

The Impacts of M-Commerce on Saudi Banks

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Abstract

The main purpose of this research is to critically analyze the impact of mobile commerce on the banks of Saudi Arabia. Through secondary research and substantial literature review, the research identifies different impacts and barriers that can hinder the adoption of mobile commerce. With the passage of time and continuous technological evolutions one of the most widely used tools in the current scenario that is utilized by banks and other business entities is marketing through mobile. New opportunities are being offered to the users by the banks over the mobile devices, for instance, transferring of funds, making payments and locating the branches. It is obvious that the next evolution stage for Banks with the business organizations is to provide a platform to users where they can easily operate their accounts without being connected to any wired network. Furthermore, the research analyses different researcher's work, who have studied the emergence and adaptation of mobile commerce. In addition to this, the research also highlights different aspects of mobile commerce and various driving force that lead towards the success of mobile commerce in today's competitive business world.

Keywords: mobile banking, M-commerce, mobile phones

1. Introduction

With the evolution of internet, the way people interact and communicate with each other within their social circle has significantly changed. The increase accessibility and availability of the internet has drastically shifted the use of m-commerce towards the business environment (Clarke, 2008). The increase in the demand of continuous availability of the internet connection has shifted the users from desktops to laptops and further to mobile devices. The channel of telecommunication has also been observed to migrate not only from fixed nature to mobiles, but also from voice to data, which has enabled people stay connected from anywhere, at anytime (Hopkins, 2006). Organizations are continuously adopting different mediums and channels in order to meet the expectations of their customers, increase customers' convenience, maintain profitability and reduce costs.

In today's competitive world, electronic commerce has immediately penetrated into majority of the organization's marketing strategy. With the new technologies emerging and web changing continuously, it has become possible for non-technical users to interact through social media, which includes, support channels, reviews, blogs, business chat, consumers feedback, online videos, etc. (Hopkins, 2006). However, with the passage of time and continuous technological evolutions, one of the most widely used tools in the current scenario that is utilized by enterprises is marketing through mobile. This marketing application has become a widespread medium in different industries because a sale up thrust is given through this medium. New leads are created and customers are informed at really low cost. The term mobile commerce has emerged from the wireless nature of devices that support the business transactions performed through mobile networks. Devices and technologies which include, Personal Digital Assistants (PDAs), notebooks, pagers, digital cellular phones, as well as automobiles, are able to easily access the wireless Internet and use its different abilities, like Web-browsing and e-mails. The use in the m-commerce transaction is increasing drastically around the globe, for example, the transaction has increased per year from 498 million in 2007 to 4.8 billion in 2011 (Genis-Gruber & Tas, 2011)

2. Research Aim and Objective

The main aim of this research is to critically analyze the impact of mobile commerce on the banks of Saudi Arabia.

3. Significance of the Study

This study of mobile commerce is an emerging concept for understanding how it can revolutionize the world of banking and how the adaptation of mobile commerce has affected the banking system of Saudi Arabia. The study findings will be helpful for managers in understanding about the significance and benefits of adopting m-commerce as a mode of communication and services. This research will further be helpful in identifying various barriers that are faced by banks in integrating mobile commerce. This will enable banks in Saudi Arabia and business entities in Saudi Arabia to come up with different techniques and strategies to use mobile commerce for effectively communicating with their customers. Furthermore, since the integration and usage of mobile commerce is significantly changing the way consumers are being approached and the way in which consumers behave and perceive. This research will help out in analyzing how this technological revolution is affecting the overall banking industry.

4. Literature Review

4.1 Emergence of M-Commerce

The commerce businesses have been witnessing rapid boost that is caused by the emergence of wireless technology. After the revolutionary emergence of electronic commerce and its impact on the business environment across the globe, mobile commerce is another step towards the revolution of wireless network (Doney & Canon, 1997). With the extensive developments, it has provided an opportunity to develop a strong connection between the firms and their target markets, where a number of businesses and organizations have been taking chances by adopting this opportunity. In today's competitive world, Mobile Commerce as wireless technology has become a part of everyday life (Rogers, 1983). This refers to connecting people and making business through mobile applications and is considered to be an effective strategy. This has been considered to be great potential making ways for the adoption of mobile commerce on the business world.

