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Research Article

The Traditional Influence on Increasing Acceptance of Commercial Smartphone Applications in Specific Regions of the Arabic World

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The consumer sector represents one of the key players in the diffusion of M-commerce in contemporary societies. Consumers' traditionalism has a significant impact in determining the appropriate products to offer electronically, as well as in determining the functions and information that should be offered to enable them to make the right decisions at the right time. Many characteristics and requirements in general-use commercial applications cannot be acceptable for more targeted release if they are not compatible with the target population's traditional requirements, and therefore, the M-commerce applications go to complexity level in design because of the socio-technical systems. This study is conducted in three GCC countries, Saudi Arabia, the United Arab Emirates, and Qatar on 799 participant consumers. This study focuses to determine the basic requirements for smartphones' commercial applications, including the requirements affected by different traditionalism in the studied communities.

1. Introduction

Smartphone commercial applications represent one type of digital revolution. This revolution is occurring as mobile communications shift from electronic application systems to smart devices that work in intelligent environments. One of the most important and successful areas of commercial applications is the consumer sector where there is increasing use of mobile commerce (M-commerce) applications by consumers. The consumer represents a fundamental role in the distribution and success of M-commerce applications in current societies [1]. Knowledge of consumer traditional and habits significantly helps to determine the direction of application development in order to provide consumers with the application tools and information that enable them to make the right decisions at the right time [2].

Several reports discuss increases in electronic purchasing (e-purchasing) through M-commerce applications in the current decade. The widespread use of smart devices in the Arabic Gulf region indicates important possibilities in this region for e-purchasing services through M-commerce applications [3–5]. However, despite the growing number of smart phones, M-commerce is still limited in the Arabic Gulf countries compared to the size of their economies and their level of per capita income [5].

Many contemporary studies have focused on the importance of M-commerce applications in specific geographical areas for several reasons. M-commerce offers possibilities for delivering services to consumers more safely and for providing essential products of interest to consumers in specific geographical areas. Application requirements are important to analyse for specific consumer communities in order to design applications for increased consumer acceptance and easy, convenient use [6, 7]. Application design that meets specific consumer service requirements represents a better option than a unified generic application for different geographical areas with various traditions [8]. Characteristics of M-commerce applications may not be accepted if they are not compatible with the requirements of users—whether sellers or buyers—in a specific target population [8, 9].

The study presented in this paper was conducted in three countries: Saudi Arabia, the United Arab Emirates, and Qatar. These three countries represent the top three Arabic states in the Gulf Cooperation Council (GCC) that are using smartphone devices according to numbers reported in recent country publications [4]. This study focused on identifying the features that should be provided in M-commerce applications in order to increase their acceptance based on user perspectives in target populations in Arabic Gulf countries. This paper will help M-commerce application developers deliver the required and optional features desired by the target audience in the GCC for commercial applications.

2. Literature Review

The literature review informing this study and development focused on four key topics that collectively helped identify further research that needed to be completed for this study. Further details on these four topics are presented in the following sections.

2.1. M-Commerce Defined. M-commerce is the business of buying and selling goods and services via smartphones and other handheld devices. It is based on the Wireless Application Protocol (WAP), which has greatly advanced this technology, gaining acceptance in many developed countries in Europe and America [10]. M-commerce represents one of the main e-commerce submodels as a result of two main factors:

(1) The growing demand for service applications that are compatible with smartphone operating systems (OS), such as Internet browsers

(2) The ability to adopt and activate many security, trust, and organisational frameworks that have helped overcome many e-commerce issues over a short period of time, such as protection and security within a wireless network environment [11].

As with e-commerce, there is no specific definition of M-commerce. In fact, many definitions correspond significantly with the broad and varied ones mentioned in the context of e-commerce. Some examples of M-commerce definitions explain the general boundaries of this activity. Lehman Brothers Holdings Inc. defines M-commerce as using mobile devices to communicate, inform, and entertain by using text and data through public or private networks [2]. Ovum concentrates on the essence of M-commerce, which is using a mobile phone or personal digital assistant (PDA) on a public telephone network to conduct transactions that lead to the transfer of money or to obtain particular information, services, or properties [12]. As defined by Mobilocity Inc., M-commerce uses wireless technology to provide a variety of personal services, such as location information, to customers, employees, and partners [11].

This paper focuses on the following definitions with respect to M-commerce. Both Morgan and Humphreys define M-commerce as conducting online procurement and selling via smartphones and other handheld devices, while Morgan adds that it should be between businesses and consumers (Morgan and Humphreys; 1999 cited in [13]). In summary, the M-commerce definition for this research involves online trading via smartphones and tablet devices for a wide range of products and services, with the ability to pay for the same by electronic means. Once the transaction is completed, these products and services can be sent to the consumer simply and conveniently.

2.2. Evaluation of M-Commerce Applications. Many studies assessing M-commerce applications have been published over the last decade. Some of them have emphasised the M-commerce framework before the spread of smartphones. For example, many studies focused on the ten most important principles that should be adopted in the commercial application of mobile telephony. These principles include the following: using graphics carefully, avoiding long lists, making significant options visible, providing helpful and meaningful error messages, avoiding dead ends, formatting and presenting content appropriately, offering consistency in navigation map and menu options, providing sufficient and prompt channels to users, minimising user input, and structuring tasks to assist application users in interactions with the system [14, 15]. Al-Naimat's study with others has highlighted specific M-commerce applications, such as hotel bookings, ticket sales, and location services. This study stresses the importance of appropriate design in M-commerce applications providing location services and identifies the basic requirements for mobile applications of this type [16].

Using the M-commerce platform with smartphones is the outcome of two main factors: adopting current research on e-commerce websites to M-commerce and developing the research results on traditional M-commerce to work in the smartphone environment. According to some researchers in this field, the design of M-commerce interfaces is divided into seven main aspects:

(1) Context: the importance of the smoothness and efficiency of mobile applications [14]

(2) Content: the display of application interfaces in the form of multimedia combinations that enable interactions with the user [15]

(3) Community: the reputation of and feedback on a specific product or vendor through electronic communication with other members of the interested community

(4) Customisation: personalisation of mobile setting features to provide special user mobile interfaces [14, 15]

(5) Communication: dialogue between applications and users using interactive tools and live broadcasts [17]

(6) Connection: the importance of providing connections with other applications or websites to offer a flexible M-commerce environment [15, 17]

(7) Commerce: trade-related aspects, such as interfaces for sales of goods and services [14, 17]

