QATAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

FACTORS AFFECTING APPLICATION DOWNLOADING IN QATAR

BY

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A Project Submitted to

the College of Business and Economics

in Partial Fulfillment of the Requirements for the Degree of

Master of Business Administration

January   2022

COMMITTEE PAGE

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ABSTRACT

ALSHAMARI, JAWAHER., Masters : January : 2022

Master of Business Administration

Title: Factors Affecting Application downloading in Qatar

Supervisor of Project: Prof. Emad A. Abu-Shanab.

Smartphone applications have gained excessive attention during the last couple of years due to the increasing number of mobile application downloads, withal its revenues. A smartphone application, or mobile device application, is an application program designed to run on eye-catching telephones, tablets, and other mobile computers. An application is meaningful or desirable if the purpose is to help people get involved with meaningful interactions or the application is designed in a more computer-like approach like a website. Applications are delivered in robust application stores via delivery platforms. This research intends to discover the key variables that affect application downloading by examining the download popularity of applications by concentrating on the unified theory of acceptance and use of technology (UTAUT2) variables.

This theory is very valuable in field of information systems analysis in studying consumer behavior and the range of technology acceptance the individual has and their ability to use. We have answered the research question by gathering data and analyzing the hypotheses of this research through an online-based survey. The data was collected from 191 random people.

Also, multivariate regression analyses are applied in order to investigate the model developed in this research. This research will highlight on the mediation role of

proposed variables on the applications downloading and how those factors could affect

the downloading behavior of people in Qatar. This research will provide the required

data analysis for potential application developers and owners who may benefit from the

study practices and implications to develop the right application for the Qatari market.

Keywords: application stores, mobile applications, Mobile Application development,

Qatar.

DEDICATION

I dedicate this research and give special thanks to my mother for being a constant source of support and encouragement throughout the entire MBA program.

ACKNOWLEDGMENTS

I would like to extend my sincere thanks to my supervisor Prof. Emad A. Abu-Shanab for his contribution to my graduation project success. My project could not have been accomplished without your valuable advice, support, and encouragement.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1 Background Information

The user-friendly mobile devices are the most common and essential expedient for the human capital during the last few years. The developers of mobile applications are motivated to deliver software based on schedule and budget. To create trust in growth and stakeholder relations, technology predictions play a crucial role (Van Velthoven et al., 2018). Several methods to approximate the conventional applications were adapted (Kaur & Kaur, 2018). The overall goal is to create applications that people would download, and to do so, requires using an appropriate methodology in testing and development.

A typical life cycle called the STLC software testing cycle is included in the testing process for conventional software production (Lamberg et al., 2019). Wang et al. (2018) reported using some techniques and instruments to assess mobile applications to validate consistency, efficiency, QoS, and functionality such as mobility and responsiveness, interoperability, connectivity, privacy, and security. Studies suggest that these functionalities influence the consumer's usage of the application, ultimately increasing online recommendations and ratings. To create a user-friendly platform that would increase the application's rating, there must be test design, test performance, and test interpretation within the testing framework (Jayatilleke, Kaur & Kaur, 2018).

Smartphone users' performance and the mobile business value chain are both influenced by mobile applications. By looking into the data sources for mobile application usage, many papers and studies are trying to reach for the factors and variables. Accordingly, examining this is valuable to guide application designers and publishers to develop more credible applications and marketing strategies (Jung, 2012).

Moreover, results of previous studies and research papers indicated an increase in market share of products or services provided to clients and achieve revenue. In addition, applications ranking affected the number of application downloads in both Android and Apple application stores as well (Chevalier, 2013)

For a long time, the difficulty of creating economic value through mobile applications has been a hot topic among application developers and publishers. This study looks at the factors that could be worth influencing mobile application downloads. To illustrate, larger the number of downloads, better the software meets the user's expectations in terms of functionality. The profit rate of application makers and publishers will reflect this theory.

1.2 Purpose of the Study

The paper contributes significantly to the factors that affect mobile application downloads covering an area that must be considered in the mobile application development process by developers. Studies reveal that applications developed with high quality features get more recommendations and ratings, ultimately increasing the number of downloads. We shall indicate this through discussing our results in light of previous studies. This research is aiming to answer the following question:

What are the variables influencing mobile Application downloading behavior in Qatar?

This study will outline the characteristics combined to draw the attention of the users. Furthermore, the research paper aims to study the variables that affect the number of application users and to check whether the Qatari context support the UTAUT2 framework.

The degree to which employing technology will aid users in accomplishing specific activities is referred to as performance expectancy. Social influence, as defined by Venkatesh et al. (2003), refers to the degree to which the user believes that his important others, such as colleagues and relatives, must use a technological system or application. Hedonic Motivation is defined by Venkatesh et al. (2003), as the enjoyment or pleasure gained from utilizing technology that has been found to overcome a crucial influence in deciding technology acceptability and utilization. The behavioral intentions to download an application are highly impacted by effort expectancy. Consumer views of the resources and assistance available to undertake an activity are referred to as Facilitating Conditions.

An extension to this research model is the Perceived online experience variable that falls into three main categories, that would highlight the impact of online rating and recommendations (e.g., online review visibility and performance), graphic features of application icons (e.g., visual metaphors and anthropomorphism). The objective of this paper is to determine the factors that contribute in downloading mobile applications.

1.3 Scope of the Study

All Qatari citizens and residents above the age of 18 who intend to download an application have been included in the study population. The study focuses on reflecting the data collected based on six variables (performance expectancy, social influence, hedonic motivation, effort expectancy, facilitating conditions and perceived online experience) to determine the possible key success factors that could affect the number of applications downloaded in Qatar.

1.4 The Motivation behind the Study

For some marketers, getting smartphone owners to download an application is still a hurdle. According to studies, there are a variety of reasons why smartphone owners download a mobile application, and one of the most common reasons is simple; having a specific purpose in mind and believing the software would assist them.

The study's recommendations will give decision-makers, application managers, and project owners a clear picture of factors and variables that play a vital role in downloading applications by customers. Accordingly, they may strive harder to utilize these factors for increasing their market share and enhance the quality of the infrastructure information technology used by the developers. Our paper results will enrich the literature with variables and factors proved statistically; future researchers may build upon.

1.5 The Benefit of the Study

The current literature indicated a research need in the context of online application users in Qatar and its effect on their behavior to download an application. Furthermore, this research will discuss the relationship between the online user's intention to download an application and the variables that can affect their behavior.

The findings contribute to the existing literature by creating reliable association between ways of decision-making and variables that impact mobile application adoption. The findings will also help online businesses establish focused marketing strategies for segmenting and targeting clients with different decision-making habits.

1.6 Structure of the Study

The research project is designed into the following chapters.

Chapter 1: Introduction

The introduction chapter demonstrates the study by presenting an outline and background of the research study, identifying the purpose and the scope of the study. Moreover, this chapter will identify the motivation and benefits of the study.

Chapter 2: Literature review

This chapter justifies the definition of mobile applications; also, will go through the UTAUT model constructs and how does it evolve to UTAUT2, as well as the studies that have attempted to use the UTAUT2. This chapter will demonstrate the model elements.

Chapter 3: Research methodology

This section introduces the methodology employed to evaluate the most important factors of UTAUT2 model and how these variables could impact the user's intention to download on a platform in Qatar. Also, the study will represent the research question and the research model along with the hypothesis development along with the proposed model and its variables, research approach and design. Furthermore, it will demonstrate the data sources and validity of the questionnaire, including the questionnaire design, study sample, data collection, and statistical methods.

Chapter 4: Data Analysis and results

In this chapter, the study findings are given. The chapter summarizes data analysis and the outcome of the research.

Chapter 5: Discussion and implications

In this stage, the study will discuss the results of each method found in chapter 4 and test their contribution towards that model and the reasons behind each outcome.

Chapter 6: Conclusion

This chapter will discuss the research study limitations along with future research recommendations.

CHAPTER 2: LITERATURE REVIEW

2.1 Mobile Applications

A smartphone application, or mobile device application, is an application program designed to run on eye-catching telephones, tablets, and other mobile computers. An application is meaningful or desirable if the purpose is to help people get involved through meaningful interactions or the application is designed in a more computer-like approach than a website. Applications are delivered in robust app stores via delivery platforms. Both free and premium applications are available. Many applications initially are free to download, but later, users may have to pay a minimum charge to reap premium services and benefits. The dominant iPhone software, innovative user interface, and solid development ecosystem have led the applications to boom almost overnight. Mobile users have the most popular smartphones, such as iPhone, Android phones like Samsung, independent platforms like Huawei and Windows Phone.

The distributor usually earns 20-30 percent of the revenue from applications that have a price tag, while the application's developer takes the remainder (Scholz, 2016). The total number of applications downloaded by an average user of smartphone (Globally) is about 26 which is in accordance with mobile statistics. The number, therefore, indicates that the applications are time-consuming resources on cell phones. An application can extract material and information in the same manner as a website from the internet. It can also allow the material to be viewed and accessed in the absence of an Internet connection, which is a significant bonus. Therefore, applications without internet access are basically like a software that allows data to be accessed and used offline everywhere and any time. There are a few drawbacks that have continued to grow with the prevalence of smartphone applications particularly with the continuous increase in the rate of mobile phone users. This is obvious from the 2013 estimates

(Scholz, 2016): the estimated global mobile application installation was worth ten billion US dollars and the projected total mobile application turnover was about twenty-six billion US dollars in 2013.

Several websites and articles captured some mobile application statistical reports in terms of the number of developers increasing per year, the average growth in application download, application sales, the number of applications on platforms, and the most downloaded applications on platforms. However, not many websites/ articles discuss how many applications are removed, how many users uninstall applications, how many useful applications vs. applications that were total flops, what tempts users to delete applications, and what makes users deem an application terrible and bad (Scholz, 2016). Literature is limited to creating better software with suitable applications and how to change a lousy software to become excellent and useful.

2.2 Unified Theory of Acceptance and Use of Technology (UTAUT) Model

Information Technology (IT) approved studies have yielded several models and corresponding extensions. Some of the major user acceptance models include the following: Technology Acceptance Model (TAM), the Theory of Planned Behaviour (TPB), Model of PC Utilization (MPCU), Theory of Reasoned Action (TRA), Social Cognitive Theory (SCT), Innovation Diffusion Theory (IDT), Motivational Model (MM), and Combined TAM and TPB (C-TAM-TPB) (Ridhwan & Purwanto, 2019; Venkatesh et al., 2003; Venkatesh, Thong, & Xu, 2012; Wedlock & Trahan, 2019). Each of these models influence the technology adoption and utilization via their sets of factors. Venkateshh et al. (2003) The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed and scientifically confirmed model, which integrates different elements of the eight models highlighted above.