4.2 Concept of Mobile Commerce

Even though, there has been a widespread agreement that mobile commerce is using the mobile devices for communicating and conducting different transactions through private and public networks, yet, no formal definition exists for mobile –commerce (Yung-Ming Li, 2009). Such type of confusion will destroy the research and theories developed on the issues and application of mobile commerce.

4.3 M-Commerce Features

There are some major features of m-commerce that are determined only through the mobile environment, which also enhances the opportunity for new application and use of technology. The features include: Ubiquity, Customization, Personalization, Flexibility, Mobility and Dissemination. Ubiquity are the features that employ the application of m-commerce from anywhere at any time (Yung-Ming Li, 2009). For example, the prices of stocks can be checked from any place at any time. In customization, the users check the information and then can send it to other customers through SMS. Special services can be set up by personalization feature of m-commerce that will allow the user to build different suitable ways. The best example of personalization is advertising and auction. However, the users can conduct the business from any place at anytime (Asfour & Haddad, 2014). In addition, mobile devices are portable because of which transactions can be performed easily even while travelling; however, internet should be available. Purchasing of goods by accessing websites from mobile phones can be an example of m-commerce. Furthermore, wireless technology has been used in every region and data can be transferred by using internet.

4.4 Expansion of M-Commerce

In 2010, researchers had shown that many people are using mobile phones and have increased approximately to five billion with a future estimation that it will increase to six billion by 2012. However, it was confirmed through one of the future research that the device is prolific and there are a variety of services that are provided by the technology of m-commerce, such as mobile banking and mobile retailing; therefore, there is a rapid increase seen in the growth of m-commerce (Doney & Canon, 1997). In 2010, the transaction through m-commerce increased rapidly and the revenue from mobile ticketing and mobile retailing reached up to \$72 billion. Furthermore, it was predicted that the revenues through mobile payment would increase to \$30 billion by 2014. The expansion in the adaptation of m-commerce technology will bring a change in the way users purchase products and services.

4.5 M-Commerce in Developed Countries

In developed countries, the adaptation of m-commerce has experienced a drastic increase in the growth of this technology. For example, in United States, the consumer purchasing on mobile phones increased up to \$1.4 billion in

2009; whereas, it was \$396.3 million in 2008 (Choi, 2008). In France, 30 percent of the population is using the application of m-commerce in buying the plane and train tickets. For many years, the consumers of Jordan have adopted the application of m-commerce for doing shopping and 17 percent of the e-commerce sale is done through the application of m-commerce (Ghezzi, 2010). In addition, it is not necessary that only trading is done through mobile commerce it can be used for many other important aspects of the life. According to Harris, et.al (2005), the UK registered donated over 1 million for the relief project via SMS using the application of m-commerce. Many researches on have been carried out on impacts of mobile banking in developed economies, such as South Korea and Finland, where the collaboration between financial institutions and cellular carriers has been well established. However, we find limited empirical research in developing countries, especially in Middle East (Al-Qeisi, K. I. 2009).

4.6 M-Commerce in Saudi Arabian Banks

Saudi Banks have introduced a variety of methods to provide mobile banking services such as online SMS-banking, downloading application–mobile banking or WAP banking. As every bank is offering these services, customers have more options to shop around for more competitive products and services offerings. As a result, the banks face a competition from other established banks. The banks have to satisfy their customers by providing them the newest electronic delivery channel (Alsheikh, L., & Bojei, J. 2014).

According to KPMG survey (Koenig-Lewis, N., Palmer, A., & Moll, A. 2010), 27% of Middle East/Africa region (Saudi Arabia and South Africa) consumers conduct mobile banking but 50 % of respondents are not comfortable with using a mobile device for banking purpose. According to this research, 54% respondents showed their acceptance to mobile banking.

