by a variety of elements. These factors include faculty qualifications, research activity, and laboratory facilities. Faculty qualifications are especially important because they are generally regarded as indicators of the quality and effectiveness of a department's industrial engineering education efforts. Research activity is also important because it provides a basis for the development of new knowledge that can be used to influence and improve industrial engineering practices (. Laboratory facilities are also important because they can be used to facilitate teaching and research activities related to industrial engineering concepts (Korkmaz, 2022). The relationships among these factors can have a significant impact on the quality of the industrial engineering education system. Internal factors are those that are directly tied to the system, whereas external variables are those that are not directly related to the system (i.e., those that are outside of the system). Making certain that the appropriate infrastructure is in place to support educational endeavors as well as research endeavors is one way in which the quality of the industrial engineering education system may be raised. Investing in research facilities and populating academic positions with individuals who have exceptional credentials are both viable options for achieving this goal (Akın Ateş, 2022). Establishing collaborations with other organizations that have relevant knowledge or resources and that can be utilized to enhance the educational experience of industrial engineering students is another strategy. These partnerships

may be used to improve the educational experience overall. Last but not least, it is essential to have a well-defined plan for the expansion and development of the industrial engineering programme in order to guarantee that it satisfies the requirements of an evolving labour force and equips graduates with the information and capabilities they require to be successful in their chosen careers (Salinas-Navarro, 2022).

Producing graduates who are able to design and run efficient systems in both industry and government is one of the most significant aims of engineering education. This goal is one of the most important purposes of engineering education. However, the quality of teaching in engineering classes might differ significantly from one educational institution to the next (Benz-Camino, 2007). There are a number of aspects that may have an impact on the quality of education provided in engineering classes; nevertheless, the organisational make-up of the engineering department and the industrial engineering curriculum itself is one of the most significant. In this investigation, we make use of structural equation modelling to investigate the elements that may play a role in determining the organisation of an engineering department and, as a consequence, the level of education that students get within the programme. The model developed by Wang and Zimmermann served as the inspiration for the study's theoretical framework (2007). This model is made up of a few different variables that are linked to the high standard of instruction that is provided by the department as well as the accomplishments of the students who are enrolled in the course (Al Husaeni, 2022). The model also incorporates a number of control variables, which are meant to symbolise the organisational structure of the department as well as the department's impact on the learning process.

In the current study, it will be investigated how the behavioural intentions of the students are linked to the Quality of the education experience that they have in the industrial engineering education; if the Quality of their educational experience affects the actual USE that their students have of what they learned after graduating from college; and finally, if the relationship between the Quality of the industrial engineering education and the students' actual USE is affluent. In the current study, it will be investigated how the behavioural intentions of the students in One of the Turkish Universities at Turkey.

### **Problem Statement**

The education that is offered at Turkish Universities in the field of industrial engineering is not of a high enough standard. It is a common criticism levelled against the educational programmes offered by Turkish institutions at the undergraduate level to be outmoded and lacking in the required quantity of project-based classes (Peyma, 2022). As a consequence of this, the quality of graduates and the number of work prospects available to industrial engineers in Turkey have both declined. The educational programmes for industrial engineering has to be revised so as to include more contemporary projects in order to raise the quality of the programme (Yilmaz, 2022). In addition, there should be a greater number of possibilities for students to take part in projects and internships that are relevant to the real world in order to raise the overall standard of industrial engineering education in Turkey (Eranıl, 2022). If a system does not have these processes in place, then it is inevitable that it will create low-quality goods or services. Unfortunately, One of the Turkish Universities in Turkey does not have a quality assurance system that operates as efficiently as it could. The universities do not have quality standards that are spelled out in detail, nor do they

have a standard operating process to make sure that these requirements are adhered to (Balkar, 2022).

In One of the Turkish Universities, there is a significant issue with the quality of the information that is used in instruction. There is not a trustworthy nor a systematic approach to access the high-quality material produced by universities in Turkey. They may have difficulty locating all of the information they want quickly and readily on the internet. Because of this, it is difficult for students and their parents to choose the college that will best meet their needs. Because One of the Turkish Universities do not have access to information of sufficient quality, it is difficult for such institutions to get financial backing for the research initiatives they are doing (Ersozlu, 2022).

There is a significant issue with the level of information that is used in the educational process at institutions in Turkey. There is not a trustworthy nor a systematic approach to access the high-quality material produced by universities in Turkey. They may have difficulty locating all of the information they want quickly and readily on the internet. Because of this, it is difficult for students and their parents to choose the college that will best meet their needs. Because One of the Turkish Universities do not have access to information of sufficient quality, it is difficult for such institutions to get financial backing for the research initiatives they undertake (Kondakci, 2022).

In recent years, there has been a rising criticism over the seeming ease of obtaining an education in Turkey. Students from all over the world, including those from the United States, Canada, and Australia, flock to universities in Turkey because they believe it to be a conducive environment for learning and studying. This is due to the fact that there are a significant number of students who are unable to enroll in One of the Turkish Universities because they do not have the funds to cover the costs of their education (Çelik, 2022).

The absence of a functional user interface is the primary cause of this problem. Finding your way through the system and obtaining the information you want might be a challenge. For instance, if you want to take a course, you must first locate the pertinent information, and then you must register for the course before you can really take it. This is required before you can actually take the course (Tuncay, 2022). This procedure is laborious and takes a considerable amount of time. The procedure should be simplified by the institution by implementing a user-friendly interface that makes it simpler for students to get the information they need when they need it in a more timely manner (İçen, 2022).

### **Research Questions**

1. What is the impact of system quality on Actual use in One of the Turkish Universities?
2. What is the influence of Information Quality on Actual use in One of the Turkish Universities?
3. What is the effect of Perceived Usefulness on Actual use in One of the Turkish Universities?
4. What is the influence of Perceived Ease of Use on Actual use in One of the Turkish Universities?
5. What is the effects of User Interface on Actual use in One of the Turkish Universities?
6. Is Behavioral Intentions has effects on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities?

## **Research Objectives**

- 1.To determine the impact of system quality on Actual use in One of the Turkish Universities.
2. To discover the influence of Information Quality on Actual use in One of the Turkish Universities.
3. To investigate the effects of Perceived Usefulness on Actual use in One of the Turkish Universities.
4. To analyze the influence of Perceived Ease of Use on Actual use in One of the Turkish Universities.
5. To explore the effects of User Interface on Actual use in One of the Turkish Universities.
6. To identify effects Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities.

## **Research Hypothesis**

- H<sub>1</sub>: There is a direct significant relationship between system quality on actual use in One of the Turkish Universities.
- H<sub>2</sub>: There is a direct significant relationship between information quality on actual use in One of the Turkish Universities.
- H<sub>3</sub>: There is a direct significant relationship between perceived usefulness on actual use in One of the Turkish Universities.

H<sub>4</sub>: There is a direct significant relationship between perceived ease of use on actual use in One of the Turkish Universities.

H<sub>5</sub>: There is a direct significant relationship between User Interface on actual use in One of the Turkish Universities.

H<sub>6</sub>: There is indirect effect of Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities.

## **Operational Definitions**

### **1.7.1 UTAUT Theory**

The authors of the study have proposed a theoretical framework for technology adoption, which they have denoted as the "unified theory of acceptance and use of technology" (UTAUT). The purpose of this model is to provide an explanation for the level of acceptance demonstrated by users towards information technology. The Unified Theory of Acceptance and Use of Technology (UTAUT) was formulated with the primary objective of elucidating user intentions to adopt an information system and their consequent usage behaviour. (Venkatesh, 2008).

### **1.7.2 Behavioral Intention**

It refers to the aspects of motivation that impact a certain conduct, where the greater the desire is to carry out the activity, the higher the probability that the behaviour will be carried out. Subjective norms are the beliefs that the majority of people either approve of the conduct in question or disapprove of the behaviour in question (Budu, 2018).

### **1.7.3 Quality System**



A quality system is a framework that is used by manufacturers to manage the quality of the products they produce. In order to ensure that our customers get only the highest-quality goods, our quality control procedures are quite demanding. Errors are less likely to occur in a high-quality system since the focus is on preventing them rather than fixing them after they do occur (Alvarez-Marin, 2022).

#### **1.7.4 Information Quality**

Information quality" is a measure of the value which the information offers to the user of that information. "Quality" is frequently seen as subjective and the quality of information may thus differ across users and within applications of the information (Machdar, 2019).

#### **1.7.5 Perceived Usefulness**

According to one definition, perceived usefulness is "the subjective view of users where they feel that using particular technology might enhance the performance of their task." ( Alsabawy, 2016)

#### **1.7.6 Perceived Ease of Use**

perceived ease of use is "the degree to which a person feels that utilising a certain system would be devoid of effort (Islam, 2013)

#### **1.7.7 User Interface**

User Interface is the point at which human users and computers communicate and interact with one another in a device (Al-Rahmi, 2021)

### **1.7.8 Actual Use**

Actual use is real activities that are now being carried out on the premises (Al-Rahmi, 2021).

## **1.8 Structure of Study**

The present dissertation is structured into five distinct chapters, each of which delves into a specific topic. The following is a brief overview of the key themes and arguments presented in each chapter. The introductory chapter provides an overview of the research background and presents an introduction to the study. In addition, we examine the research problem, research objectives, and the importance of the investigation. Chapter two furnishes a comprehensive review of prior studies conducted on the subject of "Evaluating the Factors Influencing the Quality of the Industrial Engineering Education System through Structural Equation Modelling." Chapter three expounds upon the research approach, sampling techniques, research tools, data collection methods, analytical procedures, and statistical tests employed in this investigation. Furthermore, the fourth chapter culminates with a succinct overview of the research results. Subsequent to this, the fourth and ultimate section presents the outcomes of the investigation that were procured through the utilisation of statistical scrutiny to the audience. This chapter is a continuation of the preceding one. The fifth chapter provides the conclusion and recommendations for further research.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter contains a review of the relevant literature for the study "Determining the Factors Affecting the Quality of the Industrial Engineering Education System using the Structural Equation Modelling at One of the Turkish Universities," which can be found in the next chapter. The theoretical framework associated with the UTUAT theory is also explained in this chapter. Additionally, it describes the connection that exists between the variables.

The primary objective of educational systems is to make pupils aware of the kinds of actions that are valued in society. The academic accomplishment of the pupils as it was done at school is the most crucial of these behaviours that are intended to be performed. The academic success of pupils and the elements that influence students' performance in science and mathematics, which are parallel to this topic, have been the focus of research for a great number of scholars.

#### **2.2. Quality Management in Education**

It is abundantly evident that the educational system in this country need a paradigm shift in order to adjust to the multiple adjustments that are presently taking place in the day-to-day lives of individuals (Kwok, 2022). These shifts may be broken down into three categories: It should be emphasised that in order for these changes to take place, it is necessary for people to adopt attitudes and behaviours that are participatory, democratic, and interactive (Powar, 2022). This is the condition under which these shifts may take place. These ones are often characterised by dynamic and worldwide movements, which are used to identify product and service characteristics, increase contact between directors, workers, and customers/users, and build alliances, networks, and

partnerships to solve issues and widen horizons (Ngonda, 2022). It has been noticed that not only educational institutions create this knowledge throughout this transformation; rather, the corporation itself requires that this change should be put into effect (Bartolomé, 2022). Due to the fact that it was used without distinction, the concept of "quality" was weakened when it came time to establish it as a fashion trend. As a direct result of this choice, businesses who have made quality a core component of their management system are able to reap the benefits of several advantages, values, and favourable results. Many academics argue that everyone must "get things perfectly the first time," but they fail to consider that different organisational systems respond differently to it. One example of this is the vast universe that encompasses the educational process (Ruiz-Cantisani, 2022).

According to the published research, evaluations, and studies, the quality of education is a highly complex phenomenon that involves multiple dimensions, and it cannot be defined solely by recognition of the variety and quantity of the components involved in this process. This is demonstrated by the research that has been cited in the academic literature (Yojana, 2022). Education is regarded as being of a high quality if it fulfils the needs of the schemes, curricular programmes, and study plans that have been set in advance, and if it also bestows onto the subject matter the due importance and worth. If Education is able to meet the expectations of both students and their parents; if educated students are able to make significant contributions in the effort to fulfil the needs of the community through collaborative problem-solving; and, Finally, if students can apply their knowledge to improve their own lives and their community (Duarte, 2022).

### **2.3. Elements that Influence the Level of Pleasure Experienced by Students in Higher Education**

Several academic inquiries have been conducted to investigate the factors that contribute to the happiness of college students. Multiple studies indicate that the academic standing or eminence of higher education institutions (HEIs) would ensure post-graduation employment opportunities for their graduates, both on an individual level, within their social circles, and in the job market (Chavan, 2022).

Kondratyev (2022) highlights the significance of underscoring several factors that have a negligible impact on an individual's happiness level, such as the accessibility of social and athletic extracurricular activities within the campus.

Previous studies have identified several attributes that potentially contribute to enhancing students' satisfaction levels. The aforementioned classification encompasses various factors, including the individual's social circle, their personal academic connection to the subject matter, as well as external attributes such as the feasibility of securing employment post-graduation, adequate fulfilment of their requirements and anticipations, and a satisfactory curriculum framework (Wang, 2022). Further research has been carried out and disseminated in scholarly publications to underscore the variables that could potentially impede the overall contentment of scholars. The most prominent issues in this category include dissatisfaction with inadequate organisation and failure to meet expectations, insufficient preparation and limited faculty dedication to their courses, and a dearth of accessibility and eagerness among faculty to address the daily requirements of their students. Ramirez-Robles (2022) identified these as the most prominent ones.

Vieira and colleagues have recently conducted a study in Brazil, which was structured according to the framework proposed by Lupi (2022). The authors employed structured equation modelling as their research methodology to examine the topic of student well-being. The researchers focused their attention on the subsequent five principles: The factors that contribute to effective course delivery include the instructor's level of engagement, the students' level of interest, the degree of interaction between teachers and students, the course requirements, and the overall organisation of the course. This work draws upon the research conducted by Obaid (2022) and subsequently enhanced by Vieira et al. as a point of reference.

## **2.4 The Implementation and Use of Technology in Educational Settings**

### **2.4.1 The influence of the instructor**

The role of the educator is often highlighted as one of the numerous factors that impact the way that technology is used in educational contexts (Calaguas, 2022). It is a commonly held belief that the teachers' opinions on the most effective way to use technology as well as their degree of technical skill constitute the single most critical factor in relation to the utilisation of technology (Al Arif, 2022). If you are not a teacher, there is no expectation placed on you to have a good attitude about technology or to incorporate it into your classroom teaching. The instructional mindset of the instructor as well as the pedagogical philosophy that is put into action are also additional factors that seem to influence the right use of technology in the classroom (Calaguas, 2022).

### **2.4.2 Aspects of the Organization**

The purpose of formal education is not to provide a solution to any specific issue; rather, it is to ease the tension caused by demands that are beyond or beyond the capabilities of traditional

authority. In a similar vein, it is obvious and indisputable that they are against any reforms that would set limitations on the current situation. This indicates that something that seems to be an obvious improvement to outsiders could be perceived as deplorably unpleasant inside an organisation if it implies that societies are required to modify their values and practises in order for it to be implemented. As new technologies become available, it will be required to make considerable alterations to the way in which lessons are taught, the amount of money invested, and even the whole structure of the educational establishment. To add insult to injury, it is argued that corporations already have a system in place that precludes widespread use of computers as a result of this basic opposition to change (Huang, 2022).

### **2.4.3 Aspects of Technology in Play**

The utilisation of electronic resources in the classroom is impacted by a variety of factors, not the least of which is the technology that is now available. The teaching methods used in the modern day need to contain conflicting viewpoints on the significant impact that technology has had on society. Because of this, educators are beginning to question whether or not the use of technology in the classroom is moral (Nikolaidis, 2022). The fact that technical advancements are always being made makes it much more challenging to stay up with the most recent advances in the relevant fields. This is due to the fact that new technology gadgets and software are constantly being introduced, making it challenging and frightening for educators to stay up with the latest developments. Because of this, teachers are less likely to embrace technology due to the inherent unpredictability of it. Technology is prone to breakdown at any time, and since teachers have limited contact time with students, they cannot afford to waste time debugging problems that they may or may not be able to fix. As a result, teachers are less likely to embrace technology. As a

consequence of this, teachers may choose not to include technology into their courses if there is not a definite demand for the usage of the technology as well as constant back-up (Zhao, 2022).

## **2.5 Online Education**

E-learning is known by various terms such as e-education, online learning, and remote learning. E-learning" is a commonly used term that refers to the delivery of educational content and training through electronic media. According to Dou (2022), e-learning encompasses a wide range of programmes and processes that utilise electronic capabilities to provide occupational education and training. Similarly, Shaikh (2022) defines e-learning as the use of various technological tools that are web-based, online disseminated, or web competent for educational purposes. It is worth noting that e-learning is also commonly referred to as "distance learning. The phenomenon of e-learning has been experiencing a consistent upward trend over the years, attributed to its various benefits such as enhanced flexibility, convenient internet accessibility, and lowered overall costs (Yilmaz, 2022). Due to the aforementioned benefits, education possesses the capability to evolve into a perpetual process of learning throughout an individual's entire lifespan. Granting students the flexibility to access lectures at their convenience and repeatedly, if deemed necessary, can facilitate better retention of the essential information required for conventional education. As per the findings of Eranıl (2022), this assertion holds true. Due to the flexibility of e-learning, which offers a remedy for individuals' familial or occupational responsibilities, it is plausible that there will be an increased enrollment of learners in this mode of education. This phenomenon can be attributed to the possibility of a surge in the enrollment of individuals in this particular form of education. In actuality, this not only benefits the students but also the educators by affording them increased autonomy in their professional endeavours. Furthermore, academic institutions are



increasingly adopting E-learning technologies to enhance communication between educators and learners, with the aim of promoting a more productive exchange of knowledge and fostering a cohesive learning community that can more efficiently achieve individual objectives (Balkar, 2022). The enhancement in communication will facilitate a more productive interchange of information amid pupils and educators. Ersozlu (2022) reports that the National Centre of E-learning and Distance Learning (NCEDL) was founded in 2005 with the support of the Kingdom of Saudi Arabia. The establishment of NCEDL involved the collaboration of at least nine different organisations. The principal aim of this significant role was to enhance the quality of the e-learning encounter that educational establishments offer by implementing and incorporating the most effective techniques of the e-learning system worldwide (Kondakci, 2022). This was achieved through the implementation and adaptation of these methods. The Learning Portal is an initiative that enables students to remotely access online learning materials, while also providing instructors with training on the utilisation of E-learning technologies. One additional initiative among these endeavours is referred to as the Digital Library. Furthermore, the centre has instituted the Award for Excellence in E-learning, aimed at incentivizing educational institutions to adopt e-learning. Presently, around 42 educational institutions are actively participating in this initiative. The establishment of this award aims to incentivize educational institutions to incorporate e-learning into their instructional practises.