The original UTAUT has four primary determinants of individual aim to practice and actual usage of IT in addition to four moderators of major relationships as demonstrated in Figure 1 below. Venkatesh et al. (2003) argued that the following three constructs are directly influencing intentions of practice: performance expectancy, social influence, and effort expectancy. The fourth construct (facilitating conditions) and behavioral intention directly determines actual usage behavior. Each of the four different moderators (experience, age, gender, and voluntariness of use) has an impact on the four primary constructs. Venkatesh et al. (2003) postulates UTAUT has confirmed model better than the eight separate models in terms of predicting the level of accepting technology and usage. Seventy percent of the behavioral intention variance will be justified through the following model (Ridhwan & Purwanto, 2019; Venkatesh et al., 2003).
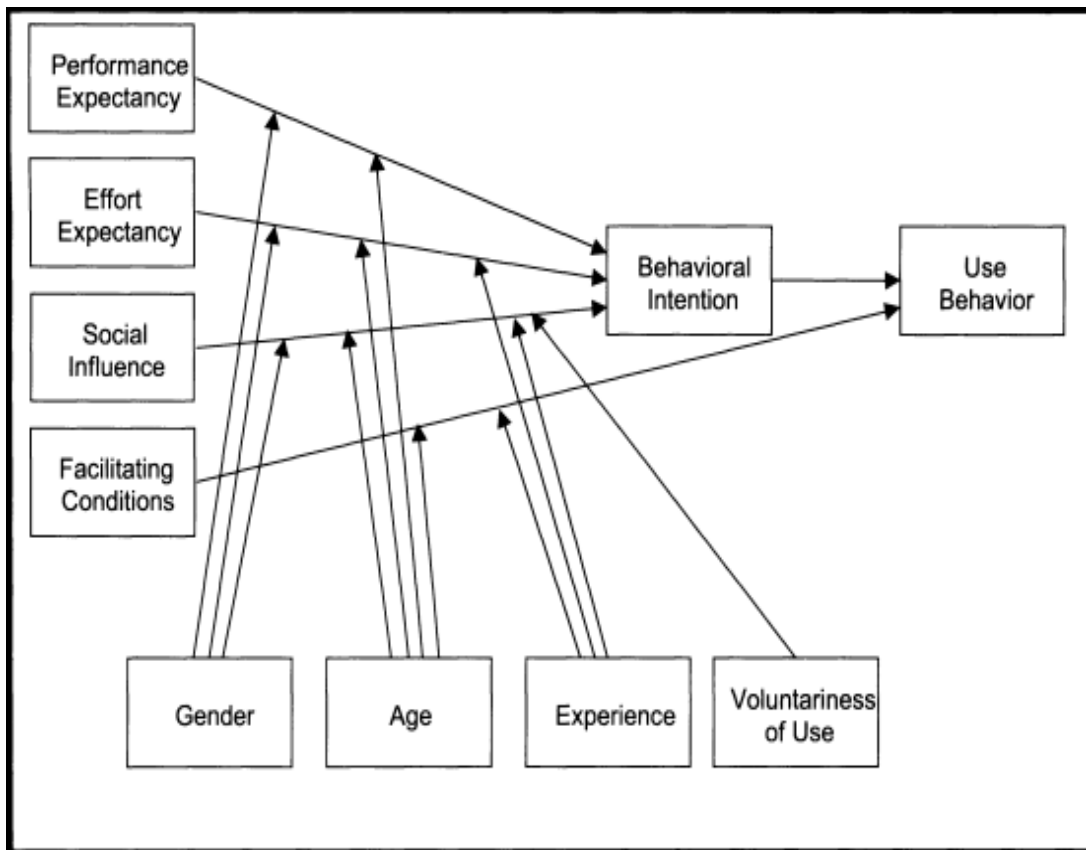
Figure 1. The original UTAUT constructs (Venkatesh et al., 2003)

Since its initial publication in 2003 by Venkatesh et al. (2003), UTAUT has been applied in many real-world user acceptance studies around the world. For example, Welch, Alade, and Nichol (2020) used UTAUT to examine the elements studying the degree of mobile acceptance among 118 science museum employees in the United Kingdom (UK). Results obtained from the study indicated that performance expectancy, social influence, effort expectancy, and facilitating conditions all significantly contribute to behavioral aiming to use mobile learning in museums. Gender and age were also considered as a moderators of the association between the four UTAUT factors in the study. Furthermore, Curtis et al. (2010) carried out a survey of 409 non-profit Public Relations (PR) professionals using UTAUT constructs. Findings obtained from that study indicated that women perceived social media as

beneficial communication tool for PR practitioners, while men exhibited more confidence in active use of social media. Credibility was found to be a major determinant of social media usage.

Dulle and Minishi-Majanja (2011) used UTAUT as a theory to explore the degree of adoption regarding the unrestricted access in Tanzanian public universities. Performance expectancy, attitude, awareness, and effort expectancy were found to be factors with high impact influencing the learners' behavioral intentions to use open access. Findings further revealed that awareness, age, facilitating conditions, social influence, and behavioral intentions significantly affected learners' actual use of open access (Dulle & Minishi-Majanja, 2011). In their study involving 1704 Chinese university students, Liu et al. (2019) revealed that physical activity intentions carried by the students are mainly affected by performance expectations, social influence, and effort expectations.

Several studies have attempted to develop UTAUT extensions to study user technology acceptance and usage across a range of contexts. In keeping with the fundamental principles defined by Venkatesh et al. (2003), Chao (2019) successfully tested and validated a comprehensive UTAUT model. To determine the elements that influence students' intentions for using mobile learning. Perceived enjoyment, satisfaction, trust, perceived risk, and mobile self-efficacy were incorporated as additional variables in the model. Through a cross-sectional study that involved 1,562 participants, Chao (2019) demonstrated that performance expectancy, satisfaction, effort expectancy, and trust influenced behavioral intention in a beneficial way. Furthermore, performance expectancy, perceived enjoyment, and effort expectancy had a direct association with intention. The other finding was that perceived risk negatively moderated the association between behavioral intention and performance expectancy (Chao, 2019).

The issue of perceived risk is further highlighted by Walrave, Waeterloos, and Ponnet (2021) – a study that demonstrated that privacy concerns were negatively related with Covid-19 contact-tracing technology use intention among 1,500 Belgian respondents.

Venkatesh et al. (2012) formulated UTAUT2 that contains the following three components added into the original UTAUT: price value, hedonic motivation, and habit. The primary aim of developing UTAUT2 was to theorize the main factors applicable to a real-world consumer's degree of using and accepting technology. Dwivedi, Rana, Jeyaraj, Clement, and Williams (2019) proposed a revised UTAUT model that incorporates an additional mediating factor - user attitude that is critical to behavioral intention and actual usage behavior. Therefore, UTAUT has been widely used as a baseline model of technology acceptance and utilization. Moreover, there has been several applications of UTAUT and its extensions or integrations within different settings.

2.3 UTAUT2

In the context of consumer technology, utilization and usage among consumers is largely voluntary. This contradicts the context of enterprise information systems whereby consumers are required by organizations to adopt or make use of a specific technology (Venkatesh et al., 2012). Building on original UTAUT's four major constructs (performance expectancy, social influence, effort expectancy, and facilitating conditions); Venkatesh et al. (2012) formulated UTAUT2 that includes three hypotheses (hedonic motivation, price value, and habit). Fundamentally, UTAUT emphasizes the significance of performance expectancy (or extrinsic motivation or utilitarian value).

Performance expectancy and social influence have been consistently classified as the strongest elements of behavioral intention (Venkatesh et al., 2003; Venkatesh et al., 2012; Zhang et al., 2019). Hedonic (or intrinsic) motivation is widely considered as a factor of behavioral intention within consumer behavior and information systems literature (Venkatesh et al., 2012; Zhang et al., 2019). In terms of effort expectancy, the perceived ease of use determines behavioral intention. Within the context of consumer technology, prices are the main reason behind the behavioral intention as consumers are often expected to purchase hardware, software, or services. Finally, UTAUT2 considers context habit to be a critical predictor of consumer accepting of technology (Venkatesh et al., 2012). Figure 2 demonstrates the UTAUT2 model - the original UTAUT in conjunction with additional modifications as conceptualized by Venkatesh et al. (2012).

Performance
Expectancy[1]

Effort
Expectancy[2]

Social
Influence [3]

Facilitating
Conditions [4]

Hedonic
Motivation

Price Value

Habit

Behavioral
Intention

Use
Behavior

Notes:
1. Moderated by age and gender.
2. Moderated by age, gender, and
   experience.
3. Moderated by age, gender, and
   experience.
4. Effect on use behavior is
   moderated by age and experience.
5. New relationships are shown as
   darker lines.

Age   Gender   Experience

Figure 2. UTAUT2 (Venkatesh et al., 2012)

Venkatesh et al. (2012) found it imperative to tailor UTAUT to the context of

consumer technologies in order to realize the most reliable insights into the factors

contributing to their adoption and usage. As shown in Figure 2 above, voluntariness is

dropped as a moderating factor with respect to various constructs of the UTAUT

model. The goal was to tailor UTAUT to the context of consumer use of technology

where voluntary behavior is expected – completely voluntary acceptance and use of

technology among consumers without any organizational mandate. However,

individual demographic difference constructs (gender, age, and experience) are

theorized as moderators of different UTAUT relationships (Venkatesh et al., 2012).

Most smartphone applications are mainly designed for the consumer market. Thus,

they are usually purchased to meet the needs of individuals as opposed to

organizational needs. Therefore, UTAUT2 is best suited to study the predictors of mobile application downloads and use behaviors. A brief discussion of each of the seven UTAUT2 variables is undertaken in the sections below.

2.4 UTAUT2 Variables

2.4.1 Performance Expectancy

As one of the most important predictors of behavioral intention to use a technology, performance expectancy refers to the extent to which a person believes that the use of a particular technology will enable him or her to realize benefits (Liu et al., 2019; Venkatesh, Thong, & Xu, 2016; Walrave et al., 2021). Benefits may range from productivity gains to increased socialization, enjoyment, cost savings, quality of job output, and possibilities of job promotion among others. Generally, performance expectancy has the following five key constructs: perceived usefulness, outcome expectations, job-fit, relative advantage, extrinsic motivation (Venkatesh et al., 2003). Overall, performance expectations are the most important determinant of behavioral intent. In addition, the construct plays a major role in both obligatory and voluntary settings (Venkatesh et al., 2003; Venkatesh et al., 2012).

The main impact of age and gender on the correlation between performance expectations and behavioral intentions is strongest for younger persons and men. This can be attributed to the fact that younger persons and men are often highly task oriented. Therefore, performance expectancies (especially that relate to task completion) tend to be more salient in younger persons and men than in older persons and women (Venkatesh et al., 2003). Similarly, age is a moderating factor whereby younger workers are likely to prioritize extrinsic rewards (Nunes, Limpo, & Castro, 2019).

Therefore, studies associated with gender differences should consider the role of age to increase the reliability and validity of results. For example, conventional gender roles may significantly influence job-related behavior due to cognitions (Nunes, Limpo, & Castro, 2019; Venkatesh et al., 2012). Therefore, age and gender moderate the impact of performance expectancy.

2.4.2   Social Influence

The decision of accepting and using a technology and how it is impacted by the social influence is highly complex due to the hidden nature of the range of dependent influences. The level in which individuals' sense a valuable other (such as family members, friends, or workmates) think they should use a certain technology is identified as a social influence (Venkatesh et al., 2003; Venkatesh et al., 2012). Social influence may be represented as subjective norm, social norm, or image. It includes the implicit or explicit perception that an individual's behavior is manipulated by how they believe the society thinks of them because they are using a certain technology (Yang & Forney, 2013). Unlike performance and effort expectancies, all the social influence variables (subjective norm, social norm or factors, and image) are insignificant in voluntary settings. As noted by Yang and Forney (2013), social influence plays a major role in influencing consumers with high levels of technology fear than those with lower levels. Nevertheless, in mandatory contexts, each of these variables becomes significant (Venkatesh et al., 2012).