In recent years, m-commerce (mobile commerce) in Saudi Arabia has become a topic of more interest and has been benefited from considerable development. This interest is due to increasing number of smart phone users. According to De Vere (2012), 60% of mobile users own smart phones in Saudi Arabia. Moreover, 85% of smart phone users have internet access in Saudi Arabia (Chris Crum, 2012).

The businesses are expanding their access to these smartphone. As a result of m-commerce, there will be banking transactions. Therefore, m-commerce and banking are interrelated. M-Commerce has impacts on banking system because the banking system should adopt such a model so that m-commerce can be carried out smoothly and according to the customers' satisfaction.

In light of the above considerations, this study has been undertaken to empirically examine the extent to which commercial banks in Saudi Arabia are affected with m-commerce.

4.7 Trust in M-Commerce

Building trust on the consumer is a complex phenomenon that is studied extensively with discipline to marketing (Doney & Canon, 1997) and economics (Williamson, 1993; Dasgupta, 1988). The studies argued that the trust is elevated in e-commerce. Many of the researchers suggested that trust is one of the important factors in the success of the online environment (Salo & Krjaluoto, 2007). In today's world, the level of trust among the customers has to be dynamic or static that changes from time to time as when the contact with the customer is not face to face then the building of trust is difficult. Therefore, it is necessary that the services through mobile are given in a satisfactory manner with a high quality.

4.8 Challenges and Opportunities of M-Commerce

The banks in Saudi Arabia want to achieve a competitive position in the global world by building a strong relation with its customers by providing them with high quality services so that customers could be satisfied; for this they adopted mobile banking service (Clarke, 2008). In the developed countries, the usage of mobile phone users has already exceeded 1.08 billion. Banking sector in Saudi Arabia is the key factor in developing the economy. As banks of Saudi Arabia are looking for different ways to improve the services so that the level of customer satisfaction is increased. In addition also wants to reduce the cost by in lining with the change of technology which will further enhance the customer satisfaction. The importance of this study is to expand the use of the technology in the banking sector and which will help both the parties to maintain the satisfaction (Asfour & Haddad, 2014). The impact of m-commerce is in terms of reliability, security, flexibility, efficiency and accessibility are evaluated that affect the banking sector of Saudi Arabia.

4.9 History of Mobile Banking

History shows that the adaptation of mobile banking is low in the world, but due to economic crisis there is a

significant change in the dynamics of the consumers spending and information dispersion, the change has started to begin and there is an increase in the usage of smart phone (Harris, Rettie & Kwan, 2005). The increased use of smart phones has made the industry to adopt m-commerce in order to facilitate the customers in getting up-to-date information of their account, transferring the funds, making payment of bills, transferring funds and locating the local branches of their banks.

The services of mobile banking are classified on the basis of a service session that is either pull or push (Salo & Karjaluo, 2007). Pull is when the customer explicit the request for any service or any information from the last five years and is requested from the bank; whereas, push is when the bank sends out the information based on agreed set out of rules such as: the banks send out an alert when the account balances goes below a threshold level.

5. Theoretical Framework

5.1 The Technology Acceptance Model

In addition, although there are numerous theories and models related to the adoption and diffusion of technology, previous studies have mainly focused on the adoption of technology itself. In contrast, the perspective on services and service-enabling technologies is considerably less pronounced (Leung & Antypas, 2001). Similarly, although varieties of m-commerce services are now available, most studies have focused on the mobile user's intention to adopt m-commerce itself, not a specific service or service categories. Few studies have performed cross-service comparisons to investigate cross-service differences during adoption processes. The use of technology is increasing rapidly; therefore the research studies the impact of adaptation of m-commerce application on the banking sector.