In addition, studies such as those of Gera's and others [18] and Venkatesh et al. [15, 19, 20] have focused on usability as one of the main complex aspects in M-commerce applications. They indicate that correctly designed commercial applications will help their users find what they are looking for and successfully conduct transactions via mobile phones. From a variety of angles, these four studies discuss the main usage requirements in M-commerce for the target segments. Gera's and others (2021) and AlQahtani and others (2020) [14, 18] point out the context of information displayed in M-commerce applications and the importance of specific standards such as the Attraction of Users' Attention, applications that deal with various devices such as handheld gadgets, and the Security of Information stored in these applications that will help provide the appropriate capability to use these applications in any circumstances. Venkatesh and others note that the success of web usability in commercial websites does not necessarily yield the same result in M-commerce applications because of the differences between of two fields' characteristics and properties. Thus, a reexamination of usability in M-commerce applications for smartphones is required in order to meet the requisite level of consumer acceptance [19, 21]. Furthermore, it is vital to provide some useful features such as turn on or off (since some mobile features depend on the places and personal choices) and a small number of relevant ads, as well as to reduce the size of web pages to fit into mobile phones and tablet devices [19, 21, 22]. Brusch and Rappel [20] stress the significance of ensuring the quality of commercial applications related to User Tasks, Content, Search, and Navigation Systems. Moreover, they point out the constraints that could be imposed by the design requirements with respect to these functions. Furthermore, Hsu and Yeh added three main categories to determine the M-commerce user requirements which are Functionality, Profitability, and Credibility. The Functionality contains Simplicity, Usability, Flexibility, Interface, Speed, and Accessibility. The profitability includes the added value, options of payment, price, and individualization. The credibility is divided into safety and correction of the system [15, 20].

2.3. Design Indicators That Increase the Effectiveness of M-Commerce Applications.

Many issues are closely related to the acceptance, adoption, and diffusion of online trading via electronic applications in e-commerce or M-commerce [23]. A number of studies have examined some of both e-commerce and M-commerce issues in order to understand and design appropriate frameworks to correct imbalances and deficiencies, as well as to fill the gaps (e.g., [21, 23–25]). This solution is important because it forces communities and societies to understand the boundaries and requirements that should be tested for compliance with current and future requirements to arrive at a new maturity level in the work environment. Work on the maturity level should take place at the institutional level, applying to companies and the integration of their working system with the electronic environment, and also at the production and distribution levels, including knowledge of the requirements to make the right decision at the right time, in order to reach greater maturity in addressing the target segment's needs [15, 26]. Many indicators should be considered when designing M-commerce applications, which will change based on traditional requirements of communities. These indicators can be divided into six fundamental parts: *Appearance, Content, Organisation, Interaction, Customer-Focus, and Assurance* [15, 26–29] (see Figure 1). Each part also encompasses different subaspects and indicators. The following paragraphs provide details of these indicators, clarifying the requirements of M-commerce applications relating to the needs of key stakeholders (such as consumers and sellers dealing with M-commerce applications via smartphones), and discuss how such applications can be designed to meet stakeholder needs.

2.3.1. Appearance (AP).

The exterior design of smartphone applications related to M-commerce might be one of the most notable ways to entice new customers in the future, as many studies have confirmed. Customers see an application's attractive appearance as interesting and are encouraged by its adoption of online approaches for their different needs [8, 13, 26, 29, 30]. The appearance indicator can be summarized as following points:

AP01. Innovation and new design format are fundamental

AP02. Beauty of design is an important criterion for dealing with M-commerce application

AP03. Achieving a general balance among colours, images, and texts, ensuring these are included

AP04. Coordinate the colours used in the screen interface, making certain that no colour dominates the others

AP05. Use expressive images rather than text links only

AP06. Use light colours with a dark background, and vice versa

AP07. Use no more than four different colours per screen

AP08. Use a particular font type to ensure the text format is consistent and readable

AP09. Provide display options of several font sizes (e.g., small, medium, and large) to accommodate readers' individual requirements

AP010. Use no more than one headline per screen

AP011. Avoid using capital letters extensively in normal text in the English language

2.3.2. Content (CO).

Evaluating mobile applications involves the assessment of information update procedures, across the applications overall and for specific application screens [8, 29–32]. The content indicators are divided into the following aspects:
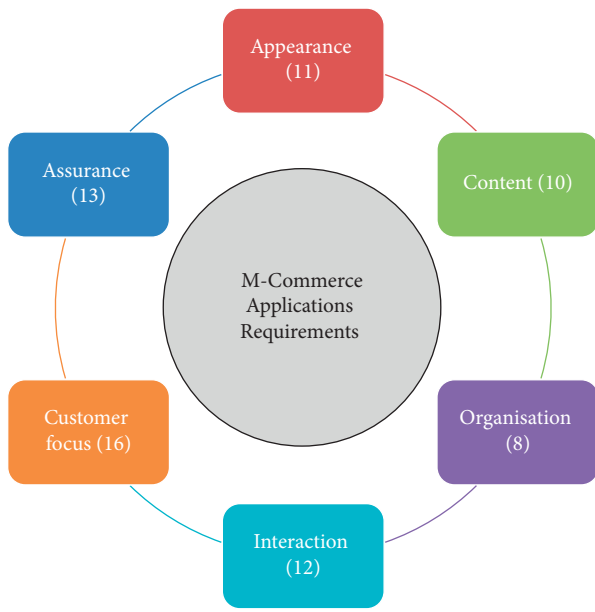
FIGURE 1: Summary of M-commerce application requirements.

CO01. Use a mechanism to update the screen content and application version generally

CO02. Regularly update all application items such as products and the dates they were added

CO03. Show the date and time of update of each item

CO04. Provide information about the company application's goals

CO05. Mention pertinent facts about the company's history, including its services and activities

CO06. Present information about the products and services offered by the application

CO07. Provide accurate content that is free of spelling and grammatical errors

CO08. Present the information about policy and legislation

CO09. Applications should be available to target customers in a specific area

CO010. Application languages should be tailored to the target population

2.3.3. Organization (OR). Good organization of mobile applications helps increase quality and performance levels and assists easy, smooth access to application content and internal links [22, 30, 33]. This part can be divided into the following parts:

OR01. The application name should be meaningful and easy to remember

OR02. The company logo should be displayed prominently in the application

OR03. The application should contain a map menu to facilitate navigability between the application screens and services

OR04. It should explicitly display the current page title

OR05. The application should be structured and consistent in planning and design

OR06. The application should be structured and consistent in sending alert messages, especially in communicating messages about input, process, and output

OR07. It should contain fixed buttons of fundamental functions in most or all of the application's basic screens

OR08. The fundamental functions should be available and accessible from anywhere in the application

2.3.4. Interaction (IN). Interaction in smartphone applications focuses on aspects that help increase the user's attention to these applications across multiple means of display, such as text, audio, video, and images [34, 35]. This interaction is measured through the following aspects:

IN01. Use multimedia elements such as images, video, and audio should be included as alternative options for any unexpected error

IN02. Use the previous elements effectively and offer more than one option in each place

IN03. Adopt these elements effectively, so as not to affect download time

IN04. The user is able to change or rearrange the application's interface options and sort products on the display screen

IN05. Search results can be displayed horizontally or vertically

IN06. Search results can be customised by filtering products and services, for instance

IN07. The user can choose special displays such as different colours in the application background

IN08. The messages tailor the products offered to customers' personal interests, which will make them want to visit the application periodically

IN09. Messages and recommendations to customers that would encourage them to buy a particular product

IN010. Personalised advertisements reach customers via their personal accounts, such as e-mail and personal accounts in social networking sites.