In 2011, the Saudi Arabian government founded the Saudi Electronic University (SEU), which has since garnered significant enrollment in its diverse academic offerings. These programmes offer education at both the undergraduate and graduate levels. Following the aforementioned events, King Abdulaziz University has implemented a diverse range of technological resources to enhance their utilisation of the E-learning system. The purpose of these instruments is to enhance the overall

efficacy of the academic institution. The Learning Management System (LMS) is a technology that provides academic support to students in their first and third years of schooling. It offers access to a vast collection of over 16,000 electronic books and other online academic resources (Çelik, 2022). The implementation of e-learning programmes had a significant impact on the shift from traditional on-campus learning to remote learning during the COVID-19 pandemic within the education system. The necessity of this adaptation can be attributed to the swift propagation of the pandemic and the limited timeframe allotted for readiness, as noted by Prasetyo (2021).

Theoretical framework of critical realism has been adopted as a source of inspiration for our inquiry into the domain of engineering ethics education. The critical realism paradigm is a theoretical framework that endeavours to construct more advanced levels of elucidation and understanding (Ojo, 2017).

The exemplification of engineering decorum can be demonstrated through the process of ascertaining the root cause of an incident. According to Al-Rahmi (2021), the analysis of accident causation prioritises primary reasons such as production limitations, inadequate communication, and insufficient training, rather than the secondary processes that give rise to them. Their argument is based on Critical Realism. According to Fan's (2016) perspective, Critical Realism is advocated. According to Machdar (2019), when examining the social, political, or historical origins of accidents, it is necessary to situate them within the prevailing systems of economic, social, and political organisation, dominant value systems and beliefs, and the unequal distribution of power. (Kim, 2014). According to Tombs (2007), a comprehensive research of this nature ought to encompass various dimensions, ranging from individual agents to their respective surroundings. Instances of organisational factors include workplace culture and the political climate of a company.

Our approach to the complexity of education is inspired by Critical Realism, which is a philosophical school of thought (Islam, 2013). The author Brusso (2015) employs an iceberg analogy to underscore the perspective and objective of higher education policy and practise. The undisclosed frameworks are not open to discussion. The importance of contextualising engineering education data on individual attitudes and behaviours within fundamental frameworks is underscored by Gefen (2000). According to Lin (2012), it is imperative that the curriculum of higher education is aligned with the socio-cultural context and facilitates in-depth analysis. It is believed that this warrants a comprehensive investigation. The impact of social factors on behaviour has been frequently overlooked in higher education research, as noted by Brusso (2015).

The present study delves into the pertinent literature by examining four levels of analysis, namely the person level (instructors and students), institutional level (engineering programmes, departments, or colleges), policy level (national accrediting organisations), and the broader cultural environment in which engineering education is situated. The study explores the fundamental characteristics of each level and their interrelationships. The utilisation of a multi-level approach enables the mitigation of certain constraints associated with research in higher education. Typically, such research concentrates either on singular agents such as instructors or students (Abraham, 2019), or on policy and practise without scrutinising the underlying paradigm and purpose (Botero, 2018). According to Alsabawy's (2018) research, ... Our analysis employs a multi-level approach that situates individuals within their respective socio-cultural, institutional, and policy contexts. Our objective is to establish a correlation between the outcomes of engineering ethics education and the discourse surrounding the existing engineering education paradigm, as posited by Rafique (2020). Transparency in reform programmes and engineering education is a significant concern. The objective is to formulate a socio-technical perspective of

the engineering ethics syllabus and establish a basis for discussion on systematic approaches to transforming engineering ethics instruction. The attainment of dual objectives can be accomplished through the establishment of a foundation.

In order to conduct a comprehensive review of literature pertaining to undergraduate engineering ethics education, Włodarczyk (2020) utilised the fundamental collection of the Web of Science.

By implementing keyword search strategies, relevant sources were identified. Further investigation was conducted by examining highly cited articles to explore additional information. The purpose of this endeavour was to locate additional scholarly works pertaining to the subject matter, albeit lacking the precise amalgamation of keywords within the title or abstract, as posited by Al-Zuhairi (2022). This ensured a thorough investigation. Subsequent to the preliminary inquiry, a secondary search was conducted on the engineering education journals and conference proceedings with the highest circulation. The primary researcher conducted a comprehensive search of the Journal of Engineering Education, European Journal of Engineering Education, and Science and Engineering Ethics databases, specifically targeting works that contained the term "ethics" in their respective titles, abstracts, or keywords. The author conducted an examination of the websites of the annual conferences of the American Society for Engineering Education and European Society for Engineering Education, as reported by Torkayesh (2022).

During the information acquisition phase, it was observed that a significant proportion of the existing literature was exclusively disseminated in the English language. This led to some confusion on our end. Furthermore, a disproportionate amount of research has been carried out within the geographical and cultural boundaries of the United States, the United Kingdom, Australia, and Western Europe, thereby neglecting potentially pertinent studies conducted in other national and cultural settings (Elhroud, 2021). The study was carried out within the framework

of the United States, the United Kingdom, Australia, and Western Europe. The foundational research conducted in our study pertaining to engineering ethics education may not precisely mirror the perspectives and methodologies employed by educational institutions and instructors. The research conducted in our study is of paramount importance. Although not comprehensive in its coverage of teaching and institutional attitudes and practises, extant research can serve as a reliable indicator of the challenges and status of engineering ethics education (Kim, 2019). Finally, it was only the accrediting agencies that conducted an investigation of policy participants. Due to its utmost significance, it was constrained. Therefore, the disregard of state ministries and financial organisations was observed (Kutty, 2021). This article will make a brief reference to accrediting organisations in order to demonstrate the scope of our journal's coverage in a modest manner. The significance of this regulatory entity cannot be overstated in the context of global engineering education, as per Tumsekali (2021). Our focus will be exclusively on accrediting bodies. The impact of accreditation on engineering education extends beyond national borders, although other policy stakeholders may have limited jurisdiction within specific regions. The impact of accreditation on engineering education is observed in various countries. The process of obtaining certification is contingent upon the prerequisites established by the engineering professional community, as noted by Korkmaz (2022). Insufficient research has been conducted on the prevalence of individual learning objectives in engineering ethics education, as well as the instructional techniques and resources that may be employed to attain them. Consequently, there exist numerous obstacles in regards to aligning the curriculum (Akin Ateş, 2022). The overarching theoretical frameworks commonly employed to conceptualise engineering ethics education fail to fully comprehend the potential of specific learning objectives in imparting knowledge to students regarding the social responsibility of engineering. Insufficient awareness regarding the effective

implementation of distinct learning outcomes to elucidate the social accountability of engineering to learners exacerbates this issue, as noted by Wang (2007).

The classification of learning objectives can be delineated into various ethical frameworks, including microethics, macroethics, virtue ethics, value responsive design, and feminist ethics of technology, as posited by Broo (2022).

According to Benz-Camino (2022), the microethical paradigm places significant emphasis on the responsibility of engineers. According to Salinas-Navarro (2022), Microethics is commonly grounded in the ethical principles of engineers, with engineers functioning as autonomous agents. This statement provides a definition of microethics. The primary objectives of this initiative are to foster students' professional accountability through familiarisation with relevant professional regulations and ethical discernment, as well as to expose them to situations that require ethical decision-making (Al Husaeni, 2022). According to Zhuang (2022), it is widely accepted that this theory holds a dominant position in the realm of engineering ethics education.

According to Alvarez-Marin (2022), the macroethics paradigm calls for the engineering profession to concentrate on its contribution to technological advancement. Kwok (2022) emphasises the significance of engineers' cooperation and the role it plays in the technical decision-making of society. The aim of this study is to examine the impact of the engineering environment on the ethical conduct of engineering organisations, as noted by Powar (2022). Ngonda (2022) posits that an additional macroethical goal is the advancement of technology that is both democratic and equitable. Bartolomé (2022) has been cited. According to Ruiz-Cantisani (2022), virtue ethics places significant emphasis on an individual's moral qualities, practical judgement (phronesis), and sensitivity to their surroundings to effectively navigate unique situations. The ethical framework of virtue ethics is centred on the cultivation of moral character in decision-making agents, with the

aim of influencing the conduct of engineers. According to Yojana (2022), virtue ethics places greater emphasis on the cultivation of virtuous character traits than on engineering decisions, actions, and outcomes. Virtue ethics posits that it is imperative to assist upcoming engineers in cultivating virtues that augment educational methodologies that prioritise morality and its ramifications. According to Duarte (2022), the application of virtue ethics can facilitate the effective communication of technical proficiency, encompassing risk awareness, comprehension of the societal implications of technology, reverence for the natural environment, and allegiance to the common welfare. Chavan (2022) has conducted research into the exploration of virtue-based pedagogical approaches that aim to foster ethical sensitivity, awareness, analysis, and judgement among engineering students. Bowen (2009) asserts that engineering has a positive impact on the quality of life of individuals, the well-being of communities, and the vitality of ecosystems. The engineering philosophy of Bowen is founded upon this particular theory. As per Bowen's perspective, engineering has the potential to enhance the quality of human life, promote societal prosperity, and augment the vitality of the eco-system. The incorporation of virtue-based engineering education into the curriculum may facilitate the development of "virtuous engineers" among students. Such individuals would possess the capacity to assume accountability for the integration of human performance and practical judgement in order to enhance the material well-being of society at large. The attainment of safety, sustainability, and efficiency can be realised through the objective, meticulous, and truthful assessment, administration, and dissemination of risk. According to Kondratyev (2022), the personas of "virtuous engineers" may manifest among students.

Value-Sensitive Design is a theoretical framework that presents a challenge to traditional engineering curricula by integrating ethical considerations at both local and global levels. The

aforementioned is an instance of value-sensitive design (VSD). Value-Sensitive Design (VSD), a concept introduced by Wang (2022) and widely adopted in the Netherlands, employs the principles of philosophy of technology and Science and Technology Studies to integrate ethical evaluation of the environmental impact of technological artefacts with ethical decision-making at every stage of the design process. Ramirez-Robles (2022) noted that this action was taken to acknowledge the Dutch roots of VSD. This pedagogical approach facilitates students' comprehension of the broader impact of technological artefacts beyond their utilitarian purposes. This approach to learning is expected to be comprehended by the students.

Lupi (2022) asserts that it is imperative to clearly articulate the objectives of education and the feasible means of evaluation, in light of the variations in the pedagogical approaches to instructing applied ethics.

2022). Nonetheless, it is important to underscore that the alignment of objectives with pedagogical approaches remains a deficiency in the current state of ethical education, which poses a challenge in ensuring their proper evaluation. The evaluation of ethics is complex, given the limited exposure to assessing and grading the ethical aspects of engineering courses, as well as the absence of established criteria for evaluating non-technical domains. The aforementioned concerns arise from the incapacity to evaluate engineering ethics, as posited by Calaguas (2022).

In the realm of engineering ethics education, it is common practise for instructors to utilise a pair of evaluative techniques per course, with a grading scale spanning from 0 to 4. According to Al Arif (2022). According to Huang (2022), customary methods of assessment include rubric-based tasks and reflective essays. Nikolaidis (2022) asserts that group projects, presentations, and portfolios are commonly employed as assessment modalities. Nonetheless, ethical considerations are frequently overlooked or evaluated in a binary manner (Dou, 2022), and certain educators have



reported that they refrained from scrutinising their students' grasp of ethical principles (Zhao, 2022).

Shaikh (2022) recommends that educators who lack familiarity with engineering ethics should employ diverse assessment techniques, as this is associated with individual expertise. The challenge of evaluating students' ethical conduct is underscored by Oktari's (2022) analysis. Xu (2022) notes that while humanities faculty assess students' assignments and offer constructive criticism, technical faculty tend to view ethics as a personal and subjective matter. The assessment of case study topics can pose a challenge due to their lack of a defined structure, as noted by Latorre-Coscolluela (2022).

As a result of the aforementioned difficulties, various evaluation techniques such as standardised tests, grading criteria, and other forms of assessment have been formulated. Various assessment tools have been developed to evaluate students' ethical reflection maturity (AL-Nuaimi, 2022), the influence of formal and informal ethical experiences on their conduct (Alenezi, 2022), their perspectives on social responsibility (Kakemam, 2022), their moral sensitivity (Atchia, 2023), and their capacity to resolve ethical predicaments. According to Peyma (2022), these instruments assess characteristics.

Yilmaz (2022) posits that assessment instruments offer the advantage of furnishing instructors with valuable feedback for the purpose of refining curriculum and allocating future teaching resources. According to Eranil's (2022) research, the employment of standardised assessment techniques by instructors in their classes was absent due to their lack of awareness regarding their accessibility. Limitation. It is plausible that educators may not receive adequate training to effectively instruct on ethical principles. According to Balkar (2022), standardised examinations are both time-intensive and inapplicable to diverse student populations. Ersozlu (2022) argues that standardised

testing lacks a middle ground in terms of its ability to yield comparable outcomes across diverse courses while also assessing the specific knowledge acquired in a particular course. As no assessment can simultaneously encompass a wide range of topics while also being highly specific.

The assessments of ethical dilemmas in standardised exams are indicative of the positivist culture of technology. Another salient feature is that contemporary standardised assessments prioritise Western culture. The tests in question were formulated within the United States and may not fully consider cultural practises in other nations or the personal characteristics of respondents that are influenced by socioeconomic status, cultural background, race, or gender (Kondakci, 2022). Standardised assessments do not encompass feminist and value-based design objectives.

## **2.6. Structure Equation Modelling (SEM)**

Çelik (2022) notes that Structural Equation Models (SEMs) are designed to incorporate various statistical elements such as independent and dependent latent variables, measurement errors, multiple parameters, reciprocal causation, simultaneity, and interdependence.

Structural equation models are utilised to tackle concerns in various fields such as marketing, sociology, psychology, econometrics, and education, as noted by Tuncay (2022).

Structural equation modelling is a commonly employed statistical technique in the field of education research. The study conducted by İcen (2022) aimed to assess satisfaction models pertaining to loyalty, perceived quality, value, and expectations in the context of higher education. The findings of the study, which employed structural equation modelling on a sample of 604 customer responses, suggest a significant positive relationship between customer satisfaction and customer loyalty. This provided evidence for their causal relationship.

The study conducted by Aydin (2022) employed structural equation modelling to evaluate the impact of key administrative practises on higher education institutions. Examples of key areas that are critical to the success of an educational institution include vision, mission, leadership, governance, teacher recruitment and qualification, infrastructure, and curriculum.

Bozkurt (2022) has developed and verified a satisfaction model for students attending private schools in Southern Brazil. This theoretical framework takes into account various factors such as visual representation, perceived excellence, perceived worth, anticipated outcomes, allegiance, and interpersonal communication. The study employed the technique of structural equation modelling to develop a predictive model. The approach utilised in this study is founded on the ECSI (Enterprise Customer Satisfaction Index). Based on the available data, it can be inferred that the reputation of a university has a positive impact on the levels of happiness, dedication, and enrollment among students. The confirmation of the aforementioned has been verified.

Sunata (2022) suggests that the model is commonly employed in scenarios where the phenomenon being studied is defined in terms of variable causes and effects. Hence, every equation within the model signifies a causal connection, rather than a mere observational correlation among the variables. The reason for this is that the model is founded upon a mathematical depiction of the universe. The author considered the structural parameters that delineate the methodological characteristics of the process, which account for the observed variables.

Deniz (2022) posits that structural equation modelling (SEM) can be conceptualised as a progression beyond multiple regression within the field. The rationale behind this is that regression analysis is primarily concerned with forecasting a solitary dependent variable, while structural equation modelling (SEM) deals with the prediction of multiple dependent variables. Hence, the foremost consideration with regards to this approach should be the arrangement of the variables.

The impact of X on Y is demonstrated in regression, while SEM reveals that X has an impact on Y and Y has an impact on Z. Kesik (2022) and Mercan Küçükakın (2022) emphasise that an inquiry into the application of SEM can yield two main outcomes. At the outset of the process, a preliminary estimation of the magnitude of the established effects between variables is conducted. The accuracy of these estimations is significantly compromised in the event of an imprecise model (diagram). Secondly, there exists the possibility to determine the appropriateness of the model for the validated data. When the data and model exhibit consistency, it is plausible to assert that a viable interpretation has been achieved. Nonetheless, such consistency does not serve as conclusive evidence for the accuracy of the interpretation.

According to Şahiner's (2022) exposition, path analysis is closely linked to models that exhibit unidirectional causal flow and that feature reliable measurements for each conceptual variable. The aforementioned presumption leads to a logical expectation that there will be an absence of errors in both the measurement and specification of the variables. Stated differently, it is deemed that every measurement represents a precise manifestation of the hypothetical construct. In the realm of social sciences, it is imperative to recognise that positing a reliability rate of 100% is an impractical proposition.

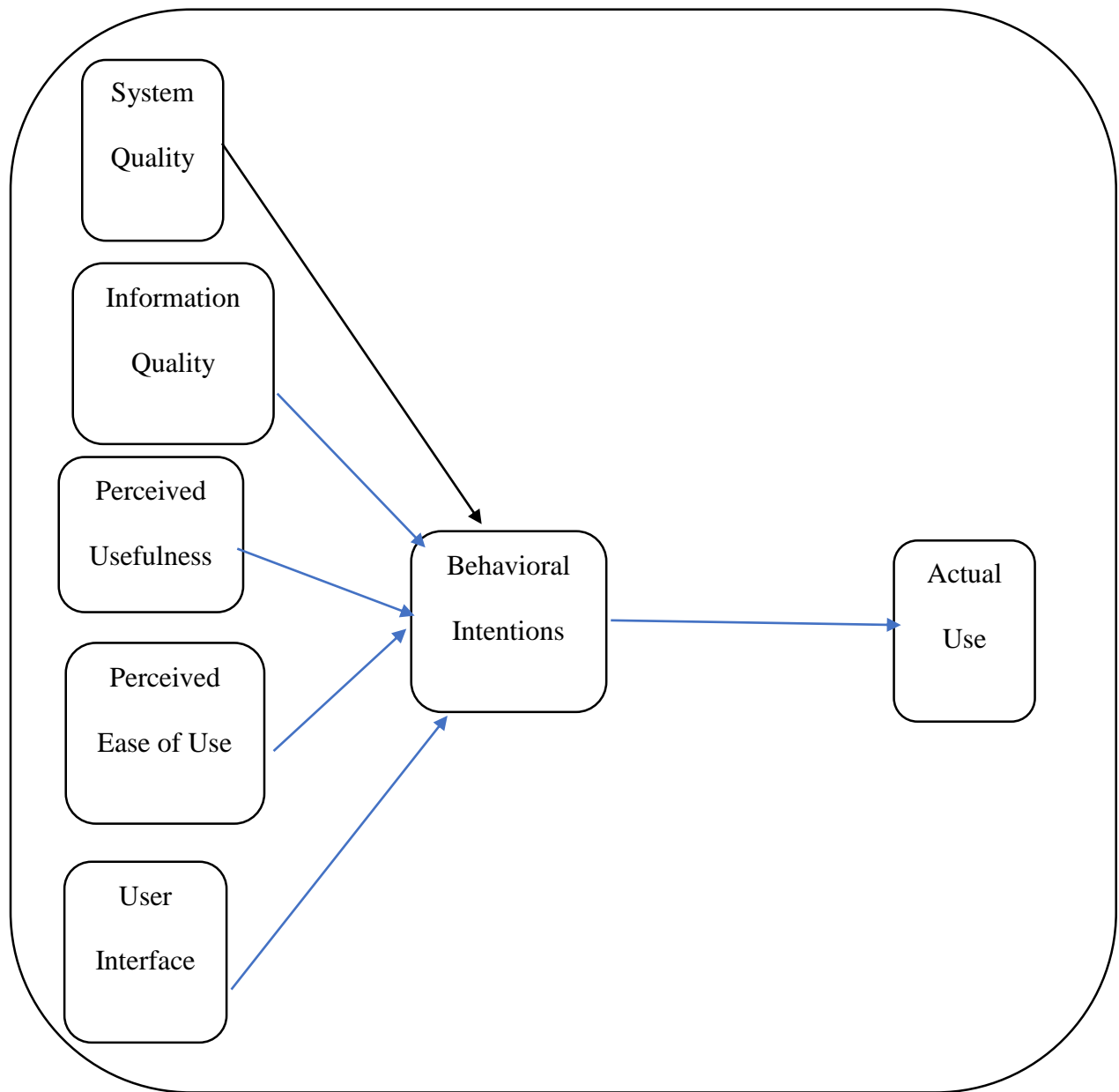
Vidal (2022) asserts that the utilisation of SEM methods necessitates the formulation of a conceptual model that elucidates the interrelationships among a set of variables. Consequently, the theory undergoes a transformation and becomes the fundamental cornerstone of this particular methodology. Theoretical framework provides estimates of the relative strengths of all postulated linkages through the use of structural equation model (SEM). Furthermore, extant literature pertains to the examination of the impact of a single variable on another as well as the association

between the direct and indirect effects of an intervening or mediating variable situated between two other variables (Can, 2022).