Such effects are expected because voluntary settings operate by inducing perceptions about a technology. To a great extent, an individual is expected to voluntarily internalize the reference social group's subjective norms to develop behavioral intention. In contrast, the significant impact in mandatory settings may be attributed to the fact that such contexts tend to require strict compliance with certain social

influences (Venkatesh et al., 2003; Venkatesh et al., 2012). Consequently, social influence in mandatory settings would directly influence behavioral intention due to social pressure. However, even in mandatory contexts, social influence is significant only during the early stages of a person's experience with technology. With continued use, the impact becomes insignificant as an individual's opinions become steadily more informed. Studies (Dulle & Minishi-Majanja, 2011; Oye, Iahad, & Rabin, 2011) affirm that individuals tend to conform to others' expectations if the referent group can readily reward the anticipated behaviors or reprimand behavioral defiance. Consistent with the compliance perception, the role of others' views is important only within mandatory contexts. The role is particularly significant during the early stages of an individual's experience because his or her beliefs are ill-informed. With time, the role of social pressure weakens as growing experience becomes a more influential basis for behavioral intention.

The impact of gender and age on how the social influence and behavioral intention linked cannot be underestimated. To a great extent, social influence represents deeper in women comparing to men. This can be attributed to the theoretical perception that women are more responsive to others' views (Wang, Liang, Du, & Wu, 2021). However, the significance of social influence among women and men is expected to decrease with experience. Furthermore, Zhang et al. (2019) claim that social influence played the greatest indirect role among the four key UTAUT constructs with respect to influencing patients to adopt diabetes management applications. Therefore, only three moderating variables (experience, gender, and age) are expected to simultaneously influence the relationship between social influence and behavioral intention in the context of mobile application downloads and subsequent usage. This is consistent with the argument made by Venkatesh et al. (2012) – that the moderating power of

voluntariness is insignificant in the context of voluntary use of technology among consumers; and the mobile application downloads and usage is a perfect example of a completely voluntary behavior.

2.4.3 Hedonic Motivation

Hedonic motivation represents the influence of an individual's pleasant or enjoyable sensations resulting from using technology. The construct is widely theorized as perceived fun or enjoyment, and it plays a significant role in directly predicting acceptance and usage. Hedonic motivation variable is widely cited as a significant factor in consumer technology adoption and use. (Venkatesh et al., 2012). Therefore, hedonic motivation has to be included as a determinant of behavioral intention within consumer contexts. However, there are consumer contexts where perceived enjoyment does not predict intention. In their study of elements of patients' intentions to adopt diabetes applications, Zhang et al. (2019) demonstrated that patients' use of such applications is not for enjoyment intentions. Furthermore, Tavares and Oliveira (2016) studied determinants of consumers' adoption of electronic health record patient system, even though they found no relationship between perceived enjoyment and behavioral intention in that case.

2.4.4 Effort Expectancy

Effort expectancy is generally concerned with the degree of usability or easily use of the technology available, and it predicts behavioral intention. UTAUT captures effort expectancy through three main constructs, namely perceived ease of use (Venkatesh et al., 2003). Subsequent studies (Chang, Chao, Yu, & Lin, 2021; Venkatesh et al., 2012) illustrate the significant role played by effort expectancy across both obligatory and voluntary technology use settings. It tends to be stronger in older people, women, and inexperienced persons than younger people, men, and experienced persons. Advanced

age tends to be associated with inferior capacity to pay attention and process complex stimuli (Venkatesh et al., 2003). Consequently, elder people are the ones more likely to face difficulties when using technological systems. Nevertheless, the significance of effort expectancy decreases over time. After an extended period of time and continued usage, it may become completely insignificant as users acquire the desired level of knowledge (Minghao & Wei, 2021). Chang et al. (2021) observed that eHealth literacy association between performance expectation and behavioral intention was mitigated. Considering these observations, it is expected that age, gender, and experience can represent a connection between effort expectancy and behavioral intention.

2.4.5   Facilitating Conditions

Generally, facilitating conditions are an individual's perceptions concerning the resources and assistance available to accomplish a task (Venkatesh et al., 2012). According to Venkatesh et al. (2003), the level to which an individual perceives organizational and technological assets can assist system utilization is referred to as facilitating conditions. The two definitions theorize three distinct constructs, namely: facilitating conditions, perceived behavioral control, and the degree of being compatible (or job-fit) (Venkatesh et al., 2003). Each of the three constructs includes aspects of technological and organizational infrastructure that are intended to eliminate barriers to effective and efficient use of a system. Therefore, facilitating conditions and effort expectancy are somehow closely related. Arguably, aspects of support infrastructure (a fundamental concept in the facilitating conditions variable) are captured in the effort expectancy variable that focuses on the ease of use of system (Yang & Forney, 2013). However, effort expectancy influences behavioral intention. In contrast, facilitating conditions is a predictor of actual technology use (Venkatesh et

al., 2003). Nevertheless, UTAUT2 considers facilitating conditions to be a determinant of both behavioral intention and actual use (Venkatesh et al., 2012).

The link across behavioral intention and facilitating conditions, perceived behavioral control, and compatibility (constructs of facilitating conditions) is comparable. In particular, the role of perceived behavioral control is significant in compulsory and voluntary contexts. Nevertheless, its significance on behavioral intention declines following a series of training initiatives (Venkatesh et al., 2003). Overall, the facilitating conditions objective correlation has been proven to be insignificant for all the three key constructs. Other specific aspects of facilitating conditions include the following: perceived control over use of a system, support and/or guidance resources, knowledge, compatibility with other related technologies, and job-fit (Wang et al., 2021). Yang and Forney (2013) demonstrated the role of facilitating conditions in performance expectancy and hedonic motivation when it comes to mobile shopping – the impact is stronger for individuals with low levels of technology fear than for those with higher levels.

While the facilitating conditions have an insignificant role in predicting behavioral intention within the UTUAT model (Venkatesh et al., 2003), the construct predicts both intention and actual use within the UTUAT2 model (Venkatesh et al., 2012). This can be attributed to the fact that the latter is focused on consumer technology contexts, which are characterized by voluntary behaviors. However, when a mix of performance and effort expectancy is maintained, the influence of the facilitating conditions on users' behavioral intention is negligible (Venkatesh et al., 2003). However, even in absence of behavioral intentions, facilitating conditions directly predict actual usage (Venkatesh et al., 2016). Therefore, facilitating conditions is valid predictor of technology utilization, unlike effort expectancy, performance expectancy, and social influence,

which are all mediated by behavioral intention. Moreover, as individuals gain knowledge and experience, the direct impact of facilitating conditions expected to increase and support avenues. With experience, barriers to continued use are eliminated. The significance of facilitating conditions is stronger among older and inexperienced persons who are more likely to require assistance when using a technology (Venkatesh et al., 2003; Venkatesh et al., 2012). The moderating impact of age can be attributed to the fact that older populations tend to suffer physical and cognitive shortcomings. Moreover, it is apparent that age and experience are the key moderators of the relationship between facilitating conditions and usage behavior.

2.4.6 Price Value

Unlike in an organizational use context where staff do not stand the cost of usage, a consumer use context involves consumers bearing the cost of usage (Venkatesh et al., 2012). As argued by Tavares and Oliveira (2016), price value within a consumer use setting is a relevant factor because consumers tend to bear required hardware, software or service costs. For example, when a patient receives medical prescription through an electronic health record portal, he or she can avoid the need to transfer to a healthcare center or hospital. Consequently, the patient can avoid transportation costs. Better perceptions of the price value of eHealth technologies among consumers would translate to higher adoption rates (Tavares & Oliveira, 2016). Price value could also be associated with high-quality product and service perceptions, thus influencing adoption decisions (Huang & Kao, 2015; Venkatesh et al., 2012).

Drawing upon these ideas, price value may be defined as individuals' perceptions of the tradeoff between the benefits of a technology and the financial costs associated with its use (Huang & Kao, 2015). The construct is closely associated with the perceived value – a key determinant of purchase behavior in marketing and information systems

research. Findings from studies (Huang & Kao, 2015; Peek et al., 2014) indicate that the price value theory is critical in attracting and retaining consumers. If the benefits associated with a technology are greater than the financial costs, then the price value would be positive; and positive price value would positively influence behavioral intentions (Huang & Kao, 2015).

While the price value construct is considered to be a key determinant of consumer technology adoption, some consumer technologies can be downloaded and used without attracting any direct financial costs. In such cases, the price value may not influence consumers' intentions. Zhang et al. (2019) observed that price value had no influence on patients' adoption of diabetes management applications because the applications were offered for free. Similarly, Alam, Hu, and Barua (2018) observed that price value had no significant impact on mHealth service adoption in the context of Bangladesh. Therefore, the construct's influence is salient in situations where consumers are expected to incur some direct monetary cost.

Older persons are particularly more likely to prioritize the price value of eHealth solutions. If an eHealth system can drive cost savings, then the more likely that older people will adopt and/ or use it (Peek et al., 2014). Therefore, age could moderate the impact of price value on consumers' intentions. Furthermore, the effect could be stronger amongst older persons. The greater impact among older persons may be attributed to the non-monetary costs that is connected with technology usage. From the cost-benefit tradeoff perspective, older and inexperienced persons are more likely to bear the greatest non-monetary costs because of additional effort and time needed to use a new technology (Huang & Kao, 2015). Therefore, it is imperative to consider the financial and non-financial aspects of the price value construct when exploring predictors of users' level of technology acceptance.

2.4.7   Habit

Some extensions of the original UTAUT model include habit as one of the key constructs within consumer technology acceptance and usage contexts. In its simplest form, habit refers to the degree to which a user is likely to automatically perform certain behaviors because of prior learning (Huang & Kao, 2015; Venkatesh et al., 2012). It is argued that habit encompasses self-reported perceptions of sustained behavioral patterns that occur automatically – beyond conscious awareness (Palau-Saumell, Forgas-Coll, Sánchez-García, & Robres, 2019). Therefore, habit is an automatic (unconscious) behavior rather than an intention (conscious behavior). In a survey to investigate factors affecting eHealth adoption among patients, Tavares and Oliveira (2016) demonstrated that habit and behavioral intention are the strongest predictors of adoption and sustained usage.

For a habit to be formed, learning must take place through repetitions, situational clarifications, reinforcement, and other enabling factors (Pahnila, Siponen, & Zheng, 2011). Therefore, habit is largely an unconscious behavioral construct. The incidence of occurrence of a certain behavior determines how strong a habit is (Palau-Saumell et al., 2019). However, the extent to which a customer perceives a specific behavior as automatic is the best way of measuring habit (Venkatesh et al., 2012). Pahnila et al. (2011) postulate that the effect of habit on behavior intensifies over time. Nevertheless, they argue that past behavior cannot satisfactorily capture the automatic nature of habit. Rather, Pahnila et al. (2011) claim that habit is best conceptualized as a wholly psychological construct as opposed to just past behavioral acts. It is a learned sequence of behaviors that have developed into automatic responses to certain cues (Palau-Saumell et al., 2019). In this sense, habit can functionally obtain specific goals.

Habit differs from experience – acquaintance with a technology. It is characterized by aspects of automaticity and prior behaviour (Venkatesh et al., 2012). Furthermore, while experience is often necessary, it may not lead to habit formation. Notwithstanding, the chronological passage of time and associated increased familiarity (experience) can induce different levels of a certain habit (Pahnila et al., 2011). They further argue that continued use behavior may be basically caused by habitual responses to same stimuli rather than deliberated cognitions. Drawing upon these ideas, it can be argued that habit suggests automatic behavior. By incorporating habit into the original UTAUT model, Pahnila et al. (2011) and Venkatesh et al. (2012) attempted to ensure that their extended UTAUT models take into account habitual behavior when exploring predictors of technology adoption and use. None of the original UTAUT constructs satisfactorily focus on the habit variable as a determinant of behavior – technology acceptance in this case. Therefore, habit may be included in virtually every consumer technology acceptance and use model.