IN011. It should use auditory stimuli such as ring tones and musical files with actions or events

IN012. Use audio symbols to play audio files when received any information or offers

2.3.5. Customer-Focus (CF). This section focuses on the provision of mechanisms for communicating with customers and discovering their reactions to an application. It also discusses client feedback via mobile applications, which is helpful for building appropriate systems and raising the performance level in both mobile application acceptance and sales, which will influence the company's future plans

[3, 8, 12, 34–37]. The customer-focus indicators can be summarized as follows:

CF01. The application should include communication channels for complaints

CF02. The application should include communication channels for suggestions

CF03. The application should include communication channels for customer reviews of company services and products

CF04. New customers should receive new membership rewards for joining

CF05. Customers who contribute to improving company products and services should receive e-gifts or e-coupon via company application

CF06. Customers with repeat visits and purchases via the application should receive gifts

CF07. It should provide assistance through channels such as online chat and free hotlines

CF08. It should offer internal search capabilities in various application features

CF09. It should have a list of FAQs

CF010. It should provide "how to" information in a variety of formats, such as video, audio, and documents

CF011. The company should organise and present its refund and exchange policies for products

CF012. The company should design a feature to let customers follow up on or track their order until it is received

CF013. The application should design and provide e-receipts, which should be PDF files or mobile messages

CF014. The company should implement policies to handle disputes, allowing the customer to submit complaints at different stages of the procurement process

CF015. Offer several versions of company mobile application that are compatible with various smartphone OS

CF016. Ensure customer service availability in 24 hours a day and 7 days a week, if possible

2.3.6. Assurance (AS). Providing guarantees to customers significantly increases the maturity level of smartphone applications. This section emphasises the considerable assurance that should be provided to customers to increase their confidence in the M-commerce field [12, 35, 38–41]. The assurance indicators can be summarized as follows:

AS01. Provide a variety of safe m-payment methods

AS02. Increase customer awareness by briefly describing the main threats in m-shopping, and show customers how to address these risks through safe and logical solutions

AS03. The security certificates and legitimacy should be presented clearly in the application

AS04. It should display the security policy clearly according to countries' legislation

AS05. It should present the application's pass certification tests from OS companies

AS06. Special passwords for m-shopping applications should be developed

AS07. It should show customers a certificate that their information recorded in the application is confidential

AS08. It should display a privacy policy clearly according to government privacy legislation

AS09. It should ensure that customer data is not reserved via temporary files such as cookies files

AS010. Provide information about the company or employees who can communicate with customers in case there are any questions or concerns

AS011. Implement a copyright policy to deter criminals from setting up an imitation application and deceiving customers into using it

AS012. Increase the credibility of the application's content by providing alternative supporting sources, such as e-mail address and SMS facilities

Figure 1 presents a representation of the model and its aspects described in the following.

2.4. Using Traditional Requirements to Moderate the Effectiveness of M-Commerce Applications. Based on the foregoing discussion, IT is not traditionally neutral. So, traditional and social background aspects of the society are likely to have a significant influence on M-commerce development and design. The key is for these differences to be accurately determined for different communities and countries. In 2006, the eBay commerce website was refused in China for several reasons, including the payment method process; the issue relates to the differences between Chinese and American cultures [14, 21]. Thus, Sarkar and others indicated that "higher uncertainty avoidance will reinforce the positive effect of citizen trust on intentions to engage in e-government" [42]. Moreover, the display specifications for websites are influenced by traditional requirements, according to the High-Context Communication (HCC) and Low-Context Communication (LCC) theory which has five dimensions that are used to measure the differences between societies (see more details in Appendix B) [7]. Other studies have determined this perspective and the importance of traditional aspects in adopting technology decisions in different countries. An example of these studies is that of Khan and others (2021), which included three countries: Japan, Switzerland, and the US. The results indicate that the Technology Acceptance Models (TAMs) for both the USA and Switzerland are positive, but not for Japan, suggesting that the TAM may not predict the use of technology in different opinions of traditions [43]. Another example is Gera and others' study (2021), which made a comparison of

wireless communication infrastructure among similar countries traditionally. For some countries such as the UK and South Korea, the study emphasised that outcomes of M-commerce adoption cannot be matched, because the traditional dimensions of the societies are different. Moreover, understanding these dimensions will help develop M-commerce services and set realistic goals to be approved appropriately [42]. Other studies have focused on different factors that affect the degree of acceptance of technology, as well as indicators that are associated with traditions [43, 44].

The standpoint of the author is that traditions of specific society represents one of the main indicators that will guide the acceptance or rejection of any technological framework such as M-commerce, including its processes, appearance, and the content of M-commerce applications [39, 45]. Therefore, these indicators should be tested to ensure the indicators that are more applicable in a particular community in the GCC region. It is also worth mentioning that it is important for traditions to be considered for M-commerce studies in other countries so it is reusable or generalizable. Accordingly, it is beneficial to determine the different indicators to be used correctly and appropriately in various communities in GCC, to find out their views based on their society's traditional. These differences could be one of the key factors in making appropriate decisions for specific communities [39, 43]. For this reason, traditions will be measured by calculating the differences between the indicators to identify the level of importance for each sample in this study. It will be helpful in determining this study sample's needs and opinions in order to accept the study indicators [12].

3. Methodology

The study focuses on the consumer segment that already has skills in e-commerce and has previously completed online purchases. Thus, it focuses on the participants' knowledge and perspectives to determine the different requirements between the target audience in Arabic communities. It is would be beneficial to increase the level of acceptance by identifying the particular target requirements and identifying the differences between the Arabic communities to increase their confidence to use smartphone M-commerce applications by providing exactly what the target audience wants in their M-commerce application frameworks. The six groups of indicators are tested in this study to identify the differences between the communities. Choosing an electronic questionnaire is the best option for data gathering for two main reasons. Firstly, the online questionnaire can be distributed to a widespread geographical area. Secondly, because there are a large number of indicators, this means a consequently large survey. Online surveys can reach a large potential audience to allow a sufficient number of participants to provide complete data [28, 46].

There are logical procedures to be used when conducting the online data collection stage. The condition questions are applied to ensure the data gathering is coming from the right sample, initial part of the questionnaire contains an explanation of the purpose of the questionnaire, and contact information for the research team, in case any of the participants had questions about the questionnaire [46]. Furthermore, there are three conditional questions which were helpful to ensure the participants are the right sample for this study.

The number of completed surveys is 408, 175, and 252 from Saudi Arabia, Qatar, and the United Arab Emirates, respectively, and their total is 799. The required number of completed surveys to create a statistically significant sample population is calculated according to number of sample size, confidence level, and acceptable margin of error which are presented in Table 1. As a result, the numbers of each different segment will be obtained based on the numbers listed in Table 1, which were calculated based on the Raosoft statistical base [47].

4. Analysis

The analysis contains some statistical tests to calculate some main numbers which would be valuable for this study. The statistical tests include the standard deviations (SDs), standard errors (SEs), and mean tests.