As per Hair's (2022) assertion, structural equation modelling (SEM) is a confirmatory analysis technique that is primarily guided by theoretical considerations rather than empirical evidence. According to their statement, the theory provides the justification for nearly all aspects of SEM.

## **2.7 Research Framework**

It is vital to have an understanding of the elements that influence the quality of engineering education in order to make improvements to it. According to the research that has been done so far, the quality of engineering education is defined by a variety of different characteristics, some of which include the employability of graduates, the number of graduates that are produced each year, and the level of student satisfaction. According to the results of this research, the primary characteristics that have the most influence on the standard of engineering education are the annual graduation rate as well as the percentage of students who graduate from engineering programmes who are female. However, there is potential for additional progress with respect to the other two aspects given that the proportion of female students is lower and the number of graduates each year is fewer when compared to that of other industrialised nations.



**Figure 2.1: Research Model**

## **2.8 Relationship Between Variables**

### **2.8.1 The Relationship between Quality system and Actual Use**

Wang (2022) posits that there is a lack of empirical evidence to support the association between system quality and user perception of ease of use. This is despite the fact that the relationship was hypothesised to exist. It is suggested in (Ramirez-Robles, 2022) that the lack of support system quality frequently helps to have a positive influence on the system and the comprehension of an e-learning system among users of the system. This is because users of the system are more likely to benefit from the absence of support system quality. This is consistent with what was said in the prior sentence. When using a system, it is important to take into account how simple it is to use. In addition, given the existence of communication tools such as forums, messages, and email, the data from messages and forums might transmit the opinions and personal data that a student would not want to be recognised from the outside world by means of internet service providers. This is something that a student would not want to happen. Therefore, explaining everything before they use the technology or the system will raise their level of understanding, which will result in a significant shift in their attitudes towards the system's general applicability (Lupi, 2022). As a consequence of this, our working hypothesis is as follows:

**H<sub>1</sub>: There is a direct significant relationship between system quality on actual use in One of the Turkish Universities.**

### **2.8.2 The relationship between information quality and Actual Use**

Numerous prior studies have discussed the correlation between information quality and its practical utilisation. The efficacy of information and the e-learning environment is contingent upon the quality of the information provided. The significance of information in attaining educational

objectives and surmounting the significant obstacles that have arisen due to substandard information quality has been highlighted by Ngonda (2022). This position is of utmost importance as the information in question possesses a substandard level of quality. Furthermore, Kwok's (2022) findings reveal a noteworthy association between the calibre of information and its perceived usefulness, as reported by Ruiz-Cantisani (2022). Consequently, it can be inferred that enhancing the quality of information presented in an online learning environment has the potential to positively impact the perceived usefulness of the information. Consequently, the hypothesis that we propose is as follows:

**H<sub>2</sub>: There is a direct significant relationship between information quality on actual use in One of the Turkish Universities.**

### **2.8.3 The Relationship between perceived usefulness and Actual Use**

Several studies reveal that there is a direct relationship between perceived usefulness and actual use. One of the most helpful characteristics of an online meeting platform is its ability to maintain its role as an interactive environment for a wide variety of participants. Students were motivated to continue their use of online meeting services as a result of these experiences (Duarte, 2022). According to Chavan (2022), the point at which a human being takes control of a piece of technology or a system is referred to as the user interface. In addition, it was found that the implementation of the features makes students more interested in the material. The qualities would, in the long run, make the user more appealing while also reducing the amount of time required for the contents to load in both waiting and response time (Kondratyev, 2022). In light of this, our hypotheses are as follows:



**H3: There is a direct significant relationship between perceived usefulness on actual use in One of the Turkish Universities.**

#### **2.8.4 The Relationship between Perceived Ease to Use and Actual use**

The existing literature suggests a positive correlation between the perceived ease of use and the actual usage of a system. The concept of perceived ease of use refers to an individual's belief or acceptance that the utilisation of a system would be effortless. As per Wang's (2022) findings. It gives a description of a person's behaviour with relation to their interaction, which will work as a mediator between the actual use of the system and the conduct of the individual. In addition to this, the end-perception user's intention of using a technology has been assessed by the end-behavioral user's impression of how simple it is to utilise a technology (Ramirez-Robles, 2022).

**H4: There is a direct significant relationship between perceived ease of use on actual use in One of the Turkish Universities.**

#### **2.8.5 The Relationship between User Interface and Actual Use**

In literature, there many studies reveals that there is a direct relationship between user interface and actual use. Obaid (2022) revels that there is a positive relationship between adoption in E-learning system. The previous study also used in structure equation modelling to measure the effects of the factors on E-learning system. Calaguas (2022) used the same variables. The result of Calaguas (2022) study is there is a positive direct relationship between user interface and actual use. Al Arif (2022) also used structure equation modeling and the same variables. Hence, the suggested hypothesis as a following statement;

**H<sub>5</sub>: There is a direct significant relationship between User Interface on actual use in One of the Turkish Universities.**

### **2.8.6 The relationship between Behavioural intention and Actual Use**

The term "behavioural intention" refers to the end result of a behaviour that is carried out by an individual as a direct consequence of the experiences that the individual has had. This definition discusses the changes that take place in a person as a result of having an experience. refers to the components of motivation that have an influence on a person's choice to carry out a behaviour in the future or to refrain from carrying out the activity altogether. In addition to this, Botero and colleagues (Islam , 2012) discovered that the behavioural intention of a person had a positive impact on the actual utilisation of the behavior (Brusso, 2015; Budu, 2018). This connection between the two has been established via studies that concentrate on the use of technology in educational settings. As a direct consequence of this, it is projected that the use of online meeting platforms will be of higher benefit if the perceived ease of use of these platforms is regarded to be of a larger degree. Consequently, because of the fact that. The following is our working hypothesis:

**H<sub>6</sub>: There is a direct significant relationship between behavioural intention on actual use in One of the Turkish Universities.**

### **2.8.7 The effect of Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities**

When it comes to the process of gaining technology acceptance, one of the various models that apply to the adoption of technology that is used is called the Extended Technology Acceptance Model (or simply ETAM for short). The concepts of perceived utility (PU) and perceived ease of use (PEU) are presented in this article with the purpose of quantifying the user's intentions to utilise

technology(Budu, 2018). The term "perceived utility" is abbreviated as "PU," whereas "perceived ease of use" is abbreviated as "PEU." According to Brusso (2015), TAM shows that the two components, PE and PEU, affect the attitudes of the students and their desire to use a new application, system, or technology. These attitudes are impacted by the students' willingness to use a new application, system, or technology (Islam, 2012). Because of this, the mental state of the students has an influence on the intentions that they have for their behaviour that they plan to utilise. According to Brusso (2015), perceived usefulness is regarded as a key aspect of intention, and it is this factor that convinces consumers to embrace a technology that is more advanced and user-friendly (Lin, 2012). As a result, the goal toward the use of the online meeting platforms will be more fruitful if the perceived utility of the online meeting platforms is greater. As a consequence of this, the following is the hypothesis that we have:

**H 7. There is indirect effect of Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities.**

## **2.9 Chapter Summary**

The present chapter provides a comprehensive overview of the pertinent literature and establishes the theoretical framework for the structural equation modelling investigation on the quality of industrial engineering education at One of the Turkish Universities. The present chapter additionally addresses the concept of variable links. Theories of association are also referenced.

## **CHAPTET THREE**

### **RESEARCH MEHODOLOGY**

#### **3.1 Introduction**

This chapter gives a description of the research methodologies and processes that were used in this study, and it does so within the framework of this chapter. In addition to this, it offers an overview of the methodological framework that was used throughout the whole process of data collection and analysis for this research. The framework in question was employed to ascertain the appropriate methodology for data collection in the present study. The present chapter provides a comprehensive account of the methodology and strategy employed in the current investigation. The composition of the investigation encompasses both the methodology employed in the study and the type of analytical approach utilised. Furthermore, it delineates the specific methodology to be employed and justifies the rationale for selecting this particular approach to inquiry. In addition to this, it establishes the boundaries of the investigation as well as the unit of analysis. It provides a comprehensive description of the study's population as well as the study's sample. In addition to this, it describes how the research sample should be used. The kind of analysis performed on each variable will be decided based on the methodology of the study. It is helpful in determining the conclusion that may be drawn from the results of the connection between variables.

The methodology presents the theory, the philosophy, the choices, the time horizons, the procedures, and the tactics (Abraham, 2019). The research technique is what ultimately decides how the study questions and goals will be accomplished. In addition, the research methodology is a technique that is correctly established and carefully followed for project management, which gives

a definite assurance that the task will be completed on time, within the budget, and according to the requirements (Alsabawy, 2016).

### **3.2 Research Design**

According to Snyder (2019), the concept of "research" pertains to the systematic and structured utilisation of the scientific method in the investigation of various topics. To be more specific, the scientific method includes the formulation of hypotheses that are led by observation, the deduction of implications of the hypotheses, the testing of implications, and the confirmation or disconfirmation of the hypotheses. All of these steps are performed in order. On the other hand, the foundation of a hypothesis is the description of particular behaviours, phenomena, or events that take place. In the course of this inquiry, the inductive chain of reasoning will be utilised to derive hypotheses on the basis of the existing body of research. In terms of the research design, its goal is to make it possible to conduct an analysis of the research problem, and this is accomplished by developing a research process that provides a particular response to certain questions. The research design's goal is to enable research issue analysis. The disposition and precondition of the research questions and research goals determine whether to use the quantitative or qualitative technique (Kwok, 2022). In terms of the different types of research, (Kim, 2019) has categorised them according to the purpose of the research, and the categories are descriptive research, exploratory research, and exploratory descriptive research. In the scope of this investigation, we will use a quantitative descriptive survey design as our methodology. Quantitative research, to be more specific, is the process of collecting and analysing numerical data with the goals of justifying, predicting, or otherwise controlling a phenomenon of interest (Kim, 2019). In this investigation, multiple research objectives are satisfied by means of a single survey. Therefore, there is a

particular method for collecting data for each questionnaire, and this method is described in greater detail.

The methodology of quantitative research was utilised for this study. The quantitative research approach is superior to other approaches in terms of providing strong empirical justification. An approach to research known as quantitative research measured primary data of a high quality to represent the relationship between variables. Consequently, the primary data make it possible to accurately represent the characteristics. In addition to this, the technique of quantitative analysis makes it possible to present the findings using tables and figures. Many researchers, particularly academics, specify quantitative research methodology. The research definition, which is utilised for working with statistics and determining the quantitative link between variables, is the one that is preferred the most. A technique to study known as quantitative research makes it possible to provide answers to queries about connections by using variables that can be measured, with the goals of illustrating and predicting. The quantitative research methodology provides for the illustration of a limited number of factors and their consequences. In addition, the quantitative research technique enables researchers to use data acquired on the basis of a hypothesis and to analyse those data in accordance with theory (Kim, 2019).

The scientific method is used to define the process of creating the research hypothesis as well as the implications and deductions associated with the hypothesis. The descriptions of certain behaviours and phenomena are at the centre of the study hypothesis. Following the completion of the literature review, this research will next proceed to identify the logical inductive reason for constructing hypotheses. The study design's objective is to identify the issues that need to be investigated and to make an effort to locate potential solutions to those issues (Elhmoud, 2021). Both descriptive and exploratory research rely on a set of predetermined study goals. For the sake

of this investigation, a quantitative descriptive survey will serve as the method of choice. The design of the research elucidates the overarching strategies that have the potential to influence the approach in a consistent and logical manner. As a result, this ensures the causes that acquire in order to solve the research challenge. The methodology of quantitative research was used for this investigation (Torkayesh, 2022). This approach is useful for answering particular queries about relatively well-defined phenomena.

### **3.3 Research Population**

The population of the study as well as the sample may be seen in Table 3.1. According to the students of One of the Turkish Universities in Turkey (One of the Turkish Universities website, 2022). 550 people make up the population under research, and 226 people were randomly selected to participate.

According to Snyder (2019), a research population is often a sizable group of persons or items that serve as the major focus of a scientific inquiry. Keep in mind that the primary goal of research is to benefit society as a whole. This is a very essential consideration. If the population is too large, testing each individual in the population may provide correct findings; however, testing each individual would be extremely costly and take a lot of time. If the population is small, testing each individual would not be a problem. According to Sekaran (2022), the use of sample methodologies is the most realistic course of action to take. Confirming the size of the sample would take place at this point. The size of the sample would be determined by factors such as the degree of precision required, the number of variables included in the research, and the statistical methods that were used. The population of this research consisted of every single licenced university student who attended the university.

### 3.4 Sample of Study

The research's population has also been taken into account while designing the sample for the study. In addition, a random sample that is stratified is used for this investigation. According to Snyder (2019), a stratified random sample is a method that ensures all portions of the population are represented in the sample in order to maximise its effectiveness. This enables the researcher to minimise the number of potential samples to those that are "least extreme." The goal of a research may be determined via the process of sampling by selecting the individuals who will take part in the investigation. This is owing to the fact that the individuals selected are representative of the whole population to which they belong (Snyder, 2019).

**Table 3.1:** Population and Sample of Study

Sample of Study	Population of Study	Sample of Study	Population of Study
226	550	10	10
242	650	28	30
269	900	59	70
285	1100	86	110
322	2000	118	170
352	4000	136	210
361	6000	152	250
375	15000	186	360
382	75000	201	420
384	1000000		

**Source:** *Sekaran (2022)*

This research used the Thompson (2017) method to determine the size of the sample.



$$\text{Sample Size (N)} = n * t(t-1)/n-1 * (k^2/m^2) + t(1-t)$$

While (N) stands for the total number of people in the research population, (n) represents the size of the population overall and reaches 600, and (t) stands for the probability value and equals 0.50, And k represents the error rate, which is equal to 0.05, while m represents the standard degree that corresponds to the level of significance of 0.05 and the confidence level of 0.95, which is equivalent to 1.96. This is the technique for selecting samples using a stratified random sample.

$$N = 550 * 0.5(0.5-1)/600-1 * (0.05^2/1.96^2)$$

$$+ 0.5(1-0.5)(1-0.5)$$

$$N = 226$$

The number of people in the sample, denoted by the symbol "N," was 234, and the outcome of the Stephen Thompson equation from 2017 was a research sample that was represented in the tables of statistical packages for Serkeran (2022).

**Table 3.2: Content of Population**

Population of Study	Population of Study	Percentage of Sample of Study	Sample of Study
Total students In One of the Turkish Universities	550	100%	226

### 3.5 Research Instruments

One of the most essential things to do before starting to organise the survey questions is to first draught instructions that are clear and simple to adhere to. This is one of the most critical parts in the process. In order to do this, the questionnaire will also include a cover page that will provide a shortened description of the study's objective as well as the study's title. This will allow the

aforementioned goal to be accomplished. In addition, respondents get a permission page with information about anonymity and confidentiality, the method and dangers, respondent rights, the expected time to complete the questionnaire, the reward, and contact information. The questionnaire will serve as the main instrument for collecting responses to the research questions. The questionnaire that was used for this study had a total of 28 questions and was split up into two principal parts. Each of these sections was labelled with its own heading. In addition, the questionnaire was composed in its first version, which was written in English. In addition to that, a reasonable amount of expertise has been used to analyse and make adjustments to the questionnaire. One of the most essential things to do before starting to organise the survey questions is to first draught instructions that are clear and simple to adhere to. This is one of the most critical parts in the process. In order to do this, the questionnaire contains not only of the questions themselves, but also of a cover page that provides a brief summary of the study's objective in addition to the study's title. In addition to this, respondents are provided with a consent page that contains information regarding anonymity and confidentiality, the procedure and risks, respondent's rights, the estimated amount of time required to complete the questionnaire, a description of the incentive that is being offered, as well as contact information. A Likert scale with points ranging from 1 to 5 was included in the survey's questioning. Respondents to a Likert questionnaire are prompted to indicate the extent to which they agree with a given statement while responding to an item on the questionnaire.

Table 3.3. The construct and measurement items.

Construct	Item	Measurements	References
System Quality	SQ1	The online meeting tool is user-friendly in my experience.	Prasetyo (2021)
	SQ2	The online meeting platforms allow for flexible communication, which is something I appreciate.	
	SQ3	When it comes to using the services and functions offered by the online meeting platform, I have no concerns.	
	SQ4	I am able to communicate with online meeting platforms in a way that is transparent and easy to grasp.	
Information Quality	IQ1	Insightful data is provided via online meeting platforms, which I find very helpful.	Ojo (2017)
	IQ2	Online meeting platforms provide just the information I want.	
	IQ3	Online meeting platforms give me with information and well-organized content.	
	IQ4	Platforms for virtual conferences offer information and content that is current in real time.	

Perceived Usefulness	PU1	In this time of pandemic, the utilisation of online meeting platforms is really helpful.	Al-Rahmi (2021)
	PU2	The use of online meeting platforms has helped me become more productive in my academic endeavours.	
	PU3	Online Meeting systems make it easy to study through remote learning	
	PU4	Online meeting platforms help me do better in school.	
Perceived Ease of Use	PEU1	Online meeting platforms are simple to utilise in my opinion.	Machdar (2019)
	PEU2	Online meeting platforms let me feel at ease.	
	PEU3	Online meeting platforms enhance my academic performances	
	PEU4	I find online meeting tools to be far more convenient to utilise.	
User Interface	UI1	User-friendly features are available in online meeting platforms.	Lin (2012)
	UI2	The platform has a lot of useful features that all work together well.	
	UI3	When possible, I'd prefer virtual meeting spaces.	