2.4.8   Perceived Online Experience

The download popularity of applications can be examined by concentrating online recommendations, rating (e.g., online review visibility and performance) and graphic features of application icons (e.g., visual metaphors and anthropomorphism). We have extended a new variable to our model - Perceived Online experience - and this element will measure it. Studies have shown that the success of an application is stunned both by online users and application designers (via graphic design). Comments and ratings in the store are an influential element in new downloads. Increased user rating and good feedback boosts the applications downloads. Bad ratings and unfavorable reviews may be a significant drawback. Online recommendation was seen to be efficient to the level

that several programs now give new users promotional credits and award the existing users free credits to recommend others (Maslowska et al., 2019).

o   The Online Recommendations Raised by Users

Kim et al (2016) suggests that few users comment online compared to those who read. Many more read and depend on brand news reviews of those who like to comment. The two-part analysis examined first the effects on the buying sector of bad feedback. The scientists found that people eventually patronized with brands that possess fewer negative feedback. People prefer to use applications that work, and such appraisal suggesting application efficiency can only be determined by the application user community who are recommending through online channels. The review of these few individuals goes a long way to make application consumers believe in its efficiency. Some application developers have realized the importance of online recommendations and found a way to motivate commenters with redemption point rewards (Tavakoli et al., 2018).

They interact with the firm and influence the recommendation in various channels to set up a good online reputation score. People prefer to use applications that work, and such effectiveness can only be determined by those who are in charge of the brand's worth as determined by the online reputation score which is dependent on the number of positive online recommendations (Schnalla et al., 2016). Online application purchases deteriorate when there are no interactions within the application community.

o   Applications Rating

The explanation behind mobile users' tendency to download higher ranking applications is that businesses with good ratings are more attractive to customers. People appear to instinctively believe the opinion of the relevant community. In the

new era, this represents a referral technique that spreads fast to others on the internet from a closed system. Downloading an application is expected to contain suggestive elements in the form of a display of other people's experience. Smartphone users expect their applications to perform according to their promises.

For their online product decisions, buyers seem to rely more on peer information than seller information (Nghiem & Carrasco, 2016). Therefore, online ratings systems have become popular, with customers determining a quantitative form to brand's quality. Previous research mostly analyzed the advertising impact of online reviews and showed mixed outcomes. It is essential to understand better how online reviews affect free application downloads for many and similar purposes. When users of the application store want to see if an application performs and is running correctly, they will look at ratings and feedback. Strong reviews from other consumers about the product reinforce the application's positive image, while negative reviews diminish it. A 3-star rating suggests a less than large application (Finkelstein et al., 2017). A 4-star ranking, on the other hand, presents a successful application; and nobody needs an application that isn't so heavy.

People are still cautious with applications without ratings, they become assertive and keep asking questions about such applications. No ratings specify that the application is fictitious, and unambitious. Application users understand the importance of upgrades and the need to continuously fix vulnerabilities. They prefer a developer who is available for support and has gained reputation over the years for good product and support. Application developers who have the right framework for operation and support can do incident and problem management for ongoing sustainability of the product. These application developers can fix vulnerabilities and carry out essential upgrades desired by the user community.

Such conditions make it essential for application users to review ratings while making their decisions. Ratings and reviews massively affect the application store score. Google and Apple are also more likely to rate applications with more positive ratings and approval reviews. Their algorithms work such that to push application that are doing great up the charts and push those not doing well below. Furthermore, the application collects a number of ratings and feedback: the better the application, the better the rating (Spinsante et al., 2016). When there is a search about any application, the first few applications which appear in search results are checked by users. If viewers don't rate in the top 10 for keywords, application users may not find the application.

o   The Visual Characteristics of Application Icons

There are several reports gathered from Surveys indicating that pictures are interpreted faster in human brains than words. Based on this information, we may infer that an application's appearance is a compelling feature for communicating users' messages (Lavid Ben Lulu & Kuflik, 2016). The developer will provide the viewers with the content accompanied through visuals such as infographics in a more meaningful manner. Applications do everything to prove themselves in such a demanding environment. While new applications improve their graphic designs to avoid lengthy and repetitive content, older applications are also updating and strive to make themselves more effective. In the mobile world, content that attracts attention with its presence is much more easily seen by users compared to context with long lines of text, tabs, and redirections. Even before the creation process begins, Icon design is a crucial stage that requires a comprehensive sketching phase. The application icon and application picture are what the customer can first see until it is downloaded. It is therefore important to reconsider the time it takes to load as some application icon take longer than 5 seconds to respond. For a user, the icon of the application is the first point

of interaction. A successful application would have over 60 percent download rate (Jylhä & Hamari, 2019).

The application's icon representation is critical, with various options available in the application store to draw the users' interest and prevent meandering other options. An attractive icon is hard to find and much harder to build. By creating a picture that is eye-catching, half the work is completed. By making the product exclusive and elegant, it would be made more identifiable. It's the first thing that interacts both technically and emotionally with users.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Research Model and Hypotheses Development

This chapter aims to illustrate the research procedures and methods that are used in this study to identify the factors that impact application downloading in Qatar. The key drivers of this study are to evaluate the effect and the importance of these variables regarding the user's intention to download an application and to identify the relationship between the proposed factors (performance expectancy, effort expectancy, social factors, facilitating conditions, hedonic motivation and perceived online experience) and the behavioral intention of application users. Therefore, it discusses the proposed model, research hypotheses, research design, data collection, statistical assessment, sampling strategy, and instrumentations.

he study's primary research question is: what variables affect application downloading in Qatar? Figure 2 discusses the UTAUT2 model, which was proposed in this investigation. According to the literature review in chapter 2, we have determined that several variables can impact the user's intention to download any platform. Accordingly, a new model was developed by combining a new external factor (perceived online experience) into the UTAUT2 model. The suggested model discovers the influence of this new factor with the established UTAUT2 constructs (performance expectancy, effort expectancy, social influence, facilitating conditions, and hedonic motivation) on users' intention to download an application in Qatar, investigate their influence and relationships. This research creates such a model, presented in Figure 3 below.

Performance expectancy, effort expectancy, social influence, and facilitating conditions are four essential characteristics suggested by this model that directly identify the primary elements influencing the intention to download an application. There is another

extended variable added to the UTAUT2 model, which is the perceived online experience and trust, to determinant in the model.

Research hypothesis

Based on the literature evaluation, the research model was created to concentrate on the following hypotheses for this study:

H1: Performance expectancy has a significant and positive influence on users to download an application.

H2: Effort expectancy has a significant and positive influence on a user's intention to download an application.

H3: Social influence has a significant and positive impact on a user's intention to download an application.

H4: Facilitating conditions have a significant and positive influence on the user's intention to download an application.

H5: Hedonic motivation has a significant and positive influence on a user's intention to download an application.

H6: Perceived online experience has a significant and positive influence on a user's intention to download an application.

```
Performance
Expectancy ─────────── H1 ───────┐
                                   │
Effort Expectancy ───── H2 ────────┤
                                   │
Social Influence ────── H3 ────────┤──────► Intention to
                                   │        Downloads an
Facilitating ───────── H4 ─────────┤        application
Conditions                         │
                                   │
Hedonic Motivation ──── H5 ────────┤
                                   │
Perceived Online ────── H6 ────────┘
Experience
```
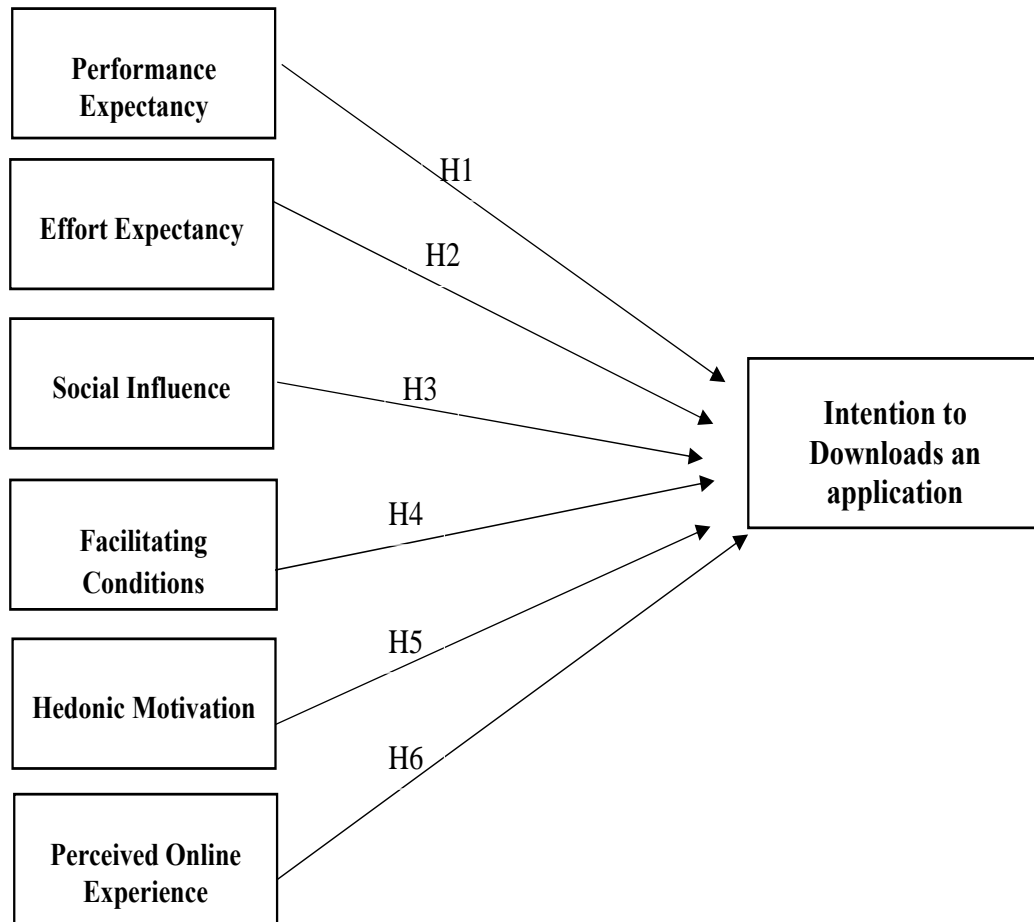
Figure 3. Research model

3.2 Research Approach and Design

The intention behind this study is to highlight the critical success factors that affect application downloading in Qatar. As represented in the research model in the earlier section 3.1, the survey was developed to obtain the user's perceptions regarding both the independent variables (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation and Perceived Online Experience) as well as, the dependent variables (Intention to Continuous Downloads).

A standard survey was developed with two main categories. The survey's first section focuses on the study sample's demographics, while the second half concentrates on the

research variables and their rankings. According to the Unified Theory of Acceptance and Use of Technology (UTAUT2) model, the factors that make up the five independent variables were chosen. After conducting a thorough literature analysis and the primary research, the other factor (perceived online experience) is added.

3.3 Sample and Data Collection

The research survey was approved by the Institutional Review Board (IRB). The languages used to develop the survey were English and Arabic using Google surveying software, and the survey was shared through a link (electronic questionnaire) via e-mail, to reach all respondents in the State of Qatar. The questionnaire link was sent via e-mail, broadcasting e-mails (e.g., QU e-mail list), To reach the greatest number of respondents, social media platforms and SMS messages were utilized.