4.1. Assessment of Standard Deviations and Standard Errors. Standard deviation (SD) is a measurement for the similarity of data and their distance from the middle of the bell curve. The standard error of the mean (SE) is a variance from the sample mean and defined as the indicator of the representation level of a particular population sample [48]. If the SD is large, it indicates the samples are widely scattered around the mean; in contrast, a small SD has less scattered data. If the SE value is large, it refers to a lot of variation between the means of different samples. A small value of SE represents that most of the sample means are identical, thus representing an accurate reflection of the demographics in the study. In contrast, if the SE is large, then the sample is too weak to represent the target population. The values of SD and SE in all indicators in this study are relatively small compared to the means of each indicator (see Appendix A); therefore, the value of the mean can be considered representative for each indicator in the data. In addition, the small SE values demonstrate that the sample used was sufficiently representative of the target population segment.

4.2. Preliminary Findings. As presented in previous sections, the SD and SE for all indicators are small and are bounded between 1.19–0.42 and 0.09–0.02, respectively. As a result, it was determined that the mean of previous indicators could represent adequately for entire indicators. This section focuses on the assessment of the values of the means in the study's indicators, which are presented in Appendix A. The Likert scales are used to measure levels of agreement of participants with a proposed statement. So, 5 is the highest level of agreement and 1 is the lowest level or agreement (or highest level of disagreement) The participants' attitudes towards each construct and each indicator were determined based on the means of each indicator's constructs (see Appendix A) or depend on the average of each construct as

TABLE 1: Calculated sample sizes of the study.

	KSA	QAT	UAE	Total
Number of populations	30,770,375	2288927	8264000	40533672
Mobile user rate	72.8%	73%	73.8%	73.2%
Actual	22400833	1670916.71	6098832	29595693
Confidence level	95	95	95	99
Margin of error you can accept	7.5	7.5	7.5	5
Sample size	171	171	171	644
Actual participants	408	177	252	837
Extra	237	6	81	193

Source: QSAa, 2015; CDSI, 2015; UAE STATISTICS, 2016; Raosoft, 2016.

presented in Table 2. The beginning and ending numbers of each period of the Likert scale have been calculated based on 4 periods divided by 5 numbers (1 to 5 = 0.80). Periods of beginning and ending each option in the Likert scale are presented in Table 3.

4.2.1. Indicators Influencing Commercial Mobile Application Design. It is important to present the respondents' attitudes toward the assessment questions regarding the commercial smartphones' application design to ensure that gaps in the research questions are filled. These represent the fundamental aspects of design that these e-commerce applications should include based, in this case, on the perspective of Arabic traditional influence. The indicators focused on consumers' opinions, because they are the target population for shopping via smartphones. Table 2 shows that the overall means are significant numbers which range between 4.2141 and 4.6896 in all countries' samples. Most of the averages of these constructs' indicators have indicated "strongly agree," and this reflects the importance of the inclusion of these indicators in the commercial applications for smartphone target segment. The means of other constructs appeared slightly less than of the prior constructs. All of these constructs appeared in the "agree" section which means they continue to be important segments, but less so than the rest of the others. For example, the **appearance constructs** presented in the initial means analysis of Qatar samples was 4.1760. Also, the mean of the interactive construct for Saudi Arabia and Qatar were 4.1876 and 4.1559, respectively. This gives an initial indication that appearance and interactivity are factors that do not have the level of importance similar to other constructs (content, organization, customer focus, and assurance) in online commerce of smartphones.

Their construct mean in the Saudi Arabia sample was between 4.0328 and 4.6896. In Qatar, the sample mean was between 4.0702 and 4.6745, while in the United Arab Emirates, the sample mean was between 4.5989 and 4.0976. In these constructs, the means indicate that their importance varies depending on the participants' differing opinions in the samples. This indicates the importance of obtaining more details for these constructs, which are covered later in the discussion part.

4.2.2. Level of Indicators Constituting Commercial Application Requirements. Table 2 shows respondents' views about their requirements for smartphone business applications, of which availability should be tailored to the Arabic traditions in general and in particular to the countries in the study (Saudi Arabia, Qatar, and the United Arab Emirates). The requirements of commercial applications can be categorised into six constructs: (1) appearance, (2) organization, (3) content, (4) interactivity, (5) customer focus, and (6) assurance. In the appearance construct, there are four questions that received a "strongly agree" response in the mean in all samples, with values between 4.26 and 4.51. There were three indicators that have response "agree", and their means range between 4.14 and 3.92 in the same samples. These indicators focus on the colour of numbers in the screen, use of image links instead of text links, and the avoidance of using capital letters extensively in normal text in the English language. The content construct was an important construct because it tested the necessary information that might be important to be available in all display screens for customers' smartphone applications. Therefore, values of means for 9 content questions had importance ratios between 4.46 and 4.72. However, three values showed a lower level, and their importance was between 4.10 and 3.87 in all samples. This indicator was the importance of providing information about the companies' electronic activities.

Furthermore, the organization construct showed a high level for all responses, with the value of the mean ranging between 4.52 and 4.78. This demonstrates the importance of all these factors for participants in the countries included in the study. The interactive construct presented a high level as well, from IN01 and IN04 to IN06, with their mean values ranging between 4.54 and 4.75. By contrast, the remaining five elements did not register responses of a greater level than "agree." The customer-focus construct had the largest number of questions (16). This construct focused on the communication mechanisms with customers and determines their reactions on the commercial application uses. In the statistical stage, the constructs that showed 15 of the 16 indicators have the "strongly agree" attitude in the mean value, which ranged between 4.42 and 4.86, while one question, the importance of providing a channel for customer complaints, earned a mean of 3.92, indicating that the electronic complaint channels do not have the same level of importance as, for example, a voice call. Finally, the assurance construct, which focused on the methods that help increase customer confidence in online shopping via mobile applications contained 13 questions, with a "strongly agree" attitude in all. It emphasises the importance of these

TABLE 2: Summary of frequency and attitude of all constructs depending on each country.

Name of constructs	No. of items	Saudi Arabia			Qatar			Emirates		
		Mean	Std. deviation	Attitude	Mean	Std. deviation	Attitude	Mean	Std. deviation	Attitude
AP	11	4.2141	0.41966	Strongly agree	4.1760	0.45733	Agree	4.2450	0.43152	Strongly agree
CO	10	4.3669	0.37636	Strongly agree	4.3797	0.41960	Strongly agree	4.3752	0.38660	Strongly agree
OR	8	4.4787	0.37290	Strongly agree	4.5120	0.39244	Strongly agree	4.5230	0.39504	Strongly agree
IN	12	4.1876	0.45280	Agree	4.1559	0.44424	Agree	4.2666	0.42974	Agree
CF	16	4.5389	0.38660	Strongly agree	4.5654	0.37774	Strongly agree	4.5427	0.40056	Strongly agree
AS	13	4.6722	0.41675	Strongly agree	4.6572	0.38191	Strongly agree	4.6545	0.41315	Strongly agree

TABLE 3: Weighted mean based on the Likert scale.

Weight	Level (opinion)	Weighted mean	
		From	To
1	Strongly disagree	1	1.79
2	Disagree	1.80	2.59
3	Neutral	2.60	3.39
4	Agree	3.40	4.19
5	Strongly agree	4.20	5

constructs indicators for participants and customers significantly. The mean values of these indicators were recorded between 4.70 and 4.96.