	UI4	If I had to employ this approach, I'm sure I'd pick it up quite rapidly.	
Behavioral Intentions	BI1	I'm inspired to start holding more meetings in virtual spaces.	Brusso (2015)
	BI2	I propose utilising a web-based meeting place.	
	BI3	In order to save time and travel expenses, I am willing to hold all of next year's meetings online.	
	BI4	There is a good chance that I will employ online meeting platforms.	
Actual Use	AU1	When we have meetings utilising online meeting tools, I believe we all take in more information.	Abraham (2019)
	AU2	To hold online meetings, I believe that everyone has access to high-speed internet.	
	AU3	I believe that everyone has access to a suitable setting in which to utilise digital tools.	
	AU4	The use of virtual classrooms and conference rooms adds a new dimension to distance education.	

### 3.7 Pilot Of Study

Because a pilot test is an experimental study that is carried out to enhance specific research instrumentations (Snyder, 2019), it is often considered to be an essential stage in the process of constructing measurement scales. Researchers would also be able to detect vulnerable locations and forecast when instruments might break down with the use of this test. Therefore, conducting a pilot test to verify the reliability and validity of the measures being utilised will certainly result in an improvement in the overall quality of this research. In the sections that follow, we will go into further detail on the details of the content validity and initial reliability studies that were carried out during the pilot test of the instrument.

Table 3.4 **Pilot Of Study**

Main Variables	Items Numbers	Chronbach Alpha
System Quality	4	.701
Information Quality	4	.711
Perceived Usefulness	4	.721
Perceived Ease of Use	4	.700
User Interface	4	.731
Behavioral Intentions	4	.705
Actual Use	4	.704
<b>Total Chronbach Alpha</b>	<b>28</b>	<b>.728</b>

### **3.8 Factor Analysis**

In addition, respondents get a permission page with information about anonymity and confidentiality, the method and dangers, respondent rights, the expected time needed to complete the questionnaire, the reward, and contact information. This is accomplished by providing an outline of the common underlying dimensions that are referred to as factors. In addition, the factor analysis is carried out to determine the inter-relationship (correlation) structure among multiple items. In terms of this study specifically, the factor analysis will most likely be completed in the first place. 1) investigate the construct validity of the measuring concept (Prasetyo, 2019); 2) reduce the number of variables; and 3) investigate the structure in the relationship between the variables by developing terms for a set of highlighted dimensions. According to Kutty (2022), the factor analysis is a technique that can be implemented to either lessen the amount of data or learn more about the structure. The two types of factor analysis that are utilised the most frequently are the Exploratory Factor Analysis (EFA) and the Confirmatory Factor Analysis (CFA). To be more specific, the latter is typically used to determine the underlying dimensions of a group of constructs that were evaluated by a specific instrumentation (Kutty, 2022) and to summarise a set of structure variables. On the other hand, the latter will be used to confirm a theory that is concerned with the composition of a particular domain's structure (Hair, 2022). Because of this, the techniques of factor analysis used in this study should be able to identify and investigate the fundamental aspects of a group of variables, and the EFA is seen as being suitable for the accomplishment of this objective because it is able to identify and investigate the fundamental aspects of a group of variables. The exploratory factor analysis (EFA) that is being used for this research will use the principal components approach in order to carry out the necessary calculations in order to determine the size of the instrument that will be used. Principal components analysis generates

uncorrelated linear combinations of observable variables via factor extraction. A technique does this. This analysis must be done initially to identify the most essential data points. To get the basic factor structure, Items Removal and factor extraction were iterative (Elhמוד, 2021; Kutty, 2022). The first component has the most variation in the principle components analysis, which uses the four criteria in the following paragraphs. Before moving forward with anything else, the Kaiser-Meyer-Olkin (KMO) measure will be applied to the adequate sample as part of the factor analysis. This will be done in order to determine whether or not it is appropriate to continue with the study. The KMO is used to determine whether or not the magnitude of partial correlations among variables is minor; if they are, then it is highly probable that the variables factor well. If they are not, then it is highly unlikely that they factor well. According to (Akin Ateş, 2022), the value of KMO should be greater than 0.60 in terms of the factor analysis. As a result, something is considered to be of high quality if its value is 0.90 or higher, or is even higher. On the other hand, the Bartlett's test of sphericity, also referred to as the BTS test, is a test that is done to determine the level of multivariate normality. BTS is a shortened form of the term "test". Through the utilisation of BTS, scholars can ascertain whether the correlation matrix represents an identity matrix. In the event that it does, the factor model is deemed to be deficient. In the event that it is not so, the correlation matrix would not exhibit an identity matrix. In the context of this particular inquiry, it was ascertained that the Kaiser-Meyer-Olkin measure exceeds 0.6, while the Bartlett's test of sphericity indicates a statistically significant result. Consequently, it has been determined that the utilisation of factor analysis in relation to the findings of this research will be deemed acceptable. By utilising the factor matrix of loadings, things that are similar but do not load with any of the other items will also be eliminated. An alternative approach would be to investigate the degree of correlation that exists between the factors and the items. In specifically, loadings values



that are not larger than 0.40 are seen as being on the lower end of the spectrum, whilst loadings values that are bigger than 0.6 are regarded as being on the higher end (Akın Ateş, 2022). As a result, things that have loadings that are lower than 0.40 and are not significantly different from zero should not be included in the analysis. Thirdly, items that load on more than one factor should not be used either because they do not adhere to the simple structure factor solutions stipulating that there will only be one loading on any factor for each variable or because it will be difficult to perform the interpretation of the output if there is double loading. The simple structure factor solutions stipulate that there will only be one loading on any factor for each variable. Items that load on more than one factor should not be used either because they do not adhere to the simple structure factor solutions. A double loading will be used in the computation if the factor score on more than one factor is 0.50 or below. In addition, things loaded on a factor should be removed if it is logically unjustified for the specific item to be related to the rest of the items in the factor, as proposed by (Wang, 2007) and other sources. This recommendation comes from both of these sources (Rigatos, 2017). This suggestion was provided by (Kutty, 2021), as well as by (Elhmod, 2021). It is recommended that the researcher take out of the anti-image matrix any items that have a value of measure of sampling adequacy (MSA) that is less than or equal to 0.50 in the negative values of the partial correlation coefficients. This is the last step, but it is certainly not the least important. This is not the least significant of the recommendations I have for you. An optimum factor model Although the diagonal of the anti-image correlation matrix indicates a measure of sampling adequacy for a variable, with a level of higher than 0.5 being deemed acceptable, the diagonal of the anti-image correlation matrix has minor parts that are off the diagonal.

### **3.9 Reliability Test**

One of the definitions of dependability includes the term "the degree to which measurements are free from random-error variance." (Snyder, 2019) To put it another way, the reasoning may be summed up as the idea that the reliability of the Measurement would be negatively affected in the event that there was a random error. Nonetheless, dependability may also be understood as the degree to which a test measures consistently whatever it is that it is measuring in the same manner that it is measuring it each and every time. If we want the findings of the questionnaire to reliably identify the essential component, the questionnaire itself has to have a high reliability. (Snyder, 2019) I would appreciate it if you could shed some light on the following two advantages of owning a scale that is very dependable: 1) It is superior to the low reliability scale in differentiating between the various degrees of pleasure, and 2) It is more robust in locating meaningful relationships between variables that are actually related with one another. Both of these benefits can be attributed to the fact that the scale was developed using low reliability. In conclusion, researchers will be able to recognise actual differences by making use of a scale that is very dependable, without paying any thought to the degree to which the differences vary from one another. On the other hand, researchers are only able to discover significant genuine differences if the reliability scale they are using happens to have a low rating. There are three common formats of reliability that are available for perusal in the field of research. These formats are internal consistency, test-retest reliability, and equivalent form reliability. Due to the fact that each type of study has its own distinctive goals, each form may serve a different purpose in various types of research. For the current study, which is of the cross-sectional kind and is only being carried out once, the internal consistency method is going to be considered to be the most appropriate; the dependability of the internal Consistency method needs to be investigated. There are three

different approaches that can be taken to quantify the internal consistency reliability of a test: the split-half reliability, the Kuder-Richardson, and Cronbach's alpha. The degree to which individual items on a single test continue to be consistent with one another is what's meant by the term "internal consistency reliability" (Kutty, 2022). In addition, Kim (2019) pointed out that dependability may be exhibited in a mathematical form by employing a reliability coefficient that was gained by the correlation. This was mentioned in their study. If the reliability was high, the reliability coefficient would be high, but if it was poor, the reliability coefficient would be low. If a test's items are standardised, Cronbach's Alpha will use their average correlation, but if they aren't, it will use their average co-variance. In the event that the items have undergone standardisation, Cronbach's Alpha will be contingent upon the mean correlation of the items contained within the test. Moreover, the Cronbach's alpha can be utilised to assess the internal consistency reliability of a tool in cases where the items within the tool incorporate diverse potential scores. Because Cronbach's alpha may also be interpreted as a correlation coefficient, its value can take any value between 0 and 1, with 0 being the lowest possible score and 1 representing the greatest possible score. The degree to which a scale may be trusted is dependent on a variety of factors, including the amount of information that is included within the scale itself as well as the size of the sample that is used to evaluate the accuracy of the scale. If there are other things included in the scale, this may indicate that the instrument has a higher level of reliability; however, this is dependant upon the additional items also revolving around the same concept that is being evaluated. In addition, in regard to the concept that is being assessed, (Kutty, 2021) emphasised that the sample needs to be varied in order to be representative of the population.

In addition to being affected by a variety of other factors, reliability is an independent factor that decides the degree of correlation that exists between any two scales. This is the case even if

reliability is affected by a number of other factors. As an illustration, scales that have a poor dependability result in a low correlation value. According to Kutty (2021), there is a possibility that the conclusion regarding the association between two variables that was drawn from the study was incorrectly drawn. This is because there is a possibility that the study used unreliable scales. (Of course, the value can exceed this) (Elhmoud, 2021), but it must be stated that increasing reliabilities that surpassed the value of 0.80 Will not give any effect to the correlation between scales in a dramatic manner. Reliability values obtained in fundamental research should not be less than 0.80 (Elhmoud, 2021). Nonetheless, at least 0.80 alpha values are needed. While the alpha value should not be lower than 0.70 (Kutty, 2021), it has also been suggested that it should not be lower than 0. (Kutty, 2021). Table 3.5 shows Tumsekcali (2021)'s Alpha level characteristics.

Table 3.5: The criteria for Alpha levels

<b>Value</b>	<b>Ruling</b>
Less than 0.60	Not acceptable
Between 0.60 and 0.65	Not desirable
Between 0.65 and 0.70	Minimally acceptable
Between 0.70 and 0.80	Respectable
Between 0.80 and 0.90	Very good

Source: Tumsekcali (2021)

The cutoff point that we decide constitutes an acceptable degree of dependability will be firmly established at 0.70 and above in order for this research to achieve its purpose.

### 3.10 Correlation Analysis

According to Duarte (2022), correlation analysis is a statistical method that probes into the strength and direction of the linear connection that exists between two variables. This may be done by looking at the strength of the correlation as well as the direction of the correlation. This idea is developed further by him via the provision of more clarification. The Pearson's correlation coefficient, sometimes known as  $r$  for its abbreviation, is the one that is used the majority of the time. Its objective is to identify both the strength and the direction of the connection that exists between two variables. This link is being analysed for its potential to predict future outcomes. The most popular linear connection metric, the correlation coefficient, works well with interval and ratio scales. However, the coefficient may have any value between -1 and 1, with the number indicating the intensity of the correlation and the sign (either a plus sign or a minus sign) indicating whether the relationship is positive or negative. According to Chavan (2022), the minimum acceptable level of considerable regression coefficients is deemed to have a value of 0.05. This value is considered to be the minimum acceptable level. This was discussed as if it were a reality. When it comes to the Substantive correlations, on the other hand, some researchers have a tendency to support the Critical value of 0.10 and Higher ( $r > 0.10$ ). This is because they believe that these correlations are more reliable. In spite of the fact that the value of the correlation coefficient might land anywhere between -1.0 and +1.0, as was shown, it is highly crucial for researchers to have a crystal clear knowledge of whether or not any Relationship that is shown between two variables is significant. In research conducted in the social sciences, the significance level of 0.05 is the one that is widely acknowledged to be one that may be used without being considered inappropriate. The next stage was the construction of a guideline by (Duarte, 2022), which helped to describe the strength of the relationship that existed between two variables.

Thomas's guideline may be found in the following sentence. Table 3.6 has this recommendation for you to follow.

Table 3.6: Cohen's Guideline of Correlation Strength

<b>r values</b>	<b>Strength of relationship</b>
$r = +.10$ to $.29$ or $r = -0.10$ to $-0.29$	Weak
$r = +.30$ to $.49$ or $r = -0.30$ to $-0.49$	Average
$r = +.50$ to $1.0$ or $r = -0.50$ to $-0.1.0$	Strong

### 3.11 Regression Analysis

In order to conduct a comprehensive analysis of the data, this study intends to use both stepwise regressions and multiple linear regressions. Multiple regression is a statistical approach that is used to model a linear connection between a dependent variable (predicting) and one or more independent variables, as stated by Duarte (2022). This method is carried out in order to model multiple regression. To be more exact, modelling the linear connection is possible using a statistical technique known as multiple regression (predictors). It makes an effort to determine the plane that offers the greatest possible match, and the degree to which it is successful in doing so may be measured with the assistance of the coefficient of multiple determinations ( $R^2$ ). However, in order to proceed with the multiple regression analysis, a number of prerequisite conditions, including normality, linearity, multiple collinearity, and multivariate outliers, need to be satisfied (Kondratyev, 2022). 2018 according to Thomas According to Thomas (2018), the term "stepwise regression" is used to refer to regression models in the area of statistics in which the choice of

predictive Variables is given by an automated method. This was discovered in the work that Thomas had completed. Stepwise regressions, on the other hand, focus on the systematic and repeated creation of a regression model via a series of preset stages. The independent variables, on the other hand, are selected by the researcher on their own. This technique of stepwise regression may be executed in one of three alternative ways, depending on your preferences. Here, we have two options: either we run a test on each of the potential independent variables simultaneously and remove any E-variables that are not statistically significant, or we run a test on each of the potential independent variables one at a time and include it in the regression model if it is statistically significant. Finally, the third strategy recommends that we merge the first and second strategies into a single overarching plan of action. The test statistic, which is also known as the P-value, may range from 0 to 1 in both the multiple regression test and the stepwise regressions test. For the purposes of our inquiry, it will be regarded as statistically significant if the P value is 0.05 or below (Wang, 2022).

### **3.12 Summary Of Chapter Three**

This chapter will focus on study approach and structure. The chapter should then discuss the pilot study, which adjusts the research instrument based on reliability analysis and construct content validity. This improves the research tool. This chapter summarises the data collection and analysis methods used in this investigation. This chapter also discusses the study's ramifications.

## **CHAPTER FOUR**

### **RESULTS**

#### **4.1 Introduction**

This chapter presents the results of the statistical analysis conducted in the investigation. Following the introductory statement, which encompassed a summary of the information that was collected. The present chapter encompasses both the response rate and descriptive statistics. Furthermore, it possesses a reliability assessment. The chapter introduces a paradigm for assessing and gauging progress.

#### **4.2 Primary Data**

Students at One of the Turkish Universities in Turkey have been given the questionnaire to fill out, and it has been disseminated to them. In addition, the questionnaire was sent out to 430 members of the workforce, including managers and workers, who attended an academic institution. The number 377 indicates that the questionnaire may be used for the research. The incomplete questionnaire is 17. The number 36 stands out as an extreme response on the questionnaire. The proportion of correct responses on the questionnaire comes in at 87.7%. On the other hand, 12.3% of the questionnaires were found to be either incomplete or invalid. As a consequence of this, the total number of contributors is 377, with 30 students from the One of the Turkish Universities in Turkey doing the job. The researcher who used the method of random sample selection. This approach makes it possible to choose a sample population consisting of a large number of people for the research. Contributors to the sample research include workers, managers, chief directors, and departmental managers who work in a group of thirty students attending One of the Turkish



Universities in Turkey. The population of the study's contents is shown in Table 4.1. In addition, the numbers of the population under investigation are shown in table 4.1.

**Table 4.1**  
**Distribution of Study**

Items	Total	Percentage/notes
Population of Study	550	students in One of the Turkish Universities in Turkey
Distribution	430	100%
Outliers questionnaire	36	8.4%
Incomplete questionnaire	17	3.9%
Valid questionnaire	377	87.7%
Questionnaire distribution in	30 students	
Types of contributors		Students who studied in One of the Turkish Universities at Turkey

In this particular investigation, the data will be analysed by using version 25 of the spss software. The descriptive analysis, reliability test, and normalcy test are all included in this analysis. The reliability test, exploratory factor analysis, and correlation analysis are all aspects of this research that are brought to the forefront.

## **4.2 Response Rate**

### **4.2.1 The Respondent**

The demographic data have been summarised and made available in table 4.2. The male and female contributors to the project. According to Table 4.2, the indicators for men are much

higher than those for females. As can be seen in table 4.2, the indicators for females are somewhat lower than those for males. It makes reference to the gender of those who study at One of the Turkish Universities in Turkey. The man has a score of 199 (52.8%), while the female has a score of 178 (47.2%). The distribution of the sample according to age is shown in Table 4.2. The rank between 41 and 50 is the most important signal. It achieved a 43.5% result (164). On the other hand, the age range of donors ranging from 31 to 40 is also represented. It got a score of 34.2 (129). In addition, the percentage of people over the age of 50 who have reached a record 15.4% (58). Between 20 and 30 is where you'll find the lowest indications. The number was 6.9%. (26). The contributors' levels of education are detailed in Table 4.2, which may be seen below. The findings reveal that 97.3% have a bachelor's degree or above. On the other hand, 7.2% of the contributors have a master's degree. In addition, the percentage of graduates has reached a record 5.3%. The PHD indicator reached a new high of 0.3%. In addition, according to table 4.2, the greatest frequency is for bachelor degree holders (329). PHD, on the other hand, has the lowest frequency (1). In addition, the number of master's degrees earned has set a record (27). In the most recent, Diploma has also established a record (20). The chart demonstrates that the record for the study years between 5 and 10 years is 8.2%. In addition to this, the study years ranging from one to five years have reached a record 16.7%. The sample distribution may be seen in Table 4.2, which is organised by Study Year. The total number of years covered by the research is 283. In spite of this, the amount of experience between 5 and 10 years is 63. In addition to this, the total number of study years between years 1 and 5 is 31.

**Table 4.2**

<b>Summary of Frequency Table for Demographic Profile</b>		
<b>Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	199	52.8
Female	178	47.2
<b>Age</b>		
20-30	26	6.9
31-40	129	34.2
41-50	164	43.5
Over 50	58	15.4
<b>Education Level</b>		
Diploma	20	5.3
Bachelor degree	329	87.3
Master	27	7.2
PHD	1	0.3
<b>Study Years</b>		
Below 1 Years	63	16.7
Between 1-5 years	31	8.2
Between 5-10 years	283	75.1

#### **4.2.2 Data Coding and Editing**

Following the completion of the data collection process, it is time to begin the editing and coding processes. The process of editing entails conducting a thorough review of the completed research instruments in order to identify and get rid of, or at the very least bring down to a level that is acceptable, any errors, incompleteness, misclassification, or gaps in the information that was obtained from the respondents. The major objective of editing and coding is to ensure that the data

are "clean," which implies that they are devoid of faults and incompleteness in their representation. This may be accomplished by ensuring that the data are error-free. The process that we refer to as editing is one that involves the cleanup of content. As a result, the code has been shown in each and every variable (Bell, 2018).