The self-administered online survey was part of a cross-sectional study and was available for anyone to complete for 21 days, starting from the 4th of April 2021 until the 25th of April 2021. The benefits of conducting a digital survey outweigh those of a hardcopy survey. The online survey enabled gaining visibility into designing the survey itself and visibility to all survey data collected. It also, provides insights essentially in real-time viewing responses and fast analysis. Accordingly, this type of survey was chosen to be published.

There was no cost associated with the reporting mechanisms obtained on the study, and these mechanisms are used as a portal to reach the general public. There was no risk involved in this survey, and participants were required to complete all the questions therein. This survey was designed to allow candidates to complete the questions in 6 to 10 minutes to reduce the non-response rate.

The survey promised confidentiality and anonymity. All collected information was kept confidential, which means the candidate was not required to provide personal information such as name, email, or mobile number. Participants were provided a consent form that included all the study details, procedures of the study, and their rights and role in this study. The survey was voluntary, so candidates had the option to skip the survey and withdraw at any time.

As for the target population, the sampling method utilized was based on a census sample, that included all the citizens and residents living in the state of Qatar aged 18 years and above. The census sample was chosen to ensure that all the different ages, groups, genders, and nationalities were covered during the data collection and could easily access the survey link's mass broadcasting.

3.4 Data Sources

The equivalent source opted from the origin of data relied on for this study was primary data. Demographically, the respondents were classified on the basis of nationality, age, gender, and the education level. In the post demographics section, the survey asked how long they had been downloading and using applications. Following that, there were questions for each of the research model's four variables. On a 5-point Likert scale from 1 to 5, (where 1 is indicated as strongly disagree, followed by 2 that is indicated as disagree, 3 is depicted as neutral, 4 labelled as agree and 5 is indicated as strongly agree) respondents were questioned to score their grade of agreement/ disagreement with various factors/ items that make up the variables mentioned above. The online survey questionnaire tool was utilized to obtain the primary data for this research. The questionnaire is presented in Appendix A. The research included data which was

collected as a literature review from previous studies, scientific publications, educational journals, books, and electronic websites.

3.5 Validity of the Questionnaire

The QU-IRB Committee reviewed and approved the survey, certifying the validity and integrity of the tool used in the research. The committee granted acceptance for the questionnaire since it met the requirements and criteria of the standards. The approval number is QU-IRB 1509-E/21, and the approval letter is available in Appendix B.

3.6 Statistical Methods

The information acquired in the demographics part of this study was used to classify the results based on a specific category. Characteristics that are demographic such as, mode, frequency, and the reasons of ordering online, and factors of research. To initiate the measure of central tendency (mean), measure of dispersion (range, standard deviation, variance, minimum, and maximum), and research variables, the descriptive statistics tool was applied.

The correlation coefficient and significance levels of each factor were determined to establish the scope of the study variables were linearly interdependent. The construct dependability was determined using Cronbach's Alpha. One-way analysis of variance used to find the differences between the dependent variables and the independent variables.

CHAPTER 4 DATA ANALYSIS AND RESULTS

4.1 Frequencies and Percentages

Table 1. Distribution of Age

Age	Frequency	Percent
< 24	28	14.7
(25-40)	132	69.5
> 40	30	15.8
Total	190	100.0

As shown in table above there were 132 respondents representing 69.5% between 25 to 40 years old, while only 30 (15.8%) respondents were more than 40 years old, and the remaining 28 (14.7%) respondents were less than 24 years old.
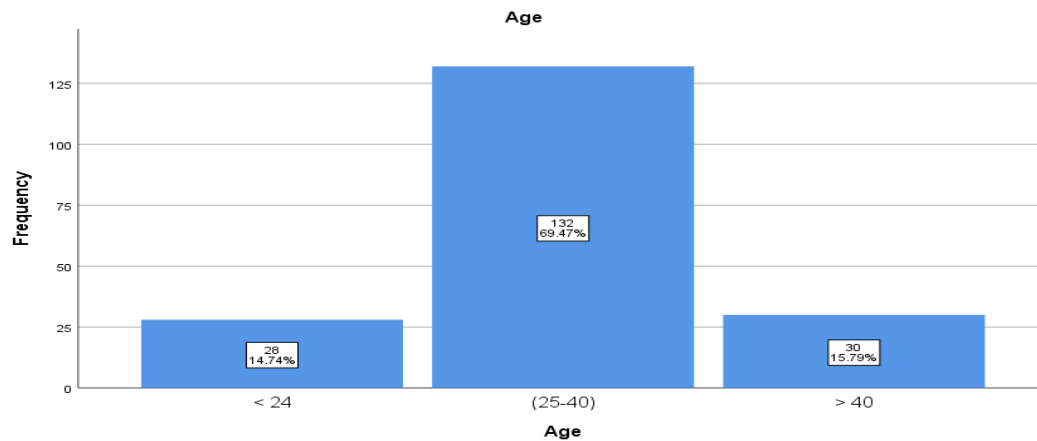
Figure 4. Distribution of age

Table 2. Distribution of gender

Gender	Frequency	Percent
Male	82	43.2
Female	108	56.8
Total	190	100.0

The table above shows that 108 respondents representing 56.8% of the study population were females, while 43.2% of the study population or 82 respondents were males.
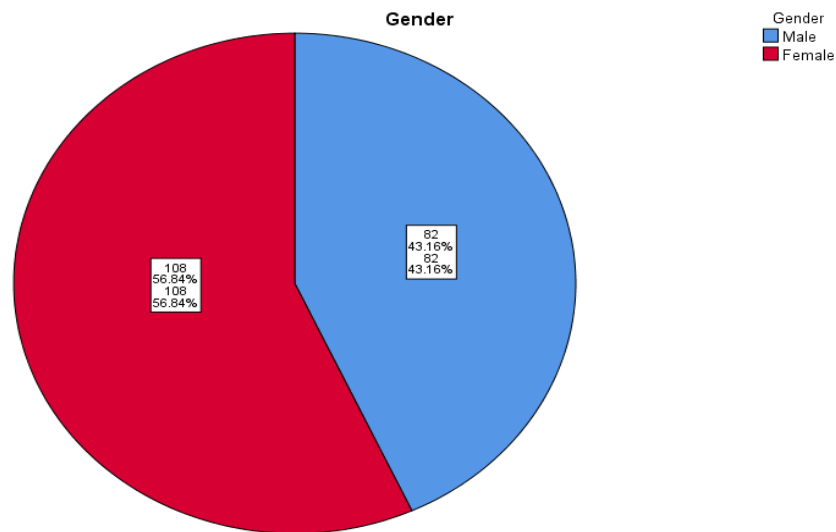
Figure 5. Distribution of gender

Table 3. Distribution of education2

Education	Frequency	Percent
Secondary or Diploma Certificate	39	20.5
Bachelor	110	57.9
Graduate	41	21.6
Total	190	100.0

As shown in. the table, 110 (57.9%) respondents held bachelor's degree, followed by 41 (21.6%) held post graduate degrees and 39 (20.5%) completed secondary school or Diploma Certificate.
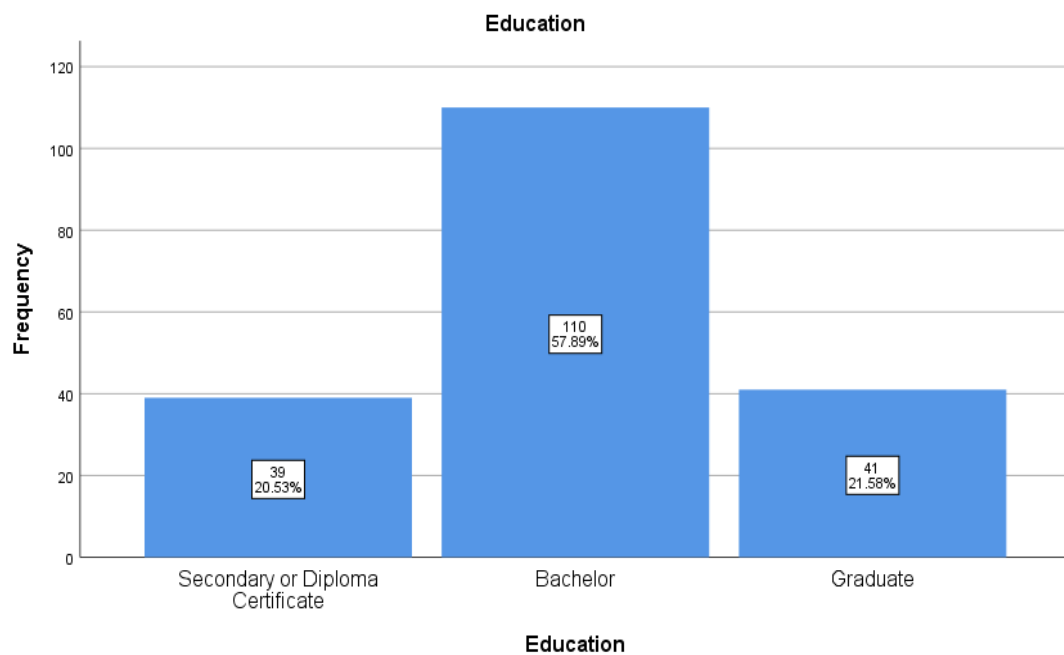
Figure 6. Distribution of education

Table 4. Distribution of downloading and using applications

How long have you been downloading and using applications	Frequency	Percent
< 2	1	.5
(2-5)	22	11.6
(5-10)	74	38.9
> 10	93	48.9
Total	190	100.0

As shown in table above, 93 (48.9%) respondents replied that they have been downloading and using applications more than 10 years, and only 0.5% of the study population have been downloading and using applications for less than 2 years.
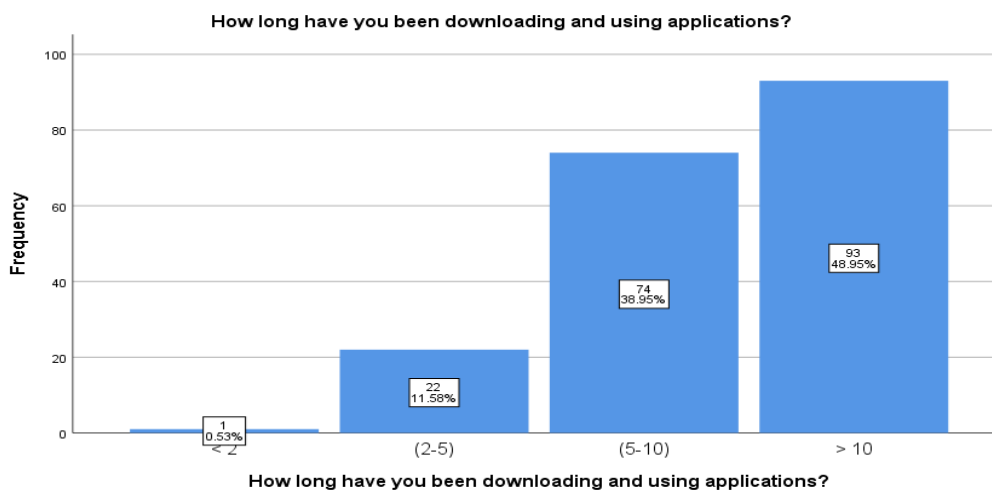
Figure 7. Distribution of downloading and using applications

Table 5. means and standard deviation for (Performance Expectancy)

Code	Item	MIN	MAX	Mean	SD	Rank
PE1	I find applications downloading is useful in my daily life.	2	5	4.32	.813	2
PE2	Using my applications helps me accomplish my daily needs more quickly	1	5	4.29	.845	3
PE3	I believe the applications I install can make my life easier	1	5	4.37	.743	1
PE4	I believe I can save time accomplishing my activities when I use my applications	1	5	4.14	.910	4
Performance Expectancy				**4.27**	**.7142**	

The results shown in the above table demonstrate that the mean value of the Performance Expectancy was 4.37 out of 5 for the item "I believe the applications I install can make my life easier" with a relative weight of 87.4%, which ranked first in terms of the mean value, implying a high degree of approval by the study sample to this item.