5. Discussion

In order to increase the acceptance level of commercial applications, it is important to determine the basic requirements of the consumer and what the consumer wants in commercial applications for smartphones. Increased consumer acceptance will help increase the sales volume and the number of regular consumers. The use of commercial applications cannot easily be studied in a large geographical region but can be studied at smaller state levels [7]. There are various unions between Arabic Gulf countries that correspond to similar traditional characteristics and commercial application requirements. However, some indicators show differences in community requirements in this region. The analysis of indicator differences is important in determining the requirements of individual communities. The availability of these consumer requirements in M-commerce applications will affect application acceptance and use. The following indicators showed differences in one participating community or more based on the previous six indicator groups that are presented in Section 2.3 previously.

5.1. Special and Unique Requirements for Arabic Environments. As noted in Hofstede's cultural dimensions' theory, special parameters can be set for specific communities to define particular audience characteristics. This section focuses on the practical requirements for commercial smartphone applications in GCCs. Some differences do exist in the study samples, particularly in the traditional moderators. This led to the identification of special technical requirements that might be applied in specific communities.

Notably, the difference between the interest levels in study samples where some indicators are important to specific segments does not necessarily mean they are important to other segments. Therefore, it is important to highlight the indicators that present clear differences in the study segments (see Table 4 and Figures 2 and 3). These are divided into three user requirement groups: Systems Quality, Information Quality, and Service Quality. These indicators are listed by showing the scores that deviate from the others by less than or more than 10%.

5.1.1. Appearance Functions. In this group, four indicators, all in the subset of appearance constructs, present different results. The sample from Qatar also has one additional result that differs from that found in Saudi Arabia and UAE. These functions are summarized as follows:

(1) AP04: presenting diversity in colours on the screen; do not use a particular colour more than others. In the Qatar sample, 72% identified this as important; in Saudi Arabia and the UAE, 88.7% and 88.6% did, respectively (increased).

(2) AP05: using expressive images instead of using texts in overall services of application. In the Qatar sample, 81.3% identified this as important; in Saudi Arabia and the UAE, 73.6% and 67.5% did, respectively (decreased).

(3) AP08: using specific type of Arabic or English fonts to ensure readability. In the Qatar sample, 83.6% identified this as important; in Saudi Arabia and the UAE, 73.8% and 67.1% did, respectively (decreased).

(4) *AP09:* font size selection, which should be appropriate for readers of a smartphone screen. In Qatar sample, the result shows 93.6%, while in SA and the UAE, 86.3% and 85.8% were seen, respectively (decreased).

TABLE 4: The indicators that show different rates between the participants sampling results.

Indicators code	KSA		Qatar		UAE	
	L. of I.	Rate %	L. of I.	Rate %	L. of I.	Rate %
AP04	H	88.6	L	72	H	88.7
AP05	L	73.6	H	81.3	L	67.5
AP08	L	73.8	H	83.6	L	67.1
AP09	L	86.3	H	93.6	L	85.8
CO04	H	92	L	77.2	H	93.1
CO05	H	81.7	L	67.2	H	80
CO07	L	86.8	H	97.1	L	84.9
IN02	H	91.4	L	82.4	H	91.1
IN03	H	86.5	L	98.2	H	83.3
IN05	H	93.5	L	87.1	H	93.9
IN07	H	91.5	L	72.5	H	95.1
IN09	H	82.1	L	68.4	H	82.5
IN12	L	62.7	H	71.9	L	58.5
AS10	L	89.6	H	98.2	L	91.1
AS12	L	77.2	H	94.1	H	94.3
CF03	H	97.7	L	91.2	H	97.1
CF08	L	85.5	H	94.2	L	87
CF09	L	41.2	H	92.4	H	94.7

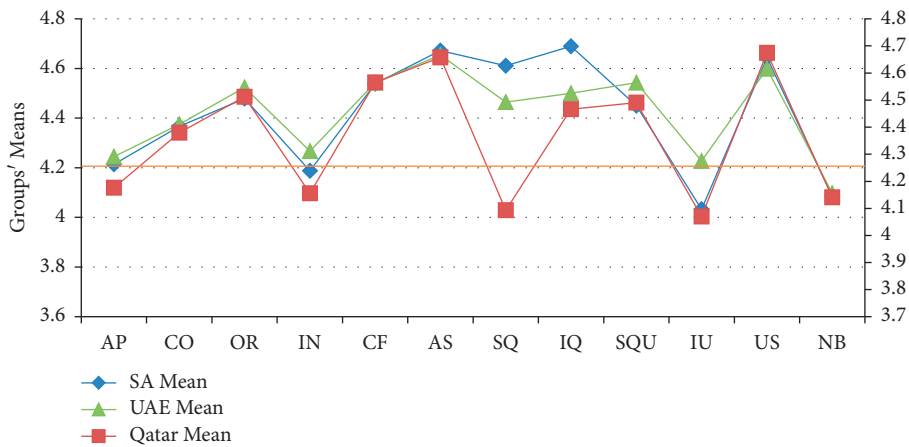L: low ; H: high; L. of I.: level of importance.

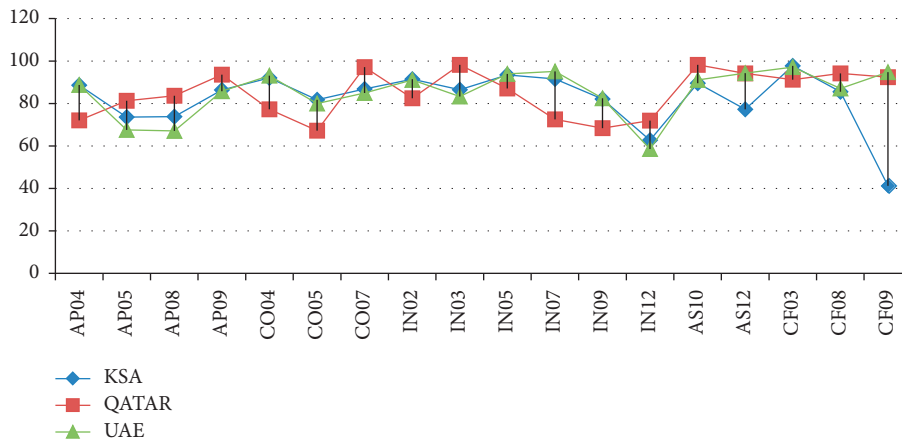FIGURE 2: The mean curve of all construct indicators.

FIGURE 3: Graph of indicators that show different rates depending on the sampling results.

5.1.2. Content Indicators. There are three indicators in content constructs in which obvious differences appear, and all of these differences appeared in the Qatar sample which can be summarized as follows:

(1) CO04: providing information about the company's objectives and the application. In the Qatar sample, 77.2% considered this important; in Saudi Arabia and the UAE, 92% and 93.1% did, respectively (increased).