#### **4.4.2 Missing Data and Outliers**

The results of the inquiry indicate that there are no data that were missed over the course of the examination. In addition to this, the data outputs do not include any values that are exceptional in any way. Researchers in all subfields of the natural and social sciences often come across missing values and outliers throughout the course of an observational or experimental study that gathers data. This phenomenon is known as data collection. The appearance of missing figures may be caused by a combination of factors, including the loss of information as well as dropouts and nonresponses on the side of those who participate in research (Koskinen, 2018).

The presence of missing data results in a lower sample size than was originally intended for, which, in turn, casts doubt on the reliability of the conclusions of the research as a whole. It is possible for skewed findings to be produced when conclusions about a population are drawn from inferences made based on such a sample. This casts doubt on the reliability of the data that was collected. As a part of the pretreatment process, missing data are either omitted for the sake of simplicity or replaced with replacement values anticipated using a statistical method. This decision is made before moving on to the next step. This choice is taken in order to simplify the process that has to be followed. In general, the analysis of missing values needs one to take into account efficiency, the processing of missing data, and the subsequent complexity in analysis.

Additionally, one must take into consideration the bias between missing and observed values (Duda, 2018).

### 4.3 Descriptive Statistics

The questionnaire for this research was broken up into nine separate sections for the variables. Every variable is referring to either two or three important indications. As a direct outcome of this, the statistical findings about this variable will be connected to this indication inside the explanation. The first factor for determining the responder demographic profiles is comprised of five questions (gender, age education level, study years).

**Table 4.3**  
**System Quality variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
SQ1	The online meeting tool is user-friendly in my experience.	4.33	0.710
SQ2	The online meeting platforms allow for flexible communication, which is something I appreciate.	4.23	0.691
SQ3	When it comes to using the services and functions offered by the online meeting platform, I have no concerns.	4.19	0.666
SQ4	I am able to communicate with online meeting platforms in a way that is transparent and easy to grasp.	4.17	0.729

The descriptive study of the system quality is shown in Table 4.3. (SQ). According to the data shown in the table, the item that came in first place in the ranking received a score of 4.33 (Standard

Deviation = 0.710). (The online meeting tool is user-friendly in my experience). In addition, the second item on the axis had a score of 4.23 (standard deviation equal to 0.691), which indicates that (The online meeting platforms allow for flexible communication, which is something I appreciate). In addition, the third item on the axis received a score of 4.19 (standard deviation equal to 0.666), which states (When it comes to using the services and functions offered by the online meeting platform, I have no concerns). The last item on the axis received a score of 4.17 (standard deviation equal to 0.729), which states (I am able to communicate with online meeting platforms in a way that is transparent and easy to grasp).

**Table 4.4**  
**Information Quality (IQ) variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
IQ1	Insightful data is provided via online meeting platforms, which I find very helpful.	4.19	0.689
IQ2	Online meeting platforms provide just the information I want.	4.18	0.726
IQ3	Online meeting platforms give me with information and well-organized content.	4.08	0.798
IQ4	Platforms for virtual conferences offer information and content that is current in real time.	4.06	0.819

Table 4.4 reveals information quality (IQ). The result shows the first item in the axis achieved 4.19 (SD=0.689) which stated (Insightful data is provided via online meeting platforms, which I find very helpful). The second item in the axis achieved 4.18 (SD=0.726) which state (Online meeting platforms provide just the information I want). The third item in the axis achieved 4.08 (SD=0.798) which stated (Online meeting platforms give me with information and well-organized content).

The fourth item in the axis achieved 4.06 (SD=0.819) which stated (Platforms for virtual conferences offer information and content that is current in real time).

**Table 4.5**  
**Perceived Usefulness (PU) Variable**

<b>Code</b>	<b>Items</b>	<b>Mean</b>	<b>Std. Deviation</b>
PU1	In this time of pandemic, the utilisation of online meeting platforms is really helpful.	4.23	0.718
PU2	The use of online meeting platforms has helped me become more productive in my academic endeavours.	4.23	0.709
PU3	Online Meeting systems make it easy to study through remote learning	4.23	0.635
PU4	Online meeting platforms help me do better in school.	4.12	0.696

The perceived usefulness variable is one's perception of the usefulness of something (PU), There are 4 different values stored in the variable. It was determined that a score of 4.23 was obtained for the first three elements. On the other hand, the last item is 4.12. The explanation for the Perceived Ease of Use (PEOU) variable may be found in Table 4.5. There are 4 different values stored in the variable. According to the Lickert scale, the overall mean is considered statistically significant if the variable achieves a score of three or above and ranks in the top position for the statement that says (I find the online meeting platform easy to use). In terms of this variable, the first ranking has a mean value of 4.23. The second rating for this variable, which refers to the statement that says (I find it flexible to communicate with the online meeting platforms). The second-placed group has a mean score of 4.23. The statement that describes the third place in this

variable is the one that says (I feel comfortable using the online meeting platform services and functionalities). The value 4.23 is the mean of the third ranking in this variable. The fourth position in this variable's ranking relative to the statement which says (I have a clear and understandable interaction with online meeting platforms). The average of the previous phrase is 4.12 points.

**Table 4.6**  
**Perceived Ease of Use (PEU ) variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
PEU1	Online meeting platforms deliver useful information to my needs.	3.97	0.893
PEU2	Online meeting platforms offer exactly the knowledge I need.	3.95	0.779
PEU3	Online meeting platforms provide me knowledge and organized content.	3.85	0.814
PEU4	Online meeting platforms provide up-to-date information and content	3.33	0.899

The perceived ease of use variable is broken down in Table 4.6. If the Lickert scale score is 3 or above, the total mean is statistically significant. The first-place mean ranking is 3.95 for this variable. Top rating for clause that states (Online meeting platforms deliver useful information to my needs). This variable's second-place mean ranking record is 3.95. The assertion that (Online meeting platforms offer exactly the knowledge I need). Its third mean is 3.85. If the Lickert scale score is 3 or above, the total mean is statistically significant. The variable's third-most-perceived-ease-of-use item is (Online meeting platforms provide me knowledge and organised content). Its fourth mean is 3.33.



**Table 4.7**  
**User Interference Variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
UI1	User-friendly features are available in online meeting platforms.	4.35	0.644
UI2	The platform has a lot of useful features that all work together well.	4.35	0.675
UI3	When possible, I'd prefer virtual meeting spaces.	4.23	0.682
UI4	If I had to employ this approach, I'm sure I'd pick it up quite rapidly.	4.23	0.682

Table 4.7: Interference from Users (UI). Table includes 4 entries. The first item in the ranking has a mean score of 4.35 and a standard deviation of 0.675%. This indicates that (The platform has a lot of useful features that all work together well). The second item in the ranking had a score of 4.35 (standard deviation equal to 0.644), which states (User-friendly features are available in online meeting platforms). The table shows that the second item in the ranking received a score of 4.23 (standard deviation = 0.682), and that item was the one that said "When feasible, I'd prefer virtual meeting places." The item also stated "If I had to utilise this strategy, I'm confident I'd take it up rather swiftly."

**Table 4.8**  
**Behavioural Intention (BI) Variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
BI1	I'm inspired to start holding more meetings in virtual spaces.	4.28	0.665
BI2	I propose utilising a web-based meeting place.	4.25	0.621
BI3	In order to save time and travel expenses, I am willing to hold all of next year's meetings online.	4.19	0.738
BI4	There is a good chance that I will employ online meeting platforms.	4.18	0.663

Table 4.8: Intentions about behaviour (BI). This axis is composed of four different things. The data reveals that the item with the highest score in the ranking was the one that said, "I'm encouraged to start conducting more meetings in virtual environments." It had a score of 4.28, with a standard deviation of 0.665. The second item on the axis received a score of 4.25 (standard deviation equal to 4.25), which states (I propose utilising a web-based meeting place). In addition, the third item on the axis received a score of 4.19 with a standard deviation of 0.738. This item states, "In order to save time and travel expenditures, I am willing to conduct all of next year's meetings online." The last item on the axis received a score of 4.18 (standard deviation equal to 0.663), which states (There is a good chance that I will employ online meeting platforms).

**Table 4.9**  
**Actual Use Variable**

<b>Code</b>	<b>Statement</b>	<b>Mean</b>	<b>Std. Deviation</b>
AU1	When we have meetings utilising online meeting tools, I believe we all take in more information.	4.17	0.735
AU2	To hold online meetings, I believe that everyone has access to high-speed internet.	4.16	0.782
AU3	I believe that everyone has access to a suitable setting in which to utilise digital tools.	4.12	0.731
AU4	The use of virtual classrooms and conference rooms adds a new dimension to distance education.	4.11	0.768

The real application is investigated in Table 4.9. The axis shows that the first item on the axis obtained a score of 4.17 (standard deviation equal to 0.735), which suggests (When we have meetings utilising online meeting tools, I believe we all take in more information). The second item on the axis had a score of 4.18 (standard deviation equal to 4.16), which states (To hold online meetings, I believe that everyone has access to high-speed internet). The third item on the axis had a score of 4.12 (standard deviation equal to 0.731), which states (I believe that everyone has access to a suitable setting in which to utilise digital tools). The last item on the axis received a score of 4.11 (standard deviation equal to 0.768), which states (The use of virtual classrooms and conference rooms adds a new dimension to distance education).

The conclusion of the descriptive analysis is shown in table 4.10. Due to the fact that all axes reached the Likert scale coefficient of between 3 and 5, the table demonstrates that all axes should be considered important. The user interface received a score of 4.20 (standard deviation = 0.506). The information quality attained score of 3.76 (standard deviation of 3.76), however, is the lowest item on the axis. According to the findings, each axis has significance in relation to the Likert scale.

**Table 4.10**  
**Summary of Descriptive Analysis**

Variables	Total mean	Std. Deviation
System Quality	4.06	0.474
Information Quality	3.76	0.620
Perceived Usefulness	4.16	0.496
Perceived Ease of Use	4.04	0.511
User Interface	4.20	0.506
Behavioral Intentions	4.13	0.477
Actual Use	4.10	0.461

#### **4.4 Reliability Test**

When discussing scientific investigations, the term "reliability" most often refers to the consistency and repeatability of measurements, or the ability of an experiment to provide the same results each time it is conducted under the same circumstances. The degree to which a piece of measuring equipment gives results that are consistent regardless of the frequency with which it is used to gather measurements is referred to as its "dependability," and the word reliability is used to denote this degree. An examination of dependability is just what its etymological name says it should be: an inquiry of dependability. The first thing that needs to be done in order to get started on a reliability study is to identify the proportion of a scale's variation that can be related to the systematic character of the scale. This is the first thing that needs to be done. It is possible to do this by calculating the association between the scores that were obtained from the several times that the scale was administered (Meyyappan, 2017). Therefore, if the connection in the reliability analysis is substantial, it suggests that the scale is trustworthy since it constantly provides the same

conclusions. This is the case even if the analysis was performed incorrectly. The results indicate that the value of the cronbach's alpha coefficient is 0.947. The reliability examination consisted of 35 different items. In addition to that, the sample from study 226 was included in this reliability test as well. The results of the reliability test indicate that the ties between the independent variables and the dependent ones are quite solid. The results of the reliability test for each item included in the research are shown in Table 4.12. It demonstrates the dependability of each individual component. The high dependability and correlation with each other is shown by the Cronbach's Alpha coefficient, which may be found in table 4.12. It is important to keep in mind that a Cronbach's Alpha coefficient is considered significant if it is equal to or greater than 0.7. In addition to this, the findings indicate that the Cronbach's Alpha coefficient between (0.945-0.947). As a result, it is possible to do the statistical analysis with a very high degree of confidence in the data.

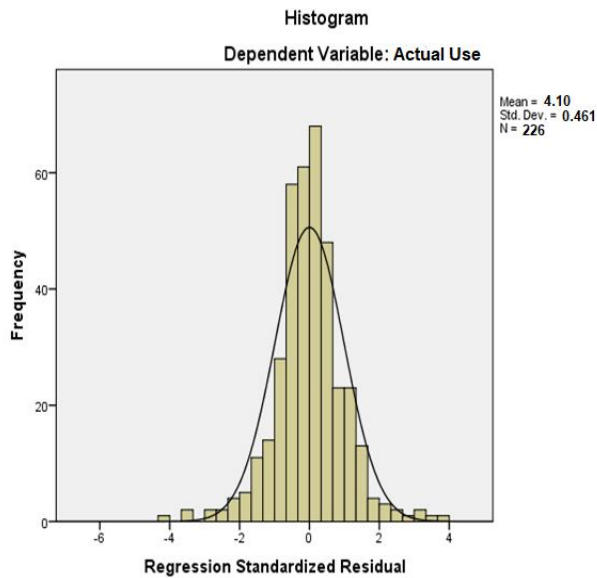
**Table 4.11**  
**Reliability Test**

<b>Variables</b>	<b>Cronbach's Alpha</b>
System Quality	0.946
Information Quality	0.947
Perceived Usefulness	0.946
Perceived Ease of Use	0.946
User Interface	0.947
Behavioral Intentions	0.945
Actual Use	0.946
Cronbach's Alpha for all variables	0.947

## 4.5 Assessment of Linearity

Before beginning an analysis of linear regression on the data, it is standard practise to first conduct an examination of the linearity present in the data. The linearity test is an examination of the connection between two variables, "x" and "y," which are connected by the mathematical equation " $y = cx$ ," where "c" may be any constant integer. This test is also known as the "test of linearity" (Shi, 2018). When discussing regression analysis, the term "linearity" may also refer to the notion that the connection between the predictor variables and the outcome variable is one that follows a straight line. If the residuals follow a normal distribution and have a homoscedastic variance, then it is not required to be concerned with linearity. The major reason for the relevance of linearity testing is that the assumption of linearity in the data is required for many statistical techniques (i.e. the data was sampled from a population that relates the variables of interest in a linear fashion). This suggests that linearity tests are need to be carried out before standard methods such as linear regression may be used (otherwise, the linear regression results cannot be accepted). Researchers are given the ability to notice with easy the likelihood that the data came from a linear population thanks to the excellent statistical software tool known as SPSS (Wang, 2018). It can be shown in Figure 4.1 that the dependent variable follows a normal distribution. The histogram demonstrates that the distribution is not normal in any way. It ensures that the data are not normal in any way. As a direct result of the fact that the data were not normally distributed, the authors of this study decided to do an analysis utilising SMART PLS.

**Figure 4.1**  
**Normality Test**



The plot of the non-normal predicted probability (p-p) is shown in figure 4.1. It is reasonable to anticipate that the residuals of the regression will follow a normal distribution. [Case in point:] The phrase "error terms" is equivalent with "residuals," which may be thought of as the differences that exist between the actual value of the dependent variable and the value that was predicted for it. The residuals are used to represent these differences. In addition to this, it examines the residuals through the lens of a normal Predicted Probability (P-P) plot in order to determine whether or not they follow a normal distribution. If this turns out to be the case, then they will fall in line with the diagonal normality line that is illustrated in the image. Homoscedasticity is a statistical word that indicates whether or not these residuals have a propensity to cluster together at certain values and scatter widely apart at other values. Homoscedasticity may also characterise whether or not these

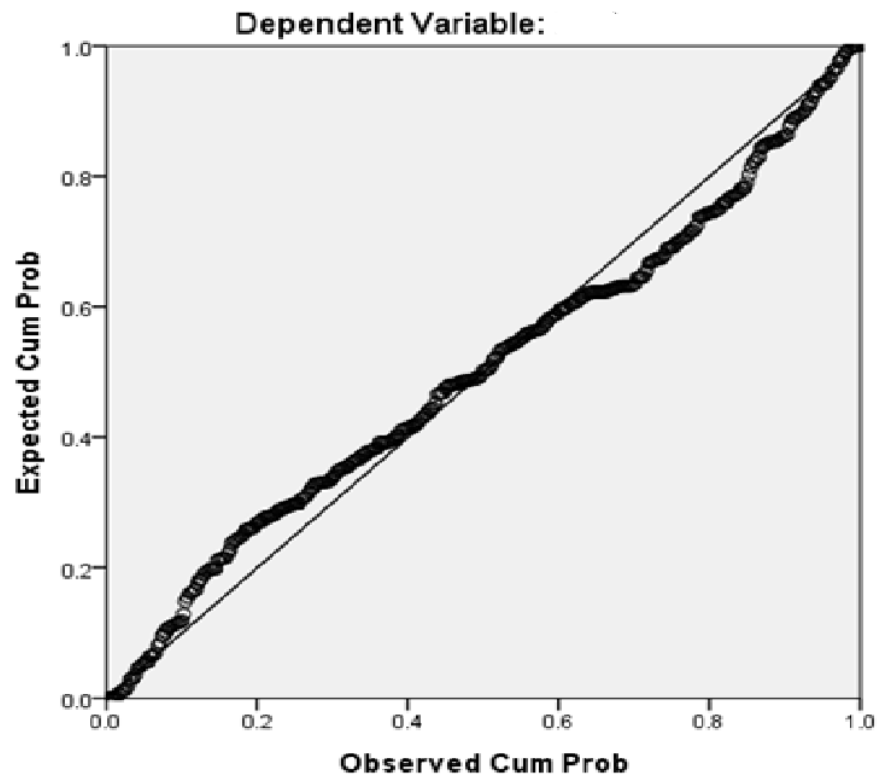
residuals are distributed in an even way. When people talk about t-tests and ANOVAs, you can hear a similar concept referred to as equality of variances or homogeneity of variances. These are also different names for the same thing. These are only alternative labels for the same general concept. A homoscedastic distribution is said to exist when the data give the appearance of having been randomly scattered by a shotgun. Heteroscedasticity is the opposite of homoscedasticity, and when it appears in data, it is easy to recognise a cone or fan structure in the distribution of the values. Make sure that this assumption is accurate by creating a scatterplot of the anticipated values and the residuals, which is something that we will show you how to do at the very end of this blog post (Silverman, 2018).



**Figure 4.2**

**Normal Predicted Probability (P-P) plot**

**Normal P-P Plot of Regression Standardized Residual**



#### **4.6 Collinearity Test**

The results of the test for collinearity are shown in Table 4.13. The results of the Multicollinearity test are shown in table 4.13. It can be seen that the data are not affected by the test, with the exception of the Perceived Ease of Use (PEOU) variable. It indicates that there is a strong relationship between each of the components that are used in the prediction process. Because of this, the regression model won't be able to correctly associate the variance in the result variable

with the relevant predictor variable. This creates a difficulty. As a direct consequence of this, the results will not be obvious, and the conclusions reached will be incorrect. This assumption is valid only in the context of a multiple linear regression, which considers a number of distinct variables to be candidates for the role of predictors. Checks for multicollinearity, two-way correlation coefficients, and values for the variance inflation factor (VIF) may all be performed with the assistance of this instrument (Frank, 2018). To determine whether or not it is true by utilising correlation coefficients, place all of the predictor variables into a correlation matrix and look for coefficients with magnitudes of .80 or higher. If the predictors have many linear relationships, then the correlations between them will be very significant. Using VIF values, which we will show you how to obtain in the following paragraphs, is a simpler technique of verification, despite the fact that it is still accurate (Wheeler, 2005). It is essential that these figures be less than 10.00, and it would be preferable if they were less than 5.00. As a consequence of this, the table of collinearity tests shows that the data do not have an issue with Multicollinearity, with the exception of Perceived Ease of Use (PEOU), which is caused by the fact that the tolerance is quite high.