And the last ranked item for the mean value was "I believe I can save time accomplishing my activities when I use my applications" with a relative weight (82.8%), and this indicates that there is a high degree of approval by the research sample to this item.

In general, we note that the mean of all items as a whole was 4.27 out of 5 and relative weight 85.4%, which indicates a high degree of approval by the study sample to the Performance Expectancy.

Table 6. means and standard deviation for (Effort Expectancy)

Code	Item	Min	Max	Mean	Std. Deviation	Rank
EE1	Learning how to download a new application is easy for me.	2	5	4.46	.760	1
EE2	The applications downloading guidelines are clear.	2	5	4.12	.892	4
EE3	I find online applications are easy to use.	1	5	4.16	.854	3
EE4	It is easy for me to become skillful, at using any applications	2	5	4.18	.785	2
Effort Expectancy				**4.2316**	**.64215**	

The results shown in the above table, we find that the mean value of the Effort Expectancy was 4.46 out of 5 for the item "Learning how to download a new application is easy for me" with a relative weight of 89.2%, which ranked the first in terms of the mean value, which indicates a high degree of approval by the study sample to this item.

And in the last ranked item in terms of the mean value came the item that "The applications downloading guidelines are clear" with an average of 4.12 out of 5, and a relative weight 82.4%, thus a high degree of approval by the research sample to this item. In general, we note that the mean of all items as a whole was 4.23 out of 5 and a relative weight 84.6%, which depicts a high degree of approval by the study sample to the Effort Expectancy.

Table 7. means and standard deviation for (Social Influence)

Code	Item	Min	Max	Mean	Std. Deviation	Rank
SI1	People who are important to me use the same applications I use	1	5	3.41	.975	1
SI2	People whose opinions I value have the same applications I download	1	5	3.39	1.068	2

Code	Item	Min	Max	Mean	Std. Deviation	Rank
SI3	People who influence my behavior think I should download certain applications	1	5	2.46	1.267	3
Social Influence				**3.0860**	**.88702**	

The results shown in the above table, we find that the mean value of the Social Influence was 3.41 out of 5 for the item "People who are important to me use the same applications I use" with a relative weight of 68.2%, which ranked first in terms of the mean value, thus approving this item.

And in the last ranked item in terms of the mean value was "People who influence my behavior think I should download certain applications" with an average of 4.12 out of 5, and a relative weight of 49.2%, and this indicates disapproval of this item.

In general, we note that the mean of all items as a whole was 3.08 out of 5 and a relative weight 61.6%, which indicates a neutral opinion of the study sample to the Social Influence.

Table 8. means and standard deviation for (Facilitating Conditions)

Code	Item	Min	Max	Mean	SD	Rank
FC1	I have the necessary knowledge to download an application	2	5	4.34	.771	2

Code	Item	Min	Max	Mean	SD	Rank
FC2	I have the necessary resources to be able to use my application (like Internet and technology)	1	5	4.58	.749	1
Facilitating Conditions				**4.2386**	**.62132**	

Per the results shown in the above table, we find that the mean value of the Facilitating Conditions was 4.58 out of 5 for the item "**I have the necessary resources to be able to use my applications (like Internet and technology)**" with a relative weight of 91.6%, which ranked first in terms of the mean value, implying a high degree of approval by the study sample to this item.

In general, we note that the mean of all items as a whole was 4.23 out of 5 and a relative weight 84.6%, which depicts a high degree of approval by the study sample to the Facilitating Conditions.

Table 9. means and standard deviation for (Hedonic Motivation)

Code	Item	Min	Max	Mean	Std. Deviation	Rank
HM2	Downloading an application makes me feel trendy.	1	5	3.70	1.164	2
HM3	Using my applications is enjoyable	1	5	4.06	.900	1
Hedonic Motivation				**3.7596**	**.78949**	

The results show in the above table that the mean value of the Hedonic Motivation was 4.06 out of 5 for the item "Using my application is enjoyable" with a relative weight of 81.2%, which ranked first in terms of the mean value, indicating high approval by the study sample to this item.

In general, we note that the mean of all items as a whole was 3.75 out of 5 and a relative weight of 75%, which indicates a degree of approval by the study sample to the Hedonic Motivation.

Table 10. means and standard deviation for (Perceived Online Experience)

Code	Item	Min	Max	Mean	Std. Deviation	Rank
PO1	I believe the description section below the application encourages me to download the application.	1	5	3.54	1.171	5
PO2	It is important for me to download an application with high rating	1	5	3.80	1.146	3
PO3	The graphical features of the application icon encourage me to download the application.	1	5	3.36	1.135	6

Code	Item	Min	Max	Mean	Std. Deviation	Rank
PO4	Online recommendations and reviews encourage me to download the application	1	5	3.91	.991	2
PO5	It is important for me that the application has positive user reviews	1	5	3.95	.988	1
PO6	Application rating encourages me to download the application	1	5	3.78	1.049	4
Perceived Online Experience				**3.7237**	**.75015**	

From the results shown in the above table, we find that the mean value of the Perceived Online Experience was 3.95 out of 5 for the item "It is important for me that the application has positive user reviews" with a relative weight of 79%, which ranked first in terms of the mean value, implying a degree of approval by the study sample to this item.

And the last ranked item in terms of the mean value was "The graphical features of the application icon encourage me to download the application" with an average of 3.36 out of 5, and a relative weight of 67.2%, and this indicates that there is a neutral opinion by the study sample towards this item.

In general, we note that the mean of all items as a whole was 3.72 out of 5 and a relative weight of 74.4%, which indicates a degree of approval by the study sample to the Perceived Online Experience.

Table 11. means and standard deviation for (Behavioral Intention)

Code	Item	Mean	Std. Deviation	Rank
IN1	I intend to continue downloading applications in the future.	4.06	.900	3
IN2	I will always try to find an application that helps me accomplish my daily needs more quickly	4.34	.869	1
IN3	I plan on using more applications in the future when needed	4.23	0.878	2
Behavioral Intention		4.2123	.74730	

The results show in the above table that the mean value of the Behavioral Intention was 4.34 out of 5 for the item "I will always try to find an application that helps me accomplish my daily needs more quickly" with a relative weight of 86.8%, which ranked first in terms of the mean value, indicating high degree of approval by the study sample to this item.

And the last ranked item in terms of the mean value was "I intend to continue downloading applications in the future" with an average of 4.06 out of 5, and a relative

weight of 81.2%, and this indicates that there is a agree of approval by the study sample to this item.

In general, we note that the mean of all items as a whole was 4.21 out of 5 and a relative weight of 84.2%, which indicates a high degree of approval by the study sample to the Behavioral Intention

4.2 Reliability Test

Cronbach's alpha coefficient:

The Cronbach's alpha coefficient method is taken in-order to estimate the reliability of the questionnaire between each filed and the mean of whole filed of the questionnaire. The normal range of Cronbach's coefficients alpha value is between (0.0) and (+1) and a higher degree of internal consistency is reflected by higher values.

Table 12. Cronbach's alpha coefficient

	Variables	Number of item	Cronbach's Alpha
1	Performance Expectancy	4	0.883
2	Effort Expectancy	4	0.784
3	Social Influence	3	0.717
4	Facilitating Conditions	2	0.650
5	Hedonic Motivation	2	0.628
6	Perceived Online Experience	6	0.783
7	Behavioral Intention	3	0.802
	All items	24	0.876

The table summarizes the reliability test results for the main variables. All of the items show an alpha coefficient of 0.876, indicating that the research dimensions will give the same results if re-applied to the same sample and test stability using Cronbach alpha coefficient. The Cronbach alpha for Performance Expectancy is 0.883, Effort Expectancy is 0.784, Social Influence is 0.717, Facilitating Conditions = 650, Hedonic Motivation = 0.628, Perceived Online Experience = 0.783, Behavioral Intention = 0.802, meaning that the variables of the questionnaire have good reliability.

4.3. Correlation Analysis

Table 13. Correlation Matrix

		PE	EE	SI	FC	HM	POE	BI
Performance Expectancy	Pearson Correlation	1	.403**	.247**	.471**	.451**	.222**	.693**
	Sig. (2-tailed)		0.000	0.001	0.000	0.000	0.002	0.000
	N	190	190	190	190	190	190	190
Effort Expectancy	Pearson Correlation	.403**	1	0.140	.524**	.423**	.188**	.478**
	Sig. (2-tailed)	0.000		0.054	0.000	0.000	0.010	0.000
	N	190	190	190	190	190	190	190
Social Influence	Pearson Correlation	.247**	0.140	1	.153*	.360**	.213**	.185*
	Sig. (2-tailed)	0.001	0.054		0.035	0.000	0.003	0.011
	N	190	190	190	190	190	190	190
Facilitating Conditions	Pearson Correlation	.471**	.524**	.153*	1	.370**	.199**	.504**

		PE	EE	SI	FC	HM	POE	BI
	Sig. (2-tailed)	0.000	0.000	0.035		0.000	0.006	0.000
	N	190	190	190	190	190	190	190
Hedonic Motivation	Pearson Correlation	.451**	.423**	.360**	.370**	1	.248**	.522**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.001	0.000
	N	190	190	190	190	190	190	190
Perceived Online Experience	Pearson Correlation	.222**	.188**	.213**	.199**	.248**	1	.275**
	Sig. (2-tailed)	0.002	0.010	0.003	0.006	0.001		0.000
	N	190	190	190	190	190	190	190
Behavioral Intention	Pearson Correlation	.693**	.478**	.185*	.504**	.522**	.275**	1
	Sig. (2-tailed)	0.000	0.000	0.011	0.000	0.000	0.000	
	N	190	190	190	190	190	190	190

The table shows the coefficients of correlation between the independent variables and the dependent variable as following:

- There is an indicative positive interrelation between Performance Expectancy and Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the Pearson Correlation= 0.693.

- There is an indicative positive interrelation between Effort Expectancy and Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the Pearson Correlation= 0.478.

- There is an indicative positive interrelation between Social Influence and Behavioral Intention, at significant level (0.05), as p-value = (0.011) and the

Pearson Correlation= 0.185.

- There is an indicative positive interrelation between Facilitating Conditions and Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the Pearson Correlation= 0.504.

- There is an indicative positive interrelation between Hedonic Motivation and Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the Pearson Correlation= 0.522.

- There is an indicative positive interrelation between Perceived Online Experience and Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the Pearson Correlation= 0.275.

- The correlation between the other variables is less than 0.85, so there is no multicollinearity between them.

4.4 Multiple Regression Analysis

Table 14. Multiple linear regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.761[a]	0.578	0.565	0.49307

a. Predictors: (Constant), Perceived Online Experience, Effort Expectancy, Social Influence, Performance Expectancy, Hedonic Motivation, Facilitating Conditions

From the above table the correlation coefficient = 0.761, hence there is indicative positive interrelation between the independent variables (Perceived Online Experience, Effort Expectancy, Social Influence, Performance Expectancy, Hedonic Motivation, Facilitating Conditions) and the Dependent Variable (Behavioral Intention). Also, the

coefficient of determinant = 0.578, hence the model manages to explain 58% of the variations in the dependent variable.