(2) CO05: providing information about the company's activities and services. In the Qatar sample, 67.2% considered this important; in Saudi Arabia and the UAE, 80% and 81.7% did, respectively (increased).

(3) CO07: ensuring the application information content is free from spelling and grammatical errors. In the Qatar sample, 97.1% considered this important; in Saudi Arabia and the UAE, 86.8% and 84.9% did, respectively (decreased).

5.1.3. Interactive Indicators. In the interactive constructs, there are six indicators which have differences, and all of them appear in the Qatar sample.

(1) IN02: using a variety of options to display the product information. In the Qatar sample, 82.4% considered this important; in Saudi Arabia and the UAE, 91.4% and 91.1% did, respectively (increased).

(2) IN03: ensuring multimedia elements are built professionally for ease of download in the "check the description" screen. In the Qatar sample, 97.1% considered this important; in Saudi Arabia and the UAE, 86.8% and 84.9% did, respectively (decreased).

(3) IN05: the ability to display search results horizontally or vertically. In the Qatar sample, 87.1% considered this important; in both Saudi Arabia and the UAE, 93.5% did (increased).

(4) IN07: providing the possibility of choosing private display methods such as using different colours in the background of application. In the Qatar sample, 72.5% considered this important; in Saudi Arabia and the UAE, 91.5% and 95.1% did, respectively (increased).

(5) IN09: sending promotions and vouchers via e-mail for consumers to invite them to purchase particular products regularly. In the Qatar sample, 68.4% considered this important; in Saudi Arabia and the UAE, 82.1% and 82.5% did, respectively (increased).

(6) *IN12:* using symbols/icons to run audio files or visual features so users can choose between reading, listening to, or watching their news. In the Qatar sample, 71.9% considered this important; in Saudi Arabia and the UAE, 62.7% and 58.5% did, respectively (decreased).

5.1.4. Assurance Indicators. In the assurance construct, there are two indicators with different results among the study samples (one sample from Qatar and one from Saudi Arabia):

(1) AS10: display privacy policy to customers for information saved in the application to explain that it is confidential. In the Qatar sample, 98.2% considered this important; in Saudi Arabia and the UAE, 89.6% and 91.1% did, respectively (decreased).

(2) AS12: highlighting the copyright policy to prevent imposters from deceiving customers. In the Saudi Arabia sample, 77.2% considered this important; in Qatar and the UAE, 94.1% and 94.3% did, respectively (increased).

5.1.5. Customer-Focus Functions. In the customer-focus constructs, results are different for three indicators, two from Qatar and one from Saudi Arabia.

(1) CF03: providing direct communication channels to obtain customers' opinions about company services and products. In the Qatar sample, 91.2% considered this important; in Saudi Arabia and the UAE, 97.8% and 97.1% did, respectively (increased).

(2) CF08: providing an application map to help the user find and search the internal features of the application. In the Qatar sample, 94.2% considered this important; in Saudi Arabia and the UAE, 85.5% and 87% did, respectively (decreased) (see Figure 3 to present all differences).

(3) *CF09:* providing a list of frequently asked questions (FAQ) and their answers. In the Saudi Arabia sample, 41.2% considered this important; in Qatar and the UAE, 92.4% and 94.7% did, respectively (increased).

(1) 18 indicators show different results among the three samples in total. The rate distribution for which country was experiencing the difference is Qatar, 94.45%; Saudi Arabia, 5.5%; and nothing has been different in UAE. The rate of indicators distributed on the constructs are 22.2% of AP, 16.67% of CO, 33.33% of IN, 11.11% of AS, and 22.2% of CF.

(2) The results in Qatar were clearly somewhat different from those in the other two samples. This does not necessarily mean that the difference in interest in M-commerce is significant (it is not, in this case); but, it may mean that the target audience for commercial smartphone applications in Qatar is somewhat different than in the other two countries, assuming the samples are representative.

(3) Figure 4 shows the level of difference in the results between the three participants' samples; these have been addressed previously. These indicators do not have a great significance in determining level of interest in M-commerce in instances where there is a difference of greater than or equal to 10% among some of three study samples with respect to participants' views. When considering in the application design stage, seeing the functional links to the indicators and the target audience might be important. Therefore, these functions can be considered as
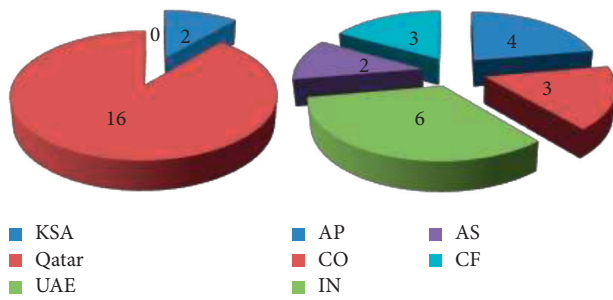
FIGURE 4: Rate of different indicators of M-commerce application construct requirements.

optional functions that are usable given an interested target audience or can alternately be dispensed of. Moreover, it can help to use the location service in the smartphone to determine where the user will be living and predominantly using the phone; then, it can be redesigned to include features automatically depending on the importance or lack thereof of specific indicators. For example, if the application is used in Qatar, indicators that tested as being important in this country should appear, while others should be disabled. Furthermore, the applications and functionalities that appear can also be tailored by location service and then modified manually in the application by the user if need be.

(4) This part of the study leads us to reexamine these indicators for any country that has not been studied recently, particularly the rest of the GCC. Finding out how these countries view these indicators would be important before fully redesigning current smartphone applications tailored to these communities.

Through evaluating the reactions of the sample populations to the functions displayed previously, clear differences between the study's various segments were identified. The rates of difference among the samples' viewpoints were quantified. Furthermore, suggestions have been made to help determine what functions should be enabled and disabled in smartphones depending on location of the user. Functions that were not different among the samples could be treated the same way in smartphones across all three sample countries.

6. Implication, Limitations, and Motivation

(1) The results, shown in Table 4, relate to the statistical relationship between indicators of AP, CO, IN, CF, and AS, which have significant relationships in all statistical sampling. These relationships emphasize the greater importance of particular indicators in previous five groups of commercial smartphone applications [49]. It might be the beliefs about systems and information quality in the context of diffusing and spreading M-commerce being more important than service quality, which is important for the support of User Satisfaction and the Intention

to Use smartphone commercial applications in the future. This means that achieving a sustainable competitive advantage in the electronic market will be very important if system and information quality are available. The importance of service quality, which was statistically significant in some segments, was helpful in determining the basic parameters of target segment requirements in online purchases made through smartphones. Consequently, it was determined that service quality requirements are harder for competitors to achieve the information and system quality requirements because these requirements vary and are different from one segment to another [29, 50]. These experiments confirm that the multidimensional analysis and coherent approach help manage the situation and place the focus on different aspects of the IS Success system, which includes system, information, and services quality; the other requirements in the model focus on the benefits of system success, which include User Satisfaction, Intention to Use, and Net Benefits regarding commercial smartphone applications.