**Table 4.12**  
**Collinearity Test**

Variables	Collinearity Statistics	
	Tolerance	VIF
System Quality	.482	2.077
Information Quality	.752	1.334
Perceived Usefulness	.354	2.826
Perceived Ease of Use	.345	2.894
User Interface	.356	2.810
Behavioral Intentions	.401	2.496
Actual Use	.493	2.027

## 4.7 Correlation Analysis

The results of this study's correlation analysis are shown in Table 4.13. The bivariate analytical method known as correlation is used to quantify the strength of a relationship between two variables and the direction in which those variables are connected to one another. Correlation is also used to determine the direction in which the variables are connected to one another. The value of the correlation coefficient, which may take on a value anywhere from +1 to -1, is a representation of how strongly the two variables are related to one another. This number can range from +1 to -1. When both of the correlated variables have a value of negative one, we say that the degree of correlation between the two variables is perfect. The association between the two variables will become less significant as the value of the correlation coefficient becomes closer and closer to 0. (Wheeler, 2005). The sign of the coefficient gives an indicator of the nature of the connection; the presence of a plus sign indicates a positive relationship, while the presence of a minus sign denotes a negative relationship. The Pearson correlation, the Kendall rank correlation, the Spearman correlation, and the point-biserial correlation are the four most prevalent types of correlations that are assessed in the area of statistics. Other types of correlations include the point-biserial correlation. The Pearson coefficient is a statistical metric that describes the degree to which certain variables are related with one another. It does this by comparing the values of the two sets of variables. The Pearson coefficient of correlation is a form of test statistic that assesses the extent to which there is a statistical connection or connection between two continuous variables. This degree may be thought of as the strength of the statistical connection or connection between the two variables. Karl Pearson, the person to whom the honour was given, inspired the naming of this place. It has earned a reputation for being the most accurate way for determining the degree to which two variables are associated with one another. This is due to the fact that it is based on the

theory of covariance, which has gained popularity in recent years. This is due to the fact that the theory of covariance serves as its fundamental basis. It provides information on the degree of link or correlation that exists between the two variables, as well as the progression of the path that the connection takes between them. In addition to this, it reveals the direction of the causal relationship between the two variables, which is very useful information. As a result, making use of the Pearson coefficient enables one to investigate the link with other variables that are connected. When compared to the level of significance, it is helpful to comprehend the degree to which the variables are correlated with one another (Jendoubi, 2018). As can be seen in Table 4.13, the association is statistically significant at the 0.01 level. It is possible to prove, without a shadow of a doubt, that the link between the Perceived Usefulness (PU) variable and the other variables is at or above the level of significance.

The fact that this is the case indicates that the degree of connection between Perceived Usefulness (PU) and the other variable is very significant. In addition, the findings indicate that the level of significance for the association between Intention to Use and the other factors is much higher than the level of significance. In addition to this, the measure of Perceived Information Technology Beliefs demonstrates a good association with the other factors. It demonstrates a very significant association that is far higher than the threshold of significance. The Pearson coefficient shows that there is a substantial connection between the Perceived Usefulness (PU) measure and the other factors. This demonstrates that there is a very substantial association between the Perceived Usefulness (PU) measure and the other variables. The Pearson coefficient for the measure known as Perceived Ease of Use (PEOU) demonstrates a high degree of association with other variables in the same category. In addition, the Pearson coefficient demonstrates that there

is a strong link between the variable of "Intention to Use" and the other variables. In conclusion, the Actual usage measure has a substantial association with the other factors.

**Table 4.13**  
**Correlation analysis**

		AU	SQ	IQ	PU	PEOU	UI	BI
Actual Use	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	377						
System Quality	Pearson Correlation	.387**	1					
	Sig. (2-tailed)	.000						
	N	377	377					
Information Quality	Pearson Correlation	.646**	.386**	1				
	Sig. (2-tailed)	.000	.000					
	N	377	377	377				
Perceived Usefulness	Pearson Correlation	.647**	.419**	.716**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	377	377	377	377			
Perceived Ease of Use	Pearson Correlation	.625**	.436**	.714**	.714**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	377	377	377	377	377		
User Interface	Pearson Correlation	.590**	.427**	.669**	.695**	.679**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	377	377	377	377	377	377	
Behavioral Intentions	Pearson Correlation	.536**	.421**	.623**	.608**	.622**	.618**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	377	377	377	377	377	377	377

## 4.8 Factor Analysis (FA)

Discovering the underlying factors (subsets of variables) that led to the creation of observable variables is the goal of the exploratory method known as factor analysis (FA). Variables are inquiry replies. Factors are significant variables. In factor analysis, the correlation matrix between the variables is used. A factor may be thought of as the weighted average of many variables. The factor analyzer is responsible for determining the factors that will be used in the initial correlation matrix.

In most cases, factor analysis is helpful in terms of data interpretation (Bandalos, 2018). The factor analyst will make an effort to fit each component to one of the theoretical factors.

Because of this, most factor analysis reports aim to help understand factors. Key factor analysis applications are: 1) to minimise the number of variables, and 2) to categorise variables by discovering a hierarchy in their connections. Exploratory factor analyses are more prevalent than confirmatory ones. Exploratory factor analysis (EFA) is used to find the strongest relationships between observable variables and factors. Any observable variable may measure all other components. Confirmatory factor analysis (CFA) assumes a basic factor structure, each variable measures one component, and goodness of fit tests compare the correlation structure of the data to the hypothesised structure. This determines whether the data matches the hypothesised structure (Costello, 2017).

### **Exploratory Factor Analysis (EFA)**

Exploratory factor analysis is a statistical method that is used in the process of condensing a large amount of data into a manageable number of summary variables and investigating the underlying theoretical framework of a phenomenon. This method is used in the process of using exploratory factor analysis. One of the goals of scientific study is to get a knowledge of the interactions that exist between the many variables. The objective of factor analysis is to provide researchers with the tools necessary to achieve this goal of gaining an understanding. One approach to look about factor analysis is as a method for lowering the number of variables in a model. This is accomplished by replacing a large number of variables with a small number of factors that summarise the connections between the variables. This process is known as factorization. Because of this, factor analysis may be considered, in the broadest sense possible, as a technique for locating

summary structures. If one already has a theory about the structure of a set of variables, then one may analyse the degree to which that theory accounts for the relations between the variables in a sample of data. This can be done if one already has a theory about the structure of a group of variables. If one already has a hypothesis on the structure of a set of variables, then carrying this out is something that can be done. It plays a role in the procedure of identifying the nature of the link that exists between the variable and the responder, and it does so by contributing to the process. Because the major emphasis of an exploratory factor analysis is on finding how the variables are connected to one another, there is no limit that is preset that can be placed on the number of factors that may be considered (Costello, 2017). Exploratory factor analysis may be carried out using either the Common factor or the Principle component technique. These two strategies are respectively referred to as the Common factor and the Principle component approaches. The technique of principal components and factor analysis: When it is necessary to drive the fewest possible components in order to explain the highest possible amount of the variation in the starting variable, we will use this strategy. An examination of the most prevalent contributing factors:

This method is used by the researchers when they do not have sufficient information to establish the kind of the component that has to be extracted or the common error variance. This exemplifies the fundamental concept of factor analysis, or, to be more specific, the principal components analysis. In the current investigation, the purpose of utilising the principle component factor analysis approach is to merge two correlated variables into one factor; this exemplifies the fundamental concept of factor analysis (we will return to this later). If we expand the example with two variables to include more than two variables, then the calculations get more sophisticated; nonetheless, the essential concept of representing two or more variables in terms of a single

component does not change at all. In addition to that, the varimax rotation was used in this investigation. It was used to simplify the column of the factor matrix so that the factor extracts could be related to one another in a straightforward manner and so that there could be some degree of differentiation between the variables. This was done so that there could be some degree of differentiation between the variables. The Kaiser-Meyer-Olkin (KMO) Test is a measurement used to determine how well the data are fitted for factor analysis. The test determines whether or not the sample size chosen for the model is sufficient for each variable in the model as well as for the model as a whole. This statistic is a measure of the percentage of the variation across variables that might be deemed to be common variance. It does this by calculating the fraction of the total variation that is shared by all variables. This test is competent to do factor analysis if a score of 0.7 or above was achieved in the Kaiser-Meyer-Olkin (KMO) Test (Lecerf, 2017). Table 4.15 contains the results that were obtained by doing the Exploratory Factor Analysis (EFA). The results of each variable and item are summarised in the table that can be found further down the page. This summary takes into account the significant findings that emerged from the Exploratory Factor Investigation (EFA) investigation.

Values that are high often serve as an indicator of the possibility of doing a factor analysis with the data. In situations when the value is less than 0.50, the results of the factor analysis are not likely to have any practical significance. This is because the value is too low. The hypothesis that the correlation matrix is equivalent to an identity matrix is subjected to empirical scrutiny through the application of Bartlett's sphericity test, a statistical procedure developed during the 1960s. If this hypothesis were validated, it would suggest that the variables do not interact with one another in any way, which would rule out the possibility of discovering the structure of anything. If the significance level is tested, and the results show that it has low values (less than 0.05), then this



indicates that a factor analysis would be useful to apply to the data, and should be considered doing so.

The eigenvalue, also known as the amount of the variation in the initial variables that can be assigned to each component, is presented in the Total column of the table. This may also be stated as the amount of the variance that can be attributed to each component. You will find the ratio, expressed as a percentage, of the variation that is accounted for by each component to the total variance that occurs across all of the variables in the next column, which is labelled "% of Variance." This column is located to the right of the first column. The percentage of overall variance that may be traced to the first  $n$  components is indicated in the Cumulative% column of the table. There are a total of  $n$  components. As an instance, the cumulative percentage for the second component may be calculated by adding the percentages of variance for the first and second components together. There are the same number of components for the first solution as there are variables, and the total number of components may be calculated by applying a correlations analysis and adding up the eigenvalues. There are also the same number of components for the initial solution as there are variables. It has requested that eigenvalues greater than 1 be recovered, and as a direct consequence of this request, the solution that has been retrieved consists of the first three primary components.

In addition, the information that was discovered in table 4.15 indicated that Communalities is broken down into two principal columns, which are referred to as Auto-image and extracted values respectively. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor.

These estimates are derived by dividing the total variance by the total number of components or factors. For the sake of correlation analysis, this value will always be set to 1.0 when it is being used for the extraction of principal components (Jamil, 2018). The term "extraction communalities" refers to estimations of the amount of variation in each variable that can be assigned to the components. This variance may be accounted for by the components. Given that each of the communalities in this table is high, it can be deduced that the extracted components do a good job of describing the variables. During the process of extracting significant components, if the communalities of any of the components turn out to be exceedingly low, it is probable that another component will have to be removed. The anti-image covariance matrix and the anti-image correlation matrix both contain the negatives of the partial correlation coefficients in their respective sets of information. In addition to this, the negatives of the partial covariance are included in the anti-image covariance matrix. When developing a credible factor model, the bulk of the off-diagonal components should have a very low value. The measure of the adequateness of the sample taken for a variable is shown along the diagonal of the anti-image correlation matrix (Renault, 2018). It is to everyone's advantage to maintain a greater level of communality. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When doing a correlation analysis, this value is always set to 1.0, since principal component extraction always utilises it. This is because principal component extraction always uses it. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in

each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When doing a correlation analysis, this value is always set to 1.0, since principal component extraction always utilises it. This is because principal component extraction always uses it. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When doing a correlation analysis, this value is always set to 1.0, since principal component extraction always utilises it. This is because principal component extraction always uses it. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When carrying out a correlation study, this number is always adjusted to a value of 1.0, since principal component extraction invariably makes use of it. It is to everyone's advantage to maintain a greater level of communality. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When doing a correlation analysis, this value is always set to 1.0, since principal component extraction always utilises it. This is because principal component extraction always uses it.

The extent to which one object is related to all other things is known as the communality of that thing. It is to everyone's advantage to maintain a greater level of communality. The communalities serve as a symbol for the amount of variance in each variable that can be ascribed to a particular communal factor. Estimates of the initial communalities indicate the fraction of the variation in each variable that can be assigned to each component or factor. These estimates are derived by dividing the total variance by the total number of components or factors. When doing a correlation analysis, this value is always set to 1.0, since principal component extraction always utilises it. This is because principal component extraction always uses it. Table 4.15 provides an illustration of the Chi Square coefficient. It is common practise to use the Chi Square statistic when attempting to determine whether or not two categories of data are connected to one another. In the Chi-Square test, the assumption that population categorical variables are independent serves as the basis for the null hypothesis. In crosstabulation studies, the Chi-square statistic is most often used to assess tests of independence (also known as a bivariate table). The pattern of cell responses is compared to the pattern that would be predicted if the variables were unrelated via the use of the Test of Independence. The researcher may determine whether or not the observed cell count and the anticipated cell count vary significantly from one another by calculating the Chi-Square statistic and comparing it to a critical value derived from the Chi-Square distribution. When working with the Chi-Square statistic, there are a few essential considerations that have to be kept in mind at all times. Because of the way the Chi-Square value is produced, it is especially sensitive to differences in the size of the samples being analysed. If the sample size is sufficiently large (more than or equal to 500), almost any variation, regardless of how minute it may be, will give the impression of being statistically significant (Test, 2015). Furthermore, an estimate of a parameter's degrees of freedom are, in general, equal to the number of independent scores that go into the estimate minus

the number of parameters used as intermediate steps in the estimation of the parameter itself. In other words, the number of degrees of freedom is equal to the number of independent scores that go into the estimate (in most cases, the sample variance has N minus 1 degrees of freedom). To put it another way, the degrees of freedom associated with an estimate of a parameter are equivalent to the number of independent scores that are used in the calculation of the estimate.

**Table 4.14**

**Summary of Exploratory Factor Analysis (EFA)**

variable	Items	Kaiser-Meyer-Olkin	Chi-Square	df	Bartlett's Test	Total Variance Explained	Rotated Component 1	2	3	Communalities Extraction	Anti image
Actual Use	AU1	0.845	777.845	28	0.000	2.109 (55.71%)	.675			.548	.859a
	AU2						.799			.673	.817 a
	AU3						.822			.681	.831 a
	AU4						.613			.513	.887 a
System Quality	SQ1	0.786	458.780	10	0.000	2.598 (51.95%)	.718			.516	.775a
	SQ2						.806			.650	.755a
	SQ3						.787			.619	.784 a
	SQ4						.712			.507	.801 a
Information Quality	IQ1	0.844	843.202	21	0.000	2.036 (65.01%)	.695			.559	.883a
	IQ2						.724			.636	.866 a
	IQ3						.811			.678	.838 a
	IQ4						.820			.682	.837 a
Perceived Usefulness	PU1	0.853	759.449	21	0.000	1.821 (54.733)	.852			.392	.835a
	PU 2						.856			.410	.837 a
	PU 3						.811			.541	.879 a
	PU 4						.744			.481	.834 a
Perceived Ease of Use	PEU1	0.861	853.900	21	0.000	21.786 (50.69%)	.617			.514	.880a
	PEU2						.688			.567	.817 a
	PEU3						.704			.455	.860 a
	PEU4						.649			.532	.903 a
User Interface	UI1	0.868	1078.545	36	0.000	19.652 (48.09%)	.744			.374	.889a
	UI2						.525			.484	.882 a
	UI3						.737			.471	.880 a
	UI4						.539			.417	.877 a
Behavioral Intentions	BI1	0.804	631.319	21	0.000	1.871 (58.67%)	.668			.469	.810a
	BI2						.833			.694	.784 a
	BI3						.727			.579	.807 a
	BI4						.538			.526	.860 a

According to the findings of the exploratory factor analysis, each variable may be broken down into two or three components at the very most. This component has the ability to understand the

indications that have been applied at One of the Turkish Universities. The majority of indicators include explanations for the components of each variable. On the other hand, the indicators of each item are shown in the following table 4.12. Based on the findings of the EFA, it is possible to interpret each variable in terms of a number of key indicators that are used at One of the Turkish Universities. In addition to this, these indicators also make it possible to comprehend the areas of each indication that are vulnerable and those that are strong. In addition to this, the majority of indicators provide an analysis of each variable.

**Table 4.15**  
**Variable Indicators**

variable	Items	Items	Rotated Component		
			1	2	3
AI	AU1	When we have meetings utilising online meeting tools, I believe we all take in more information.	.675		
	AU2	To hold online meetings, I believe that everyone has access to high-speed internet.	.799		
	AU3	I believe that everyone has access to a suitable setting in which to utilise digital tools.	.822		
	AU4	The use of virtual classrooms and conference rooms adds a new dimension to distance education.	.613		
SQ	SQ1	The online meeting tool is user-friendly in my experience.	.718		
	SQ2	The online meeting platforms allow for flexible communication, which is something I appreciate.	.806		
	SQ3	When it comes to using the services and functions offered by the online meeting platform, I have no concerns.	.787		
	SQ4	I am able to communicate with online meeting platforms in a way that is transparent and easy to grasp.	.712		
IQ	IQ1	Insightful data is provided via online meeting platforms, which I find very helpful.	.695		
	IQ2	Online meeting platforms provide just the information I want.	.724		
	IQ3	Online meeting platforms give me with information and well-organized content.	.811		
	IQ4	Platforms for virtual conferences offer information and content that is current in real time.	.820		

PU	PU1	In this time of pandemic, the utilisation of online meeting platforms is really helpful.	.852
	PU 2	The use of online meeting platforms has helped me become more productive in my academic endeavours.	.856
	PU 3	Online Meeting systems make it easy to study through remote learning	.811
	PU 4	Online meeting platforms help me do better in school.	.744
PEU	PEU1	Online meeting platforms are simple to utilise in my opinion.	.617
	PEU2	Online meeting platforms let me feel at ease.	.688
	PEU3	Online meeting platforms enhance my academic performances	.704
	PEU4	I find online meeting tools to be far more convenient to utilise.	.649
UI	UI1	User-friendly features are available in online meeting platforms.	.744
	UI2	The platform has a lot of useful features that all work together well.	.525
	UI3	When possible, I'd prefer virtual meeting spaces.	.737
	UI4	If I had to employ this approach, I'm sure I'd pick it up quite rapidly.	.539
BI	BI1	I'm inspired to start holding more meetings in virtual spaces.	.668
	BI2	I propose utilising a web-based meeting place.	.833
	BI3	In order to save time and travel expenses, I am willing to hold all of next year's meetings online.	.727
	BI4	There is a good chance that I will employ online meeting platforms.	.538
AU	AU1	When we have meetings utilising online meeting tools, I believe we all take in more information.	.835
	AU2	To hold online meetings, I believe that everyone has access to high-speed internet.	.843
	AU3	I believe that everyone has access to a suitable setting in which to utilise digital tools.	.732
	AU4	The use of virtual classrooms and conference rooms adds a new dimension to distance education.	.734

### The Justification of Using SMART PLS

The fact that the data suffer from multi-colonirity as a source of technological innovation, particularly tolerance indicator if this variable has been attained 0.752 significantly greater than .50, is the primary argument for adopting SMART PLS. In addition, it may be used either for the purpose of theory formulation or theory confirmation. In the latter scenario, PLS is used in order to build proposals by investigating the connections between the various variables (Kline , 2011). Another line of defence is the Kolmogorov-Smirnov Test, which examines the data to determine whether or not they follow a normal distribution and checks for the presence of multicollinearity.