Table 15. ANOVA[a]

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.059	6	10.176	41.858	.000[b]
	Residual	44.490	183	0.243		
	Total	105.549	189			
a. Dependent Variable: Behavioral Intention						
b. Predictors: (Constant), Perceived Online Experience, Effort Expectancy, Social Influence, Performance Expectancy, Hedonic Motivation, Facilitating Conditions						

From the above table it is clear that the regression model is statistically significant when the F test is significant at level of confidence (0.95) and sig (0.000), then we reject the null hypothesis and accept the substitute hypothesis that the independent variables (Perceived Online Experience, Effort Expectancy, Social Influence, Performance Expectancy, Hedonic Motivation, Facilitating Conditions) have real impact on the Dependent Variable (Behavioral Intention).

Table 16. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.028	0.315		-0.088	0.930
Performance Expectancy	0.511	0.061	0.489	8.325	0.000
Effort Expectancy	0.140	0.069	0.120	2.025	0.044
Social Influence	-0.053	0.044	-0.063	-1.214	0.226
Facilitating Conditions	0.147	0.069	0.129	2.143	0.033
Hedonic Motivation	0.173	0.050	0.205	3.466	0.001
Perceived Online Experience	0.080	0.050	0.080	1.588	0.114

a. Dependent Variable: Behavioral Intention

The table shows the coefficients of regression for the independent variables. There is an indicative impact of Performance Expectancy on Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the coefficient = 0.511. Hence when the Performance Expectancy increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.511 unit. There is also an indicative impact of Effort Expectancy on Behavioral Intention, at significant level (0.05), as p-value = (0.044) and the coefficient = 0.140. Hence when the Effort Expectancy increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.140 unit. There is no indicative impact of Social Influence on Behavioral Intention, at significant level (0.05), as p-value = (0.226) and the coefficient = -0.053. There is an indicative impact of Hedonic Motivation on Behavioral Intention, at significant level (0.05), as p-value =

(0.001) and the coefficient = 0.173. Accordingly, when the Hedonic Motivation increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.173 unit. Finally, there is no indicative impact of Perceived Online Experience on Behavioral Intention, at significant level (0.05), as p-value = (0.114) and the coefficient = 0.080.

CHAPTER 5: DISCUSSION AND IMPLICATIONS

The analysis of the statistical data along with the results generated in the Chapter 4 provide an interpretation of the study. Results show that there were 132 (69.5%) respondents between 25 to 40 years old, 30 (15.8%) respondents more than 40 years old and 28 (14.7%) respondents less than 24 years old. One hundred and eight (56.8%) of the study population were females, while the remaining 82 (43.2%) were males. Respondents holding post graduate degrees were 41 (21.6%), while 41 (57.9%) held bachelors degree and 39 (20.5%) respondents completed secondary school or Diploma Certificate. Ninety-three (48.9%) respondents reported downloading and using applications more than 10 years, and only 0.5% of the study population have been doing the same less than 2 years.

The results showed that the mean value of the Performance Expectancy was 4.37 out of 5 for the item "I believe the applications I install can make my life easier" with a relative weight of 87.4%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this item.

Also, we found that the mean value of the Effort Expectancy was 4.46 out of 5 for the item "Learning how to download a new application is easy for me" with a relative weight of 89.2%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this item.

We found that the mean value of the Social Influence was 3.41 out of 5 for the item "People who are important to me use the same applications I use" with a relative weight of 68.2%, which ranked first in terms of the mean value, which indicates approval of this item.

The results showed the mean value of the Facilitating Conditions was 4.58 out of 5 for the item "I have the necessary resources to be able to use my applications (like Internet and technology)" with a relative weight of 91.6%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this particular item.

The results also showed that the mean value of the Hedonic Motivation was 4.06 out of 5 for the item "Using my applications is enjoyable" with a relative weight of 81.2%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this item.

We found that the mean value of the Hedonic Motivation was 4.51 out of 5 for the item "In general, free charge application are my first choice" with a relative weight of 90.2%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this particular item.

We also found that the mean value of the Perceived Online Experience was 3.95 out of 5 for the item "It is important for me that the application has positive user reviews" with a relative weight of 79%, which ranked first in terms of the mean value, which indicates a degree of approval by the study sample of this item.

The results showed that the mean value of the Behavioral Intention was 4.34 out of 5 for the item "I will always try to find an application that helps me accomplish my daily needs more quickly" with a relative weight of 86.8%, which ranked first in terms of the mean value, which indicates a high degree of approval by the study sample of this item.

There is an indicative positive correlation between Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Hedonic Motivation, Perceived Online Experience and Behavioral Intention, at significant level (0.05), also the

coefficient of determinant = 0.578, so the model manages to explain 58% of the variations in the dependent variable.

There is an indicative impact of Performance Expectancy on Behavioral Intention, at significant level (0.05), as p-value = (0.000) and the coefficient = 0.511, hence when the Performance Expectancy increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.511 unit.

There is an indicative impact of Effort Expectancy on Behavioral Intention, at significant level (0.05), as p-value = (0.044) and the coefficient = 0.140, hence when the Effort Expectancy increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.140 unit.

There is no indicative impact of Social Influence on Behavioral Intention, at significant level (0.05), as p-value = (0.226) and the coefficient = -0.053.

There is a significant impact of Hedonic Motivation on Behavioral Intention, at level of significant (0.05), as p-value = (0.001) and the coefficient = 0.173, so when the Hedonic Motivation increases by one unit the Dependent Variable (Behavioral Intention) will increase by 0.173 unit.

There is no indicative impact of Perceived Online Experience on Behavioral Intention, at level of significant (0.05), as p-value = (0.114) and the coefficient = 0.080.

According to the aim of this paper to significantly contribute the factors that affect mobile application downloads, we understand from the statistical analysis that there is an indicative positive impact between Performance Expectancy, Effort Expectancy, Facilitating Conditions and Hedonic Motivation on Behavioral Intention, at significant level (0.05), but there is no signifying impact between Social Influence and Perceived Online Experience on Behavioral Intention, at level of significance (0.05).

CHAPTER 6: CONCLUSION

Mobile applications often have significant characteristics that separate them from applications on mainstream devices like computers. Hence mobile applications tend to have more users The research question was mainly focused on the key elements that can affect the applications downloading in Qatar from the user's notion, hence, we got the main results reporting that there is an indicative positive impact between Performance Expectancy, Effort Expectancy, Facilitating Conditions and Hedonic Motivation on Behavioral Intention, at significant level (0.05), but there is no signifying impact between Social Influence and Perceived Online Experience on Behavioral Intention, at level of significance (0.05). This paper contributes to literature on research predictions and the number of users or downloads of mobile applications in Qatar. The research question focused on the key elements that can affect the applications installing in Qatar from the user's notion.

6.1 Implications and Recommendations

The key factors focused on the research question that affects application download in Qatar. This is representing all aspects from the user's point of view. Application developers in Doha can gain major value from this research if they assess themselves based on the results of this study. This will indicate what encourages the users to download their application providing hint on knowing what exactly customers pay more attention.

This study discussed the relationship between the online user's intention to download an application in Qatar and the factors that could affect this behavior. Potential application directors and project owners can relate to the effective practices of the firms

involved in the study and utilize the best methods. To demonstrate this, they can highlight and attempt hard to raise their market share percentage and improve the information technology infrastructure. Furthermore, online retailers can use these findings to enhance their decision-making style and focus on the factors that users pay attention to when they do online shopping.

The study's recommendations will enrich the decision-makers, application directors, and project owners with a clear understanding of factors and variables that play an essential role in downloading applications decisions. The study results shall also be significant to potential newcomers in-terms of providing them with a comprehensive perception of the market regarding users' preferences. Such feedback helps in improvement and leads to rising innovation that helps the development of the mobile applications industry in Qatar. It becomes essential for the mobile application developer to demonstrate consistency and meet the community user expectations to make the application stay relevant, and that could facilitate new traffic and generate more downloads. With these perspectives, software developers can increase the number of downloads of any application.

6.2 Limitations and Future Work

There are two major limitations in this study that could be addressed in future research and may have constrained the research quality. The first limitation was the timing barrier. The time available to start collecting the data and analyses was very limited, since the (IRB) ethical approval from the university's review board took more time than expected. Accordingly, the researcher did not have enough time to disseminate the survey widely for getting more respondents. As the survey developed in the beginning

was in English language, it was later found that English would not be enough to collect the required data, especially when both English and Arabic speakers in Doha had to be targeted. As a result, the approval of the newly created Arabic survey took time.

Another critical limitation was the insufficient sample size used for analysis and statistical measurements. Although the target audience was the general population in Doha, and an online questionnaire was used, the researcher encountered several difficulties gathering enough data. Only 191 of the 250 replies received were considered in the analysis, and this number was lower than what was expected for credible research findings

Because it is the first of its kind, this research study serves as a platform for future studies on the application downloading behavior in Qatar. Therefore, future studies examining similar topics could seize the opportunity and use this research findings and apply it on much larger sample sizes (400 or more) to support or refute the results of the study. Further studies could use other kinds of qualitative data collection methods, instead of the survey, such as the focus group to get a deeper idea. Also conducting individual interviews will give the researcher an insight from the population perspectives.

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APPENDIX

Appendix A: Online Questionnaire (English)

Questionnaire English Version

Factors Affecting Application Downloading in Qatar

Consent form

Dear Respondent:

This research is being conducted as part of my graduation project requirements in the MBA program at the College of Business and Economics, Qatar University. This survey will address to explore the factors affecting the applications downloading among people in Qatar. The following questionnaire is adapted from the literature in order to collect data about users' perceptions about the factors affecting their intention to download an application.

Your answers to the questions in this survey are essential to the completion of this study. The information collected will be kept strictly confidential. You are not required to disclose any confidential information and the survey will be completely anonymous. The information will be stored on a secured password-protected laptop and only the researcher will have access to it. The data will not be used for any other purpose in the future. All data will be permanently destroyed after three years. By clicking on the provided link, you give your full informed consent to participate in this research study. Answering this survey will only take 10 to 15 minutes. The time and effort you spend in answering this survey are highly appreciated. Your participation in this survey is voluntary, where you can skip any question or withdraw at any time, and your feedback and all of your suggestions will be kept strictly confidential and used for research purposes only. If you are less than 18 years old, please do not take the survey. This study is approved by Qatar University institutional Review Board (QU-IRB) under the approval No.: QU-IRB 1509-E/21
If you have any questions about this research, feel free to contact me and/or my supervisor through one of these email addresses: Jawaher Al-Shamari (ja1002313@qu.edu.qa) & Emad AbuShanab (eabushanab@qu.edu.qa)

If you agree to participate tick "Yes" ☐, if not tick "No" ☐

Section 2:

Age: ☐ 18-24 years   ☐ 25-40 years   ☐ More than 40 years

Gender: ☐ Male   ☐ Female

Education: ☐ Secondary or Diploma Certificate   ☐ Bachelor   ☐ Graduate

Nationality: ☐ Qatari   ☐ Non-Qatari

How long have you been **downloading and using applications**?