(2) Growing development in electronic systems for the conduction of e-commerce and growth of IS Success and acceptance of various models in commercial applications has been a good way to understand the various dimensions of net benefits and other outcomes of these approaches; this is particularly true of GCC states, which have shown a growing interest in smartphone devices. It has also increased online business in these countries in the past decade to appropriate levels that will create strategies for improving incomplete success variables that affect GCC societies in particular [12, 51].

(3) Finally, achieving leadership in the M-commerce field requires a broader range of measurements to assess and monitor changes in the importance level of M-commerce success indicators [50, 52]. This study provided appropriate measures, which were statistically tested to measure these indicators so they could be part of the CIO M-commerce system to measure variables of successful levels carefully and to take the necessary corrective actions for improvement.

Many of the limitations found in this study can be addressed in future research. They include the following:

(4) The M-commerce research approaches are relatively the new model in GCC. Their results and effects on different types of e-commerce in previous studies targeted many consumer groups around the world and in the GCC region. This study was conducted in three countries of the GCC: Saudi Arabia, Qatar, and the United Arab Emirates. Thus, the results of this study are limited to the GCC traditions because of the convergence between these countries in their overall traditional aspects and their preservation level of religious values. However, it would be interesting in future research to prepare a similar study

TABLE 5: Descriptive statistics of all indicators.

Descriptive statistics of content indicator constructs

VD	KSA Mean	SD	SE	QAT Mean	SD	SE	UAE Mean	SD	SE
CO01	3.987	0.79	0.04	4.368	0.68	0.05	4.016	0.87	0.06
CO02	4.376	0.62	0.03	4.538	0.63	0.05	4.386	0.69	0.04
CO03	4.617	0.57	0.03	4.374	0.67	0.05	4.557	0.60	0.04
CO04	4.355	0.65	0.03	4.029	0.79	0.06	4.451	0.70	0.04
CO05	4.091	0.75	0.04	3.877	0.86	0.07	4.102	0.80	0.05
CO06	4.023	0.74	0.04	4.216	0.84	0.06	4.085	0.78	0.05
CO07	4.262	0.75	0.04	4.655	0.53	0.04	4.276	0.79	0.05
CO08	4.668	0.53	0.03	4.298	0.71	0.05	4.711	0.49	0.03
CO09	4.306	0.71	0.04	4.398	0.71	0.05	4.362	0.70	0.04
CO10	4.536	0.70	0.04	4.532	0.61	0.05	4.455	0.73	0.05

Descriptive statistics of appearance indicator constructs

VD	KSA Mean	SD	SE	Qatar Mean	SD	SE	UAE Mean	SD	SE
AP01	4.518	0.58	0.03	4.444	0.59	0.04	4.508	0.60	0.04
AP02	4.412	0.55	0.03	4.439	0.58	0.04	4.435	0.61	0.04
AP03	4.402	0.58	0.03	4.263	0.66	0.05	4.447	0.62	0.04
AP04	4.272	0.68	0.03	3.959	0.85	0.06	4.358	0.69	0.04
AP05	4.008	0.79	0.04	4.146	0.84	0.06	3.955	0.86	0.06
AP06	4.184	0.74	0.04	4.047	0.81	0.06	4.285	0.81	0.05
AP07	3.997	0.81	0.04	4.018	0.88	0.07	3.988	0.85	0.05
AP08	4.026	0.82	0.04	4.246	0.81	0.06	3.992	0.91	0.06
AP09	4.264	0.76	0.04	4.439	0.65	0.05	4.301	0.81	0.05
AP10	4.443	0.70	0.04	4.006	0.90	0.07	4.443	0.72	0.05
AP11	3.997	0.83	0.04	3.930	0.86	0.07	3.984	0.85	0.05

Descriptive statistics of interactive indicator constructs

VD	KSA Mean	SD	SE	QAT Mean	SD	SE	UAE Mean	SD	SE
IN01	4.648	0.57	0.03	4.351	0.67	0.05	4.63	0.58	0.04
IN02	4.295	0.63	0.03	4.152	0.73	0.06	4.435	0.68	0.04
IN03	4.213	0.70	0.04	4.714	0.49	0.04	4.179	0.76	0.05
IN04	4.725	0.50	0.03	4.532	0.64	0.05	4.736	0.48	0.03
IN05	4.542	0.66	0.03	4.339	0.74	0.06	4.488	0.65	0.04
IN06	4.308	0.67	0.03	4.491	0.62	0.05	4.398	0.69	0.04
IN07	4.329	0.63	0.03	4.047	0.89	0.07	4.476	0.60	0.04
IN08	4.054	0.78	0.04	4.082	0.79	0.06	4.089	0.80	0.05
IN09	4.132	0.74	0.04	3.860	0.84	0.06	4.187	0.75	0.05
IN10	3.902	0.79	0.04	3.772	0.89	0.07	3.959	0.83	0.05
IN11	3.816	0.81	0.04	3.684	0.83	0.06	3.850	0.83	0.05
IN12	3.780	0.76	0.04	3.848	0.76	0.06	3.772	0.80	0.05

Descriptive statistics of organization indicator constructs

VD	KSA Mean	SD	SE	Qatar Mean	SD	SE	UAE Mean	SD	SE
OR01	4.681	0.59	0.03	4.667	0.50	0.04	4.691	0.63	0.04
OR02	4.614	0.58	0.03	4.322	0.74	0.06	4.618	0.57	0.04
OR03	4.244	0.76	0.04	4.409	0.68	0.05	4.272	0.79	0.05
OR04	4.350	0.64	0.03	4.444	0.56	0.04	4.451	0.65	0.04
OR05	4.383	0.58	0.03	4.491	0.56	0.04	4.468	0.60	0.04
OR06	4.386	0.57	0.03	4.421	0.62	0.05	4.524	0.55	0.04
OR07	4.358	0.63	0.03	4.544	0.61	0.05	4.415	0.69	0.04
OR08	4.609	0.57	0.03	4.690	0.50	0.04	4.585	0.57	0.04
OR09	4.687	0.53	0.03	4.620	0.57	0.04	4.683	0.50	0.03

Descriptive statistics of assurance indicator constructs

VD	KSA Mean	SD	SE	QAT Mean	SD	SE	UAE Mean	SD	SE
AS01	4.707	0.52	0.03	4.912	0.30	0.02	4.65	0.58	0.04
AS02	4.850	0.41	0.02	4.696	0.57	0.04	4.833	0.42	0.03
AS03	4.671	0.59	0.03	4.684	0.54	0.04	4.667	0.57	0.04
AS04	4.637	0.57	0.03	4.632	0.55	0.04	4.585	0.60	0.04
AS05	4.611	0.59	0.03	4.708	0.51	0.04	4.565	0.63	0.04
AS06	4.681	0.55	0.03	4.684	0.51	0.04	4.646	0.61	0.04
AS07	4.674	0.56	0.03	4.702	0.54	0.04	4.667	0.60	0.04
AS08	4.681	0.57	0.03	4.667	0.57	0.04	4.707	0.57	0.04
AS09	4.643	0.63	0.03	4.380	0.84	0.06	4.618	0.65	0.04
AS10	4.549	0.74	0.04	4.714	0.49	0.04	4.557	0.71	0.05
AS11	4.785	0.58	0.03	4.661	0.61	0.05	4.748	0.54	0.03
AS12	4.687	0.62	0.03	4.538	0.63	0.05	4.663	0.64	0.04
AS13	4.650	0.59	0.03	4.567	0.58	0.04	4.602	0.64	0.04