Technology acceptance has been studied by multiple researchers in many disciplines using a variety of models, but no model has been more widely studied than the Technology Acceptance Model (TAM). The constructs of the model proposed by Davis (1989) include perceived usefulness and perceived ease of use which affect behavioral intention to use and, finally, the actual use of the technology in question. Perceived usefulness of the technology is the extent to which a person believes that using specific technological system would improve his/ her productivity and overall job performance. Kim, Chan & Gupta (2007) found that perceived usefulness positively affected internet retailing and, similarly a positive affect was observed on the perceived value of the Internet used via mobile devices. Perceived ease of use is defined as the degree to which a person believes that using a particular system will be free from effort. It reflects the level of effort involved with learning and using a technology (Doney & Canon, 1997). According to the TAM, perceived ease of use and perceived usefulness positively influence behavioral intention and behavioral intention positively influences actual use.

Meanwhile, numerous theories and models have developed to attempt to explain technology adoption in different circumstances. In order to explain users' adoption of m-commerce services, theoretical perspectives from sociological, technological, and psychological aspects are adopted in this study. The diffusion of innovations (Rogers, 1983) is selected as the foundation of the study, and other theories or models such as the theory of reasoned action (TRA), the theory of planned behavior (TPB), and the technology acceptance model (TAM) were used to explain the relationship between technology users' beliefs, intentions, and actual technology use. The well-established and robust intention-behavior models from TRA and TPB have been proven successfully in predicting and explaining technology users' intention and behavior. Based on TRA and TPB, TAM is also one of the most frequently cited models for predicting technology acceptance in the information systems area. However, many researchers have recommended that TAM will have better explanatory power when other relevant variables are added in the model because it is too parsimonious, organization-oriented, and has weak explained variance. With these considerations, this study extends TAM by adding new, but theoretically proven variables, such as perceived attributes of innovations from the theory of diffusion of innovations and mobile users' motivational dimensions from the uses and gratifications model.

6. Methodology

This research is conducted on the basis of secondary data. The research encompasses the publications, articles and similar studies accessible on the Internet. Keeping in view the approach taken in earlier studies the research began with a broad analysis of the existing literature. The findings & conclusions are based on the secondary data. The methodology used for the purpose of this research is based on the secondary data. This research is more or less based on the literature review & the conclusions are drawn on the basis of actual resources listed in the references. The method of investigation used, consists of a theoretical framework of secondary data by reviewing the current position of mobile commerce application as used in the organizations, business entities and banking sector.

7. Data Collection Procedure

The methodology adopted in this research focuses on the existing research through journal, internet, other research works and articles etc. Data collection from the secondary research was evaluated thoroughly to eliminate the factor of biasness and check the accuracy of the data. In addition, making sure that the data used is not very old and is relevant to the research. Local Libraries, Pheonix and other data bases were use to add data to the existing material.

8. Discussion

Mobile is becoming the dominant means for accessing communications primarily because integrating the use of mobile networks is not cost-effective, but also as it provide immense convenience and flexibility for its users as compared to the users of landline telephones (Wessels & Drennan, 2010). M commerce, in most cases, is considered to be a sub-set of e-commerce involving all the transactions of electronic commerce carried out via mobile devices. This increasing popularity of mobile commerce has forced the business world of today to create a new platform for commerce activities. A study conducted in Saudi Arabia showed that the users are interested in e-commerce and m-commerce applications (Hopkins, 2006). Most of the local banks such as Saudi Fransi Bank offered online internet banking services to the users for the stock market (Djeflat, 2009). It was estimated that 48.36% of internet users use mobile phones in Saudi Arabia (Djeflat, 2009). However, m-commerce is the beginning in a growth phase of Saudi Arabia; whereas, this was the huge opportunity for the brands to connect the consumers with other activities on a personal level. The infrastructure of Saudi Arabia has improved in order to the connections of 3G that allows the telecommunication companies to compete in the market (Davis, 1989). Currently, the m-commerce services used in the Saudi Arabia emphasizes on the usage of SMS and MMS which will then provide the users with discount offers and alerts. On the other hand, a survey conducted by Yankee Groups (2010), showed that less than 10 percent customers are willing to pay for the extra service of mobile transactions such as mobile banking and mobile payments. According to Deatsch (2011), ABI predicted that by the end of 2015, most of the Saudi consumers will be spending approximately \$119 billion on the services of mobile phones.