Table 4.17 displays the outcomes of the Kolmogorov-Smirnov test, which may be found here. The Kolmogorov-Smirnov test, commonly known as the K-S test or the KS test, is a nonparametric test of the equality of continuous, one-dimensional probability distributions that is used in the area of statistics. Other names for this test include the K-S test and the KS test. This test may be used to compare one sample to a reference probability distribution (a "one-sample K-S test"), or it can be used to compare two samples (a "two-sample K-S test") (two-sample K-S test). According to the signals, the value of 0.006 does not have a substantial impact on the variable that is being investigated. Consequently. The data defies normal distribution. In addition to this, it offers aid for the use of SMART PLs in order to carry out the study's goals and conduct an analysis of the variable.



**Table 4.16****Kolmogorov-Smirnov Test**

<b>One-Sample Kolmogorov-Smirnov Test</b>		
		AU
N		377
Normal Parameters <sup>a,b</sup>	Mean	3.9941
	Std. Deviation	.54653
	Absolute	.087
Most Extreme Differences	Positive	.087
	Negative	-.060
Kolmogorov-Smirnov Z		1.693
Asymp. Sig. (2-tailed)		.006
a. Test distribution is Normal.		
b. Calculated from data.		

**4.9 The Assessment of Measurement Model**

In the current investigation, SMART PLS was used to analyse the goals and verify the hypothesis. In addition, this investigation includes considerations of convergent validity, discriminant validity, and latent variable (Fornell-Lacker Coefficient). It includes constructs that have been cross-validated as well as redundancy and a coefficient of determination. This research will explain the Path Coefficient of the Research Hypothesis, which was emphasised in the previous analysis that focused on the Goodness of Fit of the Model (GOF). In addition to this, it focuses on both direct and indirect hypotheses via the use of behavioural intention as a Moderator variable. In addition to that, it focuses on the study's model as well as its commentary.

**4.9.1 Convergent Validity**

The establishment of convergent validity is crucial in establishing construct validity when a dissertation employs two distinct measurement procedures and research methods, namely participant observation and a survey, to collect data on a construct. Convergent validity is a component of construct validity. The reason for this is that the presence of convergent validity aids in the establishment of construct validity, which pertains to various constructs such as anger, depression, motivation, and task performance. The degree of convergent validity can be ascertained by evaluating the magnitude of the correlation between the scores derived from distinct measurement techniques and research methodologies employed to gather information pertaining to the construct of interest. Put differently, the extent to which convergent validity has been established may be ascertained by the magnitude of the correlation between the measurements obtained from the two distinct assessment techniques and investigative approaches. Convergent validity is a type of validity that can be demonstrated through multiple methods. As per the notion, in the event of convergence of these scores, despite the utilisation of distinct measurement techniques and research methodologies, it can be inferred that we are measuring the identical concept. This assertion remains valid even when employing diverse research methodologies. Notwithstanding the divergent approaches employed in our evaluation, this is the inference that we have arrived at. As per the results presented in Table 4.18, the Acceptable Average Variance Extracted (AVE) value attains a score of 0.50. This indicates that the value is deemed acceptable for utilisation in the analysis. Furthermore, as per Hair's (2014) guidelines, obtaining a Cronbach's Alpha score of 0.70 or higher for all variables is a prerequisite for evaluating the convergent validity of a study. Furthermore, the external loading of each variable holds considerable importance in the overall computation. Furthermore, it is noteworthy that every variable exhibits a considerably elevated Cronbach's Alpha value. According to Ringle (2011), the composite

reliability evaluates the extent to which a set of indicators for a latent construct are consistent in measuring that construct, while the average variance extracted estimates the level of shared variance among the indicators. Furthermore, Cohen (2016) illustrates that objects having reliability scores ranging from 0.4 to 0.7 are also deemed satisfactory, given that the overall reliability score is 0.80. Hair (2016) posited that an outer loading of 0.7 or higher is deemed significant, while items with a range of 0.4 to 0.7 are deemed acceptable.

**Table 4.17**  
**Construct Reliability and Validity**

Variable	Items	Outer Loading	Composite Reliability (CR)	Average Variance Extracted (AVE)
SQ	SQ1	0.899	0.920	0.790
	SQ2	0.898		
	SQ3	0.887		
	SQ4	0.870		
IQ	IQ1	0.764	0.706	0.509
	IQ2	0.467		
	IQ3	0.837		
	IQ4	0.575		
PU	PU1	0.691	0.745	0.790
	PU2	0.760		
	PU3	0.698		
	PU4	0.804		
PEOU	PEOU1	0.822	0.859	0.676
	PEOU2	0.835		
	PEOU3	0.871		
	PEOU4	0.758		
UI	UI1	0.869	0.922	0.786
	UI2	0.871		

	UI3	0.904		
	UI4	0.901		
BI	BI1	0.720	0.809	0.603
	BI2	0.834		
	BI3	0.807		
	BI4	0.741		
AU	AU1	0.814	0.884	0.737
	AU2	0.876		
	AU3	0.887		
	AU4	0.856		

#### **4.9.2 Discriminant Validity**

In order to evaluate the extent to which items differentiate across constructs or measure distinct concepts, it is necessary to investigate the correlations that exist between the measurements of potentially overlapping constructs. This can be done by looking at the relationships between the measurements. Before conducting a research on the correlations between latent variables, it is standard practise to first carry out a method that has become well-established: an evaluation of a measure's potential to discriminate between different groups of individuals. Because of this, the measure of discriminant validity takes into account both the latent variable and the cross loading of each variable. This is a direct result of the previous point. In structural equation modelling that is based on variance, like partial least squares, discriminant validity (also known as divergent validity) determines whether or not components that should not have any association actually do not have any relationship. This is determined by determining whether or not components that should not have any association actually do not have any relationship. Finding out whether or not components that should not have any link truly do not have any relationship is how this is discovered. One strategy for achieving this objective is to examine the similarities and differences between the two distinct data sets.

A latent variable is a made-up construct that is brought into play with the intention of providing an explanation for observed covariation in behaviour. In addition, a latent variable is a made-up construct. This explanation is being provided via the use of a fictitious construct that is being used in the game. Latent variables are sometimes referred to as factors, and they have an extensive and illustrious statistical history that may be found in the study literature on factor analysis. In the scholarly literature on factor analysis, this history may be traced. [Citation needed] The fundamental concept that drives this thought is that a covert variable or element is a root cause of a variety of behaviours that have been seen. This is the main theory that underpins this concept. This is the fundamental principle that serves as the foundation for this concept. Individual variations in language ability of the persons taking the test are reflected in the diversity in responses to each specific question on the examination. This occurs in addition to the possibility of committing a mistake throughout the test. In the framework of factor analysis, if we were to talk about this sort of test, we might say something like this: (Kline, 2011). The rho A function, in addition to this, calculates the rho A reliability indices for each construct that is the focus of the inquiry. When it comes to formative structures (Dijkstra, 2013). (Dijkstra, 2013). Additionally, the same limitations are imposed on rho A, which dictates that the composite dependability must be greater than 0.7 in order to fulfil the criteria.

#### **4.9.3 Latent Variable Correlation**

In table 4.19, the correlation between all variables, including the latent variable, is shown graphically. The Fornell-Larcker criterion has been used rather often as a method for determining

the degree of shared variance that exists between both of the latent variables that are accounted for by the model. The reason for this is because the criteria wasn't established until the 1960s. In accordance with this criteria, the convergent validity of the measurement model may be analysed by calculating the Composite Reliability and the Average Variance Extracted (AVE), respectively (CR). It is essential to point out that the table illustrates that the links between the different variables are significant both horizontally and vertically. This is one of the most crucial takeaways from the table. The actual use variable has the highest possible horizontal value as well as the biggest possible vertical value. In addition, the degree of internal control is the highest both horizontally and vertically across the whole organisation. It is essential to point out that the latent variable indicator is also interesting since it earned a score of 0.70 in each variable. This is the reason why it is vital to mention this out.

**Table 4.18**  
**Latent Variable Correlations (Fronell-Lacer criteria)**

<b>variable</b>	<b>AU</b>	<b>SQ</b>	<b>IQ</b>	<b>PU</b>	<b>PEOU</b>	<b>BI</b>	<b>UI</b>
<b>AU</b>	0.714						
<b>SQ</b>	0.701	0.713					
<b>IQ</b>	0.690	0.700	0.722				
<b>PU</b>	0.622	0.670	0.629	0.709			
<b>PEOU</b>	0.601	0.600	0.620	0.553	0.713		
<b>BI</b>	0.275	0.321	0.152	0.359	0.362	0.725	
<b>UI</b>	0.374	0.433	0.352	0.478	0.368	0.324	0.770

#### 4.9.4 Cross Loading

The findings shown in table 4.20 illustrate that each and every item has significant weight in each and every column. In addition to this, the Items in the model load their own constructions with a greater amount of weight than any other structures do. The cross loadings show that each item has significant affects not just on itself but also on the other items that are contained within each column of the same variable. These influences are not only limited to the item's own values but also extend to those of the other items. In addition to this, the things have been performing very well in contrast to the performance of other products.

**Table 4.19**  
**Cross Loading**

variable	Items	SQ	IC	MI	BI	PI	RM	SI
<b>SQ</b>	SQ1	<b>0.899</b>	0.415	0.461	0.376	0.426	0.411	0.447
	SQ2	<b>0.898</b>	0.488	0.532	0.456	0.441	0.467	0.482
	SQ3	<b>0.887</b>	0.455	0.456	0.411	0.412	0.506	0.454
	SQ4	<b>0.870</b>	0.523	0.461	0.497	0.440	0.420	0.480
<b>IQ</b>	IQ1	0.426	<b>0.764</b>	0.415	0.410	0.348	0.384	0.302
	IQ2	0.360	<b>0.467</b>	0.400	0.396	0.426	0.374	0.358
	IQ3	0.416	<b>0.837</b>	0.479	0.474	0.495	0.470	0.426
	IQ4	0.337	<b>0.575</b>	0.427	0.404	0.429	0.432	0.374
<b>PU</b>	PU1	0.407	0.412	<b>0.691</b>	0.394	0.363	0.444	0.482
	PU2	0.472	0.426	<b>0.760</b>	0.454	0.425	0.448	0.454
	PU3	0.481	0.435	<b>0.698</b>	0.361	0.320	0.359	0.396
	PU4	0.413	0.445	<b>0.804</b>	0.460	0.377	0.369	0.474
<b>PEOU</b>	PEOU1	0.450	0.461	0.475	<b>0.822</b>	0.438	0.519	0.510
	PEOU2	0.430	0.487	0.502	<b>0.835</b>	0.396	0.513	0.471
	PEOU3	0.463	0.487	0.526	<b>0.871</b>	0.454	0.516	0.450
	PEOU4	0.410	0.490	0.503	<b>0.758</b>	0.394	0.397	0.389
<b>UI</b>	UI1	0.469	0.556	0.562	0.493	<b>0.869</b>	0.515	0.492
	UI2	0.446	0.528	0.558	0.450	<b>0.871</b>	0.524	0.402
	UI3	0.452	0.488	0.506	0.435	<b>0.904</b>	0.509	0.414
	UI4	0.523	0.561	0.500	0.429	<b>0.901</b>	0.500	0.513
<b>BI</b>	BI1	0.497	0.430	0.521	0.463	0.454	<b>0.720</b>	0.471
	BI2	0.482	0.443	0.504	0.532	0.475	<b>0.834</b>	0.431
	BI3	0.393	0.432	0.417	0.508	0.439	<b>0.807</b>	0.409

	BI4	0.423	0.434	0.468	0.467	0.433	<b>0.741</b>	0.450
AU	AU1	0.527	0.502	0.504	0.475	0.428	0.422	<b>0.814</b>
	AU2	0.409	0.462	0.484	0.526	0.543	0.383	<b>0.876</b>
	AU3	0.541	0.503	0.507	0.483	0.376	0.414	<b>0.887</b>
	AU4	0.284	0.324	0.365	0.390	0.394	0.320	<b>0.856</b>

## 4.10 The Assessment of Structural Model

### 4.10.1 Coefficient of Determination

The determination coefficient, commonly denoted as R<sup>2</sup>, is a crucial finding that can be obtained through regression analysis. The term "coefficient of determination" refers to the proportion of the overall variability observed in the dependent variable that can be explained by the independent variable. The aforementioned notion pertains to the extent to which the independent variable is capable of elucidating the variability observed in the dependent variable. The R-squared statistic, also known as the coefficient of determination, holds significant value in statistical analysis (Hair, 2011; Hair, 2012; Henseler, 2009). According to Hair (2010), the R-squared statistic denotes the proportion of variability in the dependent variable(s) that can be explained by the predictor variable(s). Hair (2010) suggests that a minimum acceptable level of R-squared value is 0.10, although it should be noted that the acceptable level of R<sup>2</sup> value is contingent upon the specific context of the study. Chin (2010) posited that R<sup>2</sup> values exceeding 0.67 are deemed high, while those ranging from 0.33 to 0.67 are considered moderate. Additionally, values ranging from 0.19 to 0.33 are deemed low, and R<sup>2</sup> values below 0.19 are deemed unacceptable.



**Table 4.20**

**Coefficient of Determination**

variable	R Square	R Square Adjusted	The Degree of Effect
BI	0.227	0.209	Moderate
AU	0.518	0.516	High

#### **4.10.2 Effect Size (F Square) Analysis**

Variations in the value of R squared provide an indication of the relative influence that a certain exogenous latent variable has on one or more endogenous latent variables. This effect may be on one or more endogenous latent variables. This may be determined by contrasting the R-squared value from before the exogenous variable was included with the value after it was included. These shifts provide evidence of the significant nature of the effect. It is computed as the increase in R-squared of the latent variable to which the route is related, in comparison to the fraction of the latent variable's variance that is still unexplained. This is done so in order to determine the strength of the relationship between the route and the latent variable (Hair, 2014). To convey the scope of the impact, one may make use of a formula such to the one that is provided below. Table 4.22 reveals that a medium-sized effect is connected with a willingness to make use of something.

**Table 4.21**  
**Effect Size (F Square) Analysis**

variable	F Square	Effect Size
System Quality	0.28	Medium
Information Quality	0.14	Small
Perceived Usefulness	0.32	Medium
Perceived Ease of Use	0.54	Large
User Interface	0.45	Large
Behavioral Intentions	0.46	Large
Actual Use	0.30	Medium

#### 4.10.3 Construct Cross Validated Redundancy ( $Q^2$ )

Table 4.23 presents the results of the construct cross-validation as well as the redundancy of each variable. It is necessary to know the amount of predictive power that PLS has before you can use it to produce reliable predictions. According to Fornell and Johnson (2001), a value that is less than zero implies that the model does not have predictive relevance, whereas a cv-red number that is more than zero shows that there is predictive importance. As a result of this, the data have shown that actual use of 0.384 and an intention to use of 0.180 are acceptable.

**Table 4.22**  
**Construct Cross Validated Redundancy ( $Q^2$ )**

Variable	SSO (sample size original)	SSE (sample size effect)	$Q^2(=1-SSE/SSO)$
BI	1.161.000	714.739	0.384
AU	903.000	740.605	0.180
PEOU	903.000	903.000	
PU	903.000	903.000	
UI	903.000	903.000	
SQ	1.161.000	1.161.000	
IQ	1.032.000	1.032.000	

#### 4.10.4 Goodness Of Fit Of The Model (GOF)

Tenenhaus, Vinzi, Chatelin, and Lauro are responsible for the establishment of GoF as the global fit measure (2005). The geometric mean of the average variance extracted (AVE) and the average R<sup>2</sup> of the endogenous variables is the GoF. This value is also referred to as the geometric mean of the average R<sup>2</sup>. The purpose of the GoF is to present an accounting of the research model on both levels, specifically measurement and evaluation. Table 4.24 reveals that the model's goodness of fit (GOF) is 1.57. GoF values greater than 0.36 are considered acceptable. As a direct result of this, the value of Gof in this model is quite high. It is important to note that Henseler has provided the criteria for GoF that can be used to determine whether the GoF values are a fit, whether they are small, medium, or large, and whether they qualify as a globally valid PLS model (2014). Model of the structure with an emphasis placed on the overall performance of the model (Henseler, 2014). The following is the formula that is used to calculate GoF:

$$\sqrt{\text{GOF} = \sqrt{R^2 * \text{AVE}}}$$

**Table 4.23**

**Goodness of Fit Of The Model (GOF)**

	R Square	AVE
BI	0.681	0.539
AU	0.484	0.521
PEOU		0.509
PU		0.510
UI		0.508
SQ		0.503
IQ		0.592
The Average	0.5825	0.542
GOF	1.57	

#### **4.10.5 Path Coefficient of the Research Hypothesis**

When doing a route analysis, the link between the models should have the qualities of a linear relationship in order to be considered valid. It is necessary for the relationships that now exist between the models to have an additive aspect to them in terms of their nature. When doing a path analysis, the relationship that currently exists between the models must have the qualities of a causal one in order to be considered valid. For the data that is being used, it is highly recommended that a scale of some type that is interval-based be used. [Here's a good example:] It is a presumption made within the framework of route analysis that none of the error terms are related with one another across the various variables. This is due to the fact that the theory takes into consideration a very wide variety of elements. Through the use of this method, there is an effort made to bring down the amount of volatility that may be discovered in the data. In addition to this, there is the assumption that mistakes do not have any form of link or association with one another at all. When doing a route analysis, the assumption is made that there is only one feasible path that can be taken by causality from point A to point B. This is done so that the results of the study may be more accurately predicted. Path coefficients are a normalised version of linear regression weights that are useful in the structural equation modelling technique that can be used to investigate the possibility of a causal relationship between a variety of statistical variables. This technique can be used to determine whether or not there is a correlation between the variables. It is possible to use this method in order to ascertain whether or not there is a connection between the variables being studied. It is feasible to accomplish the goals of this study by making use of the route coefficients as a research instrument. Path analysis is a technique that was developed as a tool for deconstructing correlations into the component pieces of such correlations in order to investigate

the impact of such correlations. This deconstruction of correlations into their component pieces is accomplished through the use of path analysis.