☐ less than two years   ☐ 2-5 year   ☐ 5-10 years   ☐ More than 10 years

Please indicate the degree to which you agree or disagree with the following statements.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Rating	1	2	3	4	5

	Performance Expectancy	1	2	3	4	5
PE1	I find apps downloading is useful in my daily life.					
PE2	Using my applications helps me accomplish my daily needs more quickly					
PE3	I believe the apps I install can make my life easier					
PE4	I believe I can save time accomplishing my activities when I use my applications					

	Effort Expectancy	1	2	3	4	5
EE1	Learning how to download a new applications is easy for me.					
EE2	The apps downloading guidelines are clear.					
EE3	I find online applications are easy to use.					
EE4	It is easy for me to become skilful at using any applications					

	Social Influence	1	2	3	4	5
SI1	People who are important to me use the same applications I use					
SI2	People whose opinions I value have the same applications I download					
SI3	People who influence my behaviour think I should download certain applications					

	Facilitating Conditions	1	2	3	4	5
FC1	I have the necessary knowledge to download an application					
FC2	I have the necessary resources to be able to use my applications (like Internet and technology)					
FC3	I find the application description informative when I download a new application					

	Hedonic Motivation	1	2	3	4	5
HM1	I download some applications for fun.					
HM2	Downloading an application makes me feel trendy.					
HM3	Using my applications is enjoyable					

	Price Value	1	2	3	4	5
PV1	I would stop downloading an application if it has an extra charge.					

PV2	I will pay for an application only if it helps accomplish my daily needs					
PV3	In general, free charge application are my first choice					

	Perceived Online Experience	1	2	3	4	5
PO1	I believe the description section below the application encourages me to download the app.					
PO2	It is important for me to download an app with high rating					
PO3	The graphical features of the application icon encourages me to download the app.					
PO4	Online recommendations and reviews encourages me to download the app					
PO5	It is important for me that the app has positive user reviews					
PO6	Application rating encourages me to download the app					

	Trust	1	2	3	4	5
T1	Applications I downloaded are trustworthy					
T3	I will use my credit card data on applications I download					
T4	Based on my experience with applications. The apps I download deliver what they promise					

	Behavioral Intention	1	2	3	4	5
IN1	I intend to continue downloading apps in the future.					
IN2	I will always try to find an app that helps me accomplish my daily needs more quickly					
IN3	I plan on using more apps in the future when needed					

Please share any other suggestions or comments you may have?

………

………

………..

………

Thank you for your kind cooperation

Appendix B: Online Questionnaire (Arabic)

إصدار اللغة العربية للاستبانة

العوامل التي تؤثر على تحميل التطبيقات في قطر

استمارة الموافقة

أعزائي المشاركين:

نود دعوتكم للمشاركة في هذه الدراسة البحثية كجزءٍ من متطلباتِ مشروعِ التخرج في برنامج ماجستير إدارة الأعمال في كلية الإدارة والاقتصاد، جامعة قطر. وسيسعى هذا الاستطلاع لاستكشاف العوامل التي تؤثر على تحميل التطبيقات بين الناس في قطر. وقد تم تكييف الاستبيان التالي من أجل جمع البيانات حول تصورات المستخدمين عن العوامل التي تؤثر على نيتهم في تحميل أحد التطبيقات.

إجاباتك عن الأسئلةِ في هذا الاستطلاعِ ضروريةٌ لإكمال هذه الدراسة. وستبقى المعلومات التي يتم جمعها سرية للغاية. لن يُطلَبَ منك الكشفُ عن أي معلومات سرية، وسيكون الاستطلاع مجهول الهوية تمامًا. وسيتم تخزين المعلومات على جهاز كمبيوتر محمول محمي بكلمة مرور آمنة، ولن يتمكنَ أحدٌ من الوصول إليها سوى الباحث. لن يتم استخدام البيانات لأي غرض آخر في المستقبل. كما أنه سيتم إتلاف جميع البيانات بشكل دائم بعد ثلاث سنوات. من خلالِ النقر على الرابطِ المُقَدَّم، فإنك تُعطي موافقتك الكاملة على المشاركة في هذه الدراسة البحثية. يستغرق الرد على هذا الاستطلاع من 10 إلى 15 دقيقة فقط. إن الوقت والجهد الذي تقضيه في الإجابة عن هذا الاستطلاع يحظى بتقدير كبير منا. مشاركتك في هذا الاستطلاع هي مشاركة طوعية، حيث يمكنك تخطي أي سؤال أو الانسحاب في أي وقت، وسوف تبقى ملاحظاتك وجميع اقتراحاتك سرية للغاية وتستخدم لأغراض البحث فقط. إذا كنت أقل من 18 سنة، يُرجى عدم إجراء الاستطلاع. هذه الدراسة مُعْتَمدةٌ من قبل مجلس المراجعة المؤسسية لجامعة قطر (QU-IRB) تحت الموافقة رقم:QU-IRB 1509-E/21

إذا كانت لديك أي أسئلة حول هذا البحث، لا تتردد في الاتصال بي أو بمشرف البحث من خلال أحد عناوين البريد الإلكتروني التالية: جواهر الشمري (ja1002313@qu.edu.qa) وعماد أبو شنب (eabushanab@qu.edu.qa) أو على رقم الهاتف 44035077. يرجى الإشارة إلى أنكم قد قرأتم وفهمتم ووافقتم طواعية على المشاركة. إذا كنتم ترغبون في المشاركة، يرجى الضغط على زر التالي.

إذا كنت توافق على المشاركة اختر "نعم" ☐ ، وإن لم يكن فاختر علامة "لا" ☐

القسم 2:

العمر: ☐ 18-24 سنة   ☐ 25-40 سنة   ☐ أكثر من 40 سنة

الجنس : ☐ ذكر   ☐ أنثى

التعليم: ☐ الثانوية أو شهادة دبلوم   ☐ البكالوريوس   ☐ الدراسات العليا

الجنسية: ☐ قطري   ☐ غير قطري

- منذ متى وأنت تقوم بتنزيل التطبيقات واستخدامها؟

☐ أقل من سنتين   ☐ 2-5 سنة   ☐ 5-10 سنوات   ☐ أكثر من 10 سنوات

يرجى بيانُ درجةِ موافقتكم على البيانات التالية أو عدم موافقتهم عليها.

الرأي	أعارض بشدة	أعارض	محايد	أتفق	أتفق بشدة
التقييم	1	2	3	4	5

	الأداء المتوقع	1	2	3	4	5
1	أجد تحميل التطبيقات مفيدًا في حياتي اليومية.					
2	استخدام التطبيقات يساعدني على تحقيق احتياجاتي اليومية بسرعة أكبر					
3	أعتقد أن التطبيقات التي أقوم بتحميلها يمكن أن تجعل حياتي أسهل					
4	أعتقد أن التطبيقات توفر لي الوقت الكافي لإنجاز أنشطتي					

	الجهد المتوقع	1	2	3	4	5
1	من السهلِ بالنسبة لي تعلم كيفية تحميل تطبيقات جديدة					
2	إرشادات تحميل التطبيقات واضحة					
3	أجد التطبيقات عبر الإنترنت سهلة الاستخدام					
4	أصبح ماهرا في استخدام أي تطبيقات بسهولة					

	التأثير الاجتماعي	1	2	3	4	5
1	الأشخاص المهمون في نظري يستخدمون نفس التطبيقات التي أستخدمها.					
2	الأشخاصُ الذين أقدر رأيهم لديهم نفس التطبيقات التي أُحمِّلها.					
3	الأشخاص الذين يؤثرون على سلوكي يلزمونني بتحميل تطبيقات معينة.					

	تسهيل الظروف	1	2	3	4	5
1	لديَّ المعرفةُ اللازمة لتحميلِ تطبيق.					
2	أملك الموارد اللازمة التي تجعلني قادرًا على استخدام تطبيقاتي (مثل الإنترنت و الجهاز المستخدم والتكنولوجيا الحديثة)					
3	أجد خانة وصف التطبيق مفيدة عندما أقوم بتحميل تطبيقٍ جديد.					

	دوافع الاستمتاع	1	2	3	4	5
1	أحمل بعض التطبيقات للمتعة فقط.					
2	تحميل بعض التطبيقات يجعلني أشعر بمواكبة التطورات.					
3	أجد استخدامي للتطبيقات ممتعًا.					

5	4	3	2	1	القيمة والسعر	
					سأتوقف عن تحميل تطبيق إذا كانت به رسوم اضافية.	1
					سأدفع مقابل تحميل التطبيق فقط إذا كان يساعدني في تلبية احتياجاتي اليومية.	2
					بشكل عام، التطبيق المجاني هو خياري الاول .	3

5	4	3	2	1	التجربة التفاعلية المتصورة	
					أعتقدُ أن خانة الوصف أسفل التطبيق تحفزني على تحميل التطبيق .	1
					مهم بالنسبة لي تحميل تطبيقٍ يحمل تقييمًا مرتفعًا .	2
					التصميم المميز لأيقونة التطبيق يُشجعني على تحميل البرنامج .	3
					التوصيات و المقترحات عبر الانترنت تشجعني على تحميل التطبيق .	4
					مهم بالنسبة لي أن يكونَ التطبيقُ حاصلًا على تقييم إيجابي من المستخدمين.	5
					تقييم التطبيق يحفزني لتحميل التطبيق .	6

5	4	3	2	1	الثقة	
					التطبيقات التي أقوم بتحميلها جديرة بالثقة .	1
					أستخدم معلومات بطاقتي الائتمانية في التطبيقات التي أحملها .	2
					بناءً على تجربتي مع التطبيقات، تقدم التطبيقات التي احملها ما تعهدت به .	3

5	4	3	2	1	النوايا المستقبلية	
					في نيتي أن أقوم بمتابعة تحميل التطبيقات في المستقبل.	1
					سوف أحاول دائمًا إيجاد تطبيقات تساعدني على إنجاز حاجاتي اليومية بشكل أسرع .	2
					أخططُ لاستخدام تطبيقات أكثر عند الحاجة .	3

يُرجى مشاركةُ أي اقتراحات أو تعليقات أخرى قد تكون لديك؟

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شكرًا لكم على حُسنِ تعاونكم.

Appendix C: QU-IRB APPROVAL

Qatar University Institutional Review Board QU-IRB
QU-IRB Registration: IRB-QU-2020-006, QU-IRB, Assurance: IRB-A-QU-2019-0009

DATE: April 12, 2021

TO: Jawaher Alshamari
FROM: Qatar University Institutional Review Board (QU-IRB)

PROJECT TITLE: 1724508-2 Factors Affecting Application Downloading in Qatar
QU-IRB REFERENCE #:   QU-IRB 1509-E/21
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED
REVIEW TYPE: Exempt Review
DECISION DATE: April 12, 2021

Approved Modifications:

- Addition of Arabic language in survey distribution.

Thank you for your submission of Amendment/Modification materials for this project. The Qatar University Institutional Review Board (QU-IRB) has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt Review according to Qatar Ministry of Public Health (MoPH) regulations.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Qatar MoPH regulations require that each participant receives a copy of the consent document.

Please note that Exempt Review approvals do not require renewals. Moreover, any changes/ modifications to the original submitted protocol should be reported to the committee to seek approval prior to continuation.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

Documents Reviewed:

- Amendment/Modification - QU-IRB Renewal-Modf. Request_V2_Feb2019.pdf (UPLOADED: 04/5/2021)
- Questionnaire/Survey - Arabic Survey .docx (UPLOADED: 04/4/2021)

If you have any questions, please contact QU-IRB at 4403 5307 or qu-irb@qu.edu.qa. Please include your project title and reference number in all correspondence with this committee.

Best wishes,

Dr. Ahmed Awaisu
Chairperson, QU-IRB

**Institutional Review Board
(IRB)
Office Of Academic Research**

This letter has been issued in accordance with all applicable regulations, and a copy is retained within Qatar University's records.

Qatar University-Institutional Review Board (QU-IRB), P.O. Box 2713 Doha, Qatar
Tel +974 4403-5307 (GMT +3hrs) email: QU-IRB@qu.edu.qa

73