Descriptive statistics of customer-focus indicator constructs

VD	KSA Mean	SD	SE	Qatar Mean	SD	SE	UAE Mean	SD	SE
CF01	3.987	0.73	0.04	4.696	0.55	0.04	3.927	0.81	0.05
CF02	4.736	0.54	0.03	4.620	0.53	0.04	4.687	0.61	0.04
CF03	4.668	0.54	0.03	4.561	0.67	0.05	4.606	0.60	0.04
CF04	4.593	0.64	0.03	4.503	0.67	0.05	4.606	0.62	0.04
CF05	4.477	0.77	0.04	4.591	0.65	0.05	4.411	0.82	0.05
CF06	4.601	0.68	0.03	4.532	0.65	0.05	4.626	0.69	0.04
CF07	4.544	0.72	0.04	4.246	0.70	0.05	4.520	0.75	0.05
CF08	4.228	0.74	0.04	4.380	0.60	0.05	4.350	0.77	0.05
CF09	4.340	0.62	0.03	4.328	0.61	0.05	4.459	0.63	0.04
CF10	4.288	0.65	0.03	4.503	0.58	0.04	4.390	0.72	0.05
CF11	4.611	0.57	0.03	4.637	0.55	0.04	4.589	0.58	0.04
CF12	4.697	0.55	0.03	4.573	0.58	0.04	4.687	0.57	0.04
CF13	4.668	0.59	0.03	4.795	0.43	0.03	4.626	0.60	0.04
CF14	4.801	0.45	0.02	4.766	0.49	0.04	4.801	0.46	0.03
CF15	4.749	0.53	0.03	4.673	0.53	0.04	4.768	0.53	0.03
CF16	4.671	0.57	0.03	4.643	0.55	0.04	4.63	0.61	0.04

TABLE 6: The high-context communication (HCC) and low-context communication (LCC) theory.

Parameter	Tendency in HCC cultures	Tendency in LCC cultures
Animation	High use of animation, especially in connection with images of moving people	Lower use of animation, mainly reserved for highlighting effects, e.g., of text
Promotion of values	Images promote values characteristic of collectivist societies	Images promote values characteristic of individualistic societies
Individuals separate or together with the product	Featured images depict products and merchandise in use by individuals	Images portray lifestyles of individuals, with or without a direct emphasis on the use of products or merchandise
Level of transparency	Links promote an exploratory approach to navigation on the website; process-oriented	Clear and redundant cues in connection with navigation on a website; goal-oriented
Linear vs. parallel navigation on the website	Many sidebars and menus; opening of new browser windows for each new page	Few sidebars and menus; constant opening in the same browser window

Source: [7].

to validate the model in different traditional contexts of Arabic communities, because the ratification of diverse traditions and using a large sample collected in a variety of places would help the circulation of the proposed model in various Arabic communities [2, 9, 53].

(5) The cumulative visions of previous studies support the determination of the net benefit for its importance in many aspects of this study [8, 54]. Thus, identifying the standards of the net benefit might lead to knowing the specific net benefits sought in various types of M-commerce systems. Determining net benefits requires critical thinking and empirical research, especially on those factors that vary from one community to another.

(6) This was a preliminary study of an IS Success model in M-commerce, which focused on one side of the stakeholders, the customer. M-commerce systems success models can be developed using other stakeholders and levels of analysis to increase accuracy and power levels in the results of future research [2, 9, 53].

One of the main obstacles in many electronic systems is acceptance by the right target segment. Sociotechnical systems, therefore, represent one of the most sensitive aspects in many theoretical frameworks, as well as digital transformation processes associated with traditional systems and the extent of audience acceptance by the target segment. This is because acceptance depends on the level of interest of the target segment and the extent of the systems' requirements, which can be applied to a specific segment and within a specific scope. Complexity thus appears during the construction of specialized electronic systems, which includes the requirements of the target segment. Care must be taken not to harm the spirit of the general requirements for the applications of the approach, in this case, for example, commercial applications on smartphones. Many characteristics of a society, together with its acceptance of technical aspects, depend on traditions and the appropriate way of accommodating them; the same is true for many influencing and key contributing factors that have been presented in this paper. Complexity and change in systems' characteristics are widely seen in global companies and organizations that operate on a diverse geographical scale. One example is McDonald's, which has many outlets worldwide. The products it offers depend on community traditions, and they appear on its website according to the users' location. As a result, McDonald's seeks to reach the largest possible segment by diversifying many aspects to its commercial applications or websites and by studying different societies and translating their requirements into technical requirements that can be implemented through various technical tools [55]. Thus, complexity helps to expand the characteristics of applications, which leads to an increase in the acceptance of diverse applications or systems by multisocieties, including commercial applications. To summarize, based on the sociotechnical systems approach, complexity is one of the most important aspects in the success of commercial applications. This is due to complexity's ability in providing technical, specialized requirements for commercial applications, as well as the requirements that help target segments accept these applications in accordance with the vision and goal of M-commerce applications.

7. Conclusion

This study focused on identifying consumer requirements of commercial applications. Accurate user requirement analysis is important in the development of M-commerce applications that are accepted by current societies. This study focused on the analysis of consumer traditions and habits to determine the trends associated with acceptance of specific products, as well as the features that help consumers with effective decision-making ability. This study has shown the importance of identifying target population characteristics for widespread commercial application success which can be focused on in future studies.

Traditional characteristics and consumer habits represent important factors to understand increasing commercial application acceptance and use. This study identified important differences in consumer requirements among the communities that participated in the study. The differences in community requirements should be considered when designing applications for wider geographical areas. This study also identified similarities in many consumer indicators that help determine general M-commerce application requirements. The optional features that have been highlighted in the discussion section represent important functionality for specific communities that can help them be successful using smartphone commercial applications.

Appendix

A. Descriptive Statistics of All Indicators

This presents all indicators that have been conducted in the study. It includes the indicators that are related to content, interactive, assurance, appearance, organization, and customer-focus. The separate results have been included for KSA, UAE, and Qatar. The results also contained the mean, standard deviation (SD), and standard error (SE), as shown in Table 5.

B. The High-Context Communication (HCC) and Low-Context Communication (LCC) Theory

These include five dimensions that are used to measure the differences between societies. The main parameters of HCC and LCC (animation, promotion of values, individuals separate or together with the product, level of transparency, and linear vs. parallel navigation on the website) are given in Table 6 [56–60].

Data Availability

Conflicts of Interest

The author declares no conflicts of interest.

Acknowledgments

Supplementary Materials

The supplementary material includes a questionnaire which represents one of the main research tools for this study. The questionnaire survey was carried out during 2019-2020, the period of the coronavirus pandemic. Various means of communication, such as e-mails and WhatsApp groups, and various methods of social distance were used for data gathering. *s.* (*Supplementary Materials*)

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