Multiple regression and path analysis have a very tight connection; in point of fact, one might argue that regression is a subset of path analysis. Path analysis and multiple regression have a very strong connection. This is because path analysis is a subset of multiple regression, which explains why this is the case. "Causal modelling" is a term that is used by some individuals to refer to route analysis and other approaches that are conceptually linked to it. [The modelling of causes and effects] (Hair, 2011). This methodology derives its name from the processes that enable us to test theoretical claims about cause and effect without having to resort to the manipulation of variables. Because of this, we are able to test these statements using this methodology, which gives this methodology its name. The term "causal modelling" refers to an assumption that is made by the model rather than a quality of the product or a result that is achieved by the technique. On the other hand, when we talk about causality, we're referring to an assumption that the model has made. That is to say, people begin with the presumption that certain variables are linked to one another by a chain of causation, and then they use the tools to test hypotheses about those variables. In other words, people begin with the assumption that certain variables are linked to one another by a chain of causation. Even if the premises are shown to be true, this does NOT imply that the hypotheses on the underlying causal relationships are correct. (Becker , 2012).

**Table 4.24**  
**Direct Hypothesis**

<b>Hypothesis</b>		Std. Beta	Sample Mean (M)	Std. Error	T-value	P-value	Decision
H1	. System Quality On Actual Use	0.220	0.218	0.061	3.640	0.000	Accepted
H2	Information Quality On Actual Use	0.227	0.226	0.075	3.013	0.003	Accepted
H3	Perceived Usefulness On Actual Use	0.190	0.195	0.059	3.217	0.001	Accepted
H4	Perceived Ease of Use On Actual Use	0.182	0.186	0.062	2.956	0.003	Accepted
H5	User Interface On Actual Use	0.238	0.233	0.059	4.015	0.000	Accepted

Because the P value is 0.000, on-actual-use hypotheses are accepted. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. In addition, the Perceived Usefulness (PU) on System Quality is disregarded due to the fact that the P value of 0.566 is much greater than the P-value. In addition, the results of the Perceived Ease of Usage (PEOU) test on actual use did not attain a significant level since they were greater than the value required for significance. In addition, the quality of the information on its use. User interface With regard to real use and system quality On the actual usage and the quality of the information P values that fall within the substantial range of 0.000 to 0.005 may be found for real usage, which also has a considerable impact.

The Indirect Hypothesis is shown in Table 4.26 via the use of Behavioral Intention as a Moderator variable. It is clear from this that the correlation between Perceived Usefulness (PU) and actual usage is not significant since the P-value has been able to attain a level of significance that is greater than the threshold of significance. In addition, the significance of each and every hypothesis

is equal. There is a statistically significant connection between Perceived Ease of use, also known as PEOU, and actual use, with behavioural intention serving as a moderator. In addition, the inclusion of behavioural intention as a moderator variable reveals a substantial link between perceived ease of use and actual use.

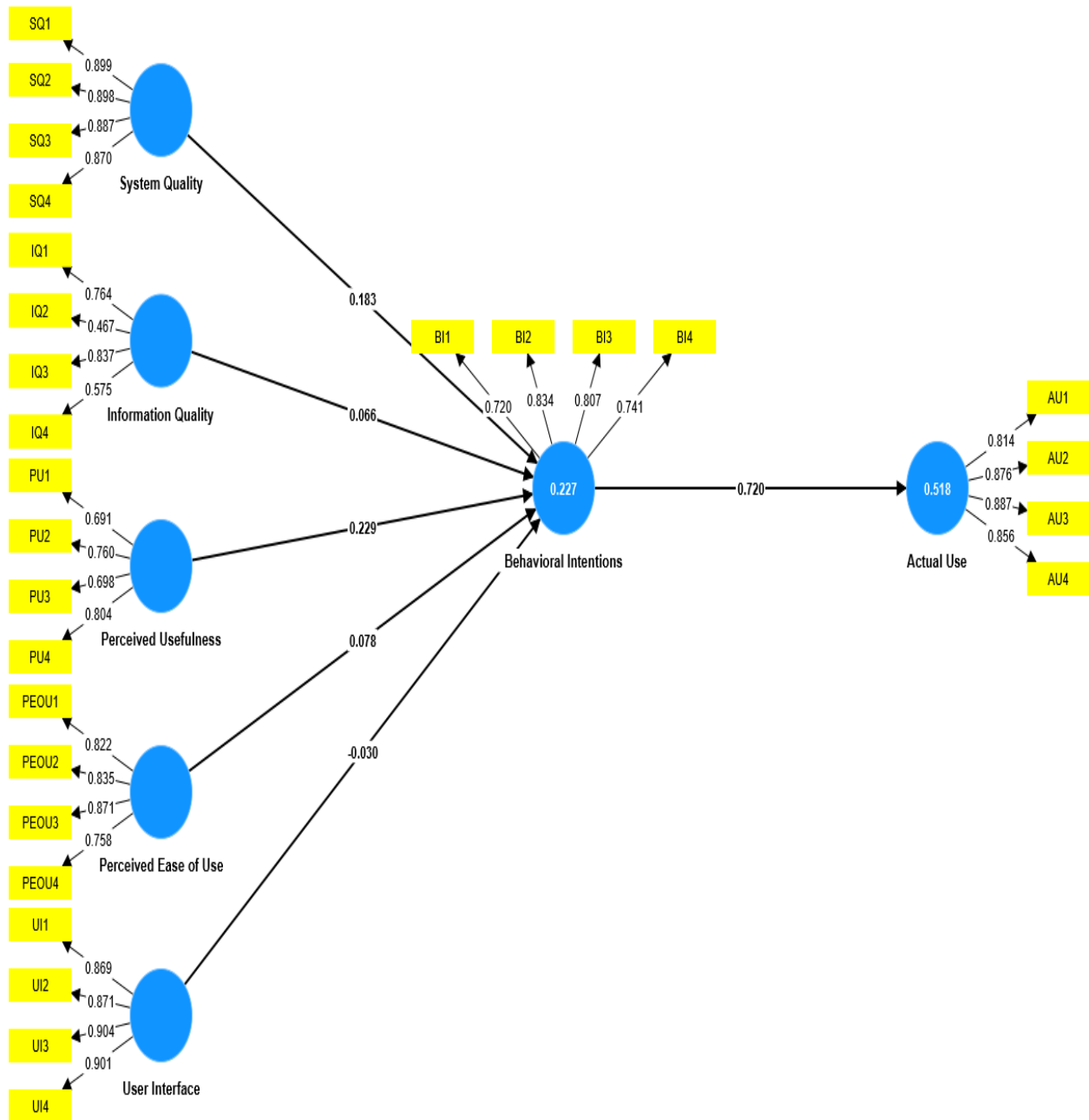
**Table 4.25**

**Indirect Hypothesis by Behavioural Intention as a Moderator Variable**

Hypothesis	Std. Beta	Sample Mean (M)	Std. Error	T- value	P- value	Decision
H7 System Quality On Actual Use	0.180	0.182	0.047	3.806	0.000	Accepted
H8 Information Quality On Actual Use	0.238	0.233	0.059	4.015	0.000	Accepted
H9 Perceived Usefulness On Actual Use	0.149	0.146	0.048	3.084	0.002	Accepted
H10 Perceived Ease of Use On Actual Use	0.141	0.143	0.050	2.805	0.005	Accepted
H11 User Interface On Actual Use	0.256	0.260	0.051	5.017	0.000	Accepted

Figure 4.2 demonstrates that the measuring and outer model of the information and communication on actual use is determined by using behavioural intention as a moderate variable. This is shown in the figure. The model has shown that there is a substantial relationship between the outer loading of each variable and the overall loading. In addition, the desire to use and the R square indicators of the dependent variables have been moderated and approved. As a result, understanding how each variable should be interpreted is helpful. Every aspect of the outside loading is crucial. According to hair (2016), however, all outer loadings ranging from 0.4 to 0.7 are considered acceptable. In addition, Cohen (2010) demonstrates that there is no need to remove the outer loading lower than 0.7 if the composite dependability is extremely good or is able to accomplish 0.80. As a consequence of this, every outer loading count for something meaningful in every variable.

**Figure 4.2**  
**The Model of Study**





## **CHAPTER FIVE**

### **DISCUSSION AND CONCLUSION**

#### **5.1 Introduction**

The results, together with their respective comments, are going to be presented in this chapter. The next section of the chapter offers suggestions for additional research that should be conducted in light of the limitations of the current study. The chapter brings the whole investigation to a close by presenting a summary of the general findings.

#### **5.2 Study Findings**

The conclusions drawn from the analysis provide explanations for the answers to the inquiries about the research that were posed in the first section of the book. The total number of hypotheses that have been developed is eight, with the first four being direct hypotheses and the other four being indirect hypotheses. The findings are in relation with the application of the UTAUT theory to the examination of the variables. The statistical study that was done on the numerous components led to the finding of these results. The findings are explained by addressing the questions in the order that they were presented, along with the purpose and hypothesis that pertain to each question

The findings were presented in the form of five separate chapters. In Chapter One, we discussed the history of the study, the problem statement, the goals of the investigation, the research questions, the importance of the study, the research hypotheses, the scope of the study, the limitations of the study, and the definitions of words. This was followed by Chapter Two that

offered a review of literature covering pertinent studies dealing with the study issue and Chapter Three, which gave the technique employed and the description of instruments along with the data collecting. In the fourth chapter, the replies that were acquired from the disseminated questionnaires were presented, and in the fifth chapter, both the recommendations of the study and the conclusion of the research were presented

**Q1: What is the influence of quality system on actual use in One of the Turkish Universities?**

**OB1: To determine the impact of system quality on Actual use in One of the Turkish Universities**

**H1: There is a direct significant relationship between system quality on actual use in One of the Turkish Universities.**

Because there is Quality system on actual use in One of the Turkish Universities cause P value is 0.000, the P value is 0.000. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. According to the findings of the route analysis, there is a directly substantial connection between the quality system that is really being used at One of the Turkish Universities. In addition, the findings of the correlation study indicate that there is a meaningful connection between One of the Turkish Universities's Quality system and its practical application. In addition, the findings of the descriptive analysis demonstrate that the components of both axes reached significant levels associated to the Likert scale. Similar to Alenezi (2022), the outcome coincided with the findings of Yilmaz (2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is a connection between the quality management system that is really being implemented at One of the Turkish Universities. Both the hypothesis and the goals were successful in being accomplished.

**Q2: What is the influence of Information Quality on Actual use in One of the Turkish Universities?**

**OB2: To discover the influence of Information Quality on Actual use in One of the Turkish Universities.**

**H2: There is a direct significant relationship between information quality on actual use in One of the Turkish Universities**

The quality of the information about its actual usage at One of the Turkish Universities is 0.000, hence the P value is very low. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. According to the findings of the route analysis, there is a direct and substantial connection between the quality of the information and its use at One of the Turkish Universities. At addition, the outcome of the correlation analysis demonstrates that there is a substantial link between the quality of the information and its practical use in One of the Turkish Universities. In addition, the findings of the descriptive analysis demonstrate that the components of both axes reached significant levels associated to the Likert scale. Similar to Eranıl (2022), the outcome coincided with the findings of Eranıl (2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is a connection between the quality of the information and how it is really put to use at One of the Turkish Universities. Both the hypothesis and the goals were successful in being accomplished.

**Q3: What is the effect of Perceived Usefulness on Actual use in One of the Turkish Universities?**

**OB3: To investigate the effects of Perceived Usefulness on Actual use in One of the Turkish Universities.**

**H3: There is a direct significant relationship between perceived usefulness on actual use in One of the Turkish Universities.**

The perceived usefulness of something on actual usage at One of the Turkish Universities is 0.000, according to the P value. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. According to the findings of the path analysis, there is a direct and substantial association between the Perceived Usefulness and the actual usage at One of the Turkish Universities. In addition, the findings of the correlation study indicate that there is a considerable link between the perceived usefulness of something and its actual use at One of the Turkish Universities. In addition, the findings of the descriptive analysis demonstrate that the components of both axes reached significant levels associated to the Likert scale. Similar to Kondakci (2022), the outcome coincided with the Kondakci (2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is a connection between the perceived usefulness of something and its actual use at One of the Turkish Universities. Both the hypothesis and the goals were successful in being accomplished.

**Q4: What is the influence of Perceived Ease of Use on Actual use in One of the Turkish Universities?**

**OB4: To analyze the influence of Perceived Ease of Use on Actual use in One of the Turkish Universities.**

**H4: There is a direct significant relationship between perceived ease of use on actual use in One of the Turkish Universities.**

The P value for the correlation between perceived ease of use and actual usage at One of the Turkish Universities is 0.000. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. According to the findings of the path analysis, there is a clear and substantial link between the perceived ease of use and the actual usage that takes place at One of the Turkish Universities. In addition, the result of the correlation study demonstrates that there is a substantial link between the actual usage of the software at One of the Turkish Universities and the perceived ease of using the software there. In addition, the findings of the descriptive analysis demonstrate that the components of both axes reached significant levels associated to the Likert scale. Similar to Çelik (2022), the outcome coincided with the findings of the literature review (2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is a connection between the perceived ease of use and the real-world use of the software at One of the Turkish Universities. Both the hypothesis and the goals were successful in being accomplished.

**Q5: What is the effects of User Interface on Actual use in One of the Turkish Universities?**

**OB5: To explore the effects of User Interface on Actual use in One of the Turkish Universities.**

**H5: There is a direct significant relationship between User Interface on actual use in One of the Turkish Universities.**

Because the P value is 0.000, the user interface is now being used at One of the Turkish Universities. It is important to highlight that the degree of significance reached ranged from 0.000 to 0.005. According to the findings of the path analysis, there is a clear and substantial link between the perceived ease of use and the actual usage that takes place at One of the Turkish Universities. In addition, the results of the correlation study indicate that there is a substantial link between the User Interface and the actual usage that takes place at One of the Turkish Universities. In addition, the findings of the descriptive analysis demonstrate that the components of both axes reached significant levels associated to the Likert scale. Similar to Tuncay (2022), the outcome coincided with the findings of the literature review (2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is a connection between the User Interface and the way it is really implemented at One of the Turkish Universities. Both the hypothesis and the goals were successful in being accomplished.

**Q6: Is Behavioral Intentions has effects on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities?**

**OB6: To identify effects Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities.**

**H6: There is indirect effect of Behavioral Intentions on the relationship between Quality of the Industrial Engineering Education System on Actual use in One of the Turkish Universities.**

The findings indicate that there is an indirect influence of behavioural intention in the interaction between the many factors that determine the quality of the education system for industrial engineering. Due to the fact that it obtained the significant level below 5%, the investigation's findings suggest that there is an indirect significant association between the quality system and actual usage, with behavioural intention serving as a mediating variable. This was discovered at One of the Turkish Universities. Due to the fact that it attained a significant level lower than 5%, the study's findings indicate that an indirect significant association exists between information quality and actual usage, with behavioural intention serving as a mediating variable. This was discovered at One of the Turkish Universities. Due to the fact that it attained the significant level below 5%, the study's findings indicate that there is a substantial link, although an indirect one, between the user interface and the actual usage of the product at One of the Turkish Universities. This relationship is mediated by behavioural intention. Due to the fact that it achieved the significant level below 5%, the study's findings indicate that there is a significant relationship between perceived use and perceived ease of use on actual use, and that this relationship is mediated by behavioural intention as a variable. The study was conducted at One of the Turkish Universities. Similar to İçen, the outcome coincided with the findings of the literature review

(2022). It demonstrates that the study came to the same conclusion that the research did. As a consequence of this, there is an indirect link between the factors that influence the quality of the system that One of the Turkish Universities really employs. Both the hypothesis and the goals were successful in being accomplished.

### **5.3 Contribution of Study**

The significance of the research may be broken down into two categories: practical contribution and theoretical contribution.

#### **5.3.1 Practical Contribution**

Practically, this could serve well in developing a training plan for the influence of the quality of the industrial engineering education system with the structural equation modelling in One of the Turkish Universities. The model reveals the significant level of the variable of (quality system, information quality, user interface, behavioural intention, perceived use and perceived ease of use).

#### **5.3.2 Theoretical Contribution**

The research makes a substantial contribution to the body of UTAUT literature in the context of factors that effect on quality education system on actual usage at One of the Turkish Universities, which is a factor that is included in the study's framework. In addition to this, it adds the theoretical framework of Intention And Toward Using by combining it with the elements of the UTAUT theory.



## **5.4 Limitations of the Study**

There are three significant limitations to the study: first, the research was limited to just One of the Turkish Universities, which served as the study's sample for the years 2019-2022; second, the research was only conducted in Turkish. The researcher was able to get an understanding of the elements that influence the quality of the educational system at One of the Turkish Universities throughout this time period. In addition, the subjective limitations in terms of assessing whether or not the educational system at One of the Turkish Universities is of sufficient quality. The purpose of this investigation into the subjectivity of the limitation is to determine the level of excellence present in the educational programme at One of the Turkish Universities.

## **5.5 Recommendation of Future Studies**

Actual use is a strong tool that can help improve the level of schooling. Due process and wrongdoing are the main ideas that lead the creation of a complete and high-quality educational system. The union and the government should work together to figure out how the system should be set up. These things should be worked out in accordance with One of the Turkish Universities's rules and laws. In this study, statistical tests of independence were used to see if there was a link between the variables that are thought to be independent and the variables that are thought to be dependent. Also, Friedman's ranking test can be used to find out how the effects of different independent factors affect each other. Using these ranks makes strategy planning a lot easier. In the very last step of the process, the results of all the different tests are looked at.

It has also been found that the quality policies that have been brought to light have a lot to do with the amount of education and the students' physical skills. There is a case to be made for putting more focus on the quality of education than on the number of students. Another thing that can be learned from this study is that to achieve success in educational settings, you need to look at the whole educational system (all quality components) as a whole. From a structured and all-around point of view, the Turkish National Education System's quality policies have helped define what makes an education good. So, things are getting better. Even so, it seems hard to be sure that policy decisions made in a vacuum, away from what is happening on the ground, will hold up in the long run. People think there is still a long way to go in putting the theoretical quality frame into practise, developing principals, teachers, and programmes, making sure communication and coordination, putting administrative processes into place, democratising and sharing participation, and improving student learning, which is the result of quality education.

## **5.6 Conclusion**

The goal of this study is to find out what factors affect the level of education at One of the Turkish Universities. The trouble with the study is that it shows that the education system at One of the Turkish Universities is not very good. The study focused on Determining the Factors Affecting the Quality of the Industrial Engineering Education System with Structural Equation Modelling in One of the Turkish Universities. This study used the quantitative research method to explain and analyse the Determining the Factors Affecting the Quality of the Industrial Engineering Education System with the Structural Equation Modelling in One of the Turkish Universities. There are 550 students at One of the Turkish Universities who are part of the study group. The number of people in the group is 226. The UTAUT theory and the variables that were taken from it were used in this work. Due to the large amount below 5%, there is a good correlation between the quality system

and how it is actually used. Also, the results show that there is a secondary effect of action purpose in the link between factors of quality education system and real use in One of the Turkish Universities. The study suggests that the reasons to improve the education system at One of the Turkish Universities should be looked at in more depth. It has also been found that the quality policies that have been brought to light have a lot to do with the amount of education and the students' physical skills. There is a case to be made for putting more focus on the quality of education than on the number of students.

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