8.1 Impact of Mobile Commerce on Banks

It has been observed that the Internet has significantly become a part of daily life. Instead of being just a static storehouse of information, it has now changed into a vehicle for rendering services and connecting with people. These services include online banking, airline ticket bookings, hotel booking, etc. (Bedford, 2005). It has also been observing a rapid progress in the handheld and wireless technologies, beside the new part played by the Internet in the lives of Saudis. New opportunities are being offered to the users of Saudi Arabia by the banks over the mobile devices, for instance transferring of funds, making payments, locating the branch location. Sending and reading instant messages has become an activity of daily communication (Rogers, 1983). WAP (Wireless Application Protocol), Internet surfing has become extremely easy, and is another technological evolution used by bank that has made it easy for the user to use the application of m-commerce. It is obvious that the banking sector wants to provide a platform to users where they can easily operate their account without being connected to any wired network or walking in the branch.

Twenty years ago, the internet brought about a major shift in the way business is conducted. In addition, everyone who owns mobile and has internet access, now has the power to purchase products and share information from the comfort of their home. The adaptation of m-commerce by banks has had a major effect on the banking industry as people can transfer the payments, operate their bank accounts from anywhere in the world, at any time (Ghezzi, 2010). By logging into a mobile device and surfing the net, a person can make a payment from Saudi Arabia and have it to a location in Africa.

During the past two decades, it has been seen an explosive growth in the number of providers of mobile services and the number of people subscribing to these services. There were 2.7 billion mobile handsets in use worldwide in 2007 which is three times the number of computers in use, and the world's mobile subscriber base is expected to grow from 2.65 billion to 4.81 billion by 2012. The device of mobile phone has become a ubiquitous internet device that accesses the web and operating the bank account easily. The use of mobile commerce has made it easy for the banking sector to provide customers with variety of services, the time of the consumers are also saved and the cost is also decreased (Christou, 2010). However, the security and privacy issues has been reported which has sometimes become a threat for the banking sector of Saudi Arabia.

As Bedford (2005) described, it is recognized as the use of wireless devices, like cell phones and personal digital assistants (PDAs), to connect to the Internet for the purpose of communicating and/or conducting business without location restriction. Mobile phones have provided access to an ever-widening range of mobile content and services

for a growing number of mobile users (Leung & Antypas, 2001). Mobile users of Saudi Arabia have now adopted the use of internet banking via m-commerce and this has benefited the customers and the banking sector. With the unique features of m-commerce such as the mobility of users and location discovery, banks are able to capture personal information while users are moving, and this information can be used as a personalized marketing tool.

8.2 Value Proposition of M-Commerce

M-commerce has received widespread acceptance among consumers across the globe. In 2002 the total number of wireless device users was estimated at 237 million worldwide. This number reached 1 billion in the year 2003 and continues to grow exponentially (Williamson, 1993). Even forecasters have underestimated the propensity growth of mobile commerce users. The widespread acceptance of mobile commerce is partly explained by its value proposition. The demand side of m-commerce services is based on the premise of how value can be delivered to customers. By and large m-commerce procures two main benefits to the customers including mobility and reach benefits. With mobility benefit, consumers can have access to mobile commerce services regardless of location, time and other constraints. With reach benefit consumers can be reached anywhere and anytime. The value proposition of m-commerce puts more focus on the mobility aspect than on the reach aspect. The value-added elements deriving from the choice being created for the customers include flexibility, convenience, and ubiquity. However, these terms are too broad to capture the value creation understanding that consumers want. These terms do not address the relevance of the context in which users seek to use m-commerce. The characteristics of m-commerce that really create value to the consumers include the location of the users, the users' situation, and their missions.

M-commerce value is today built around specific dimensions such as location-centric, convenience, customization, and flexibility. The accessibility concept confers to users the ability to constantly carry the cellular phone given its portable nature. As a result, users conduct transactions unceasingly via public and private networks. With the location-centric advantage, m-commerce providers such as banks can better respond to customers' needs by providing information given the location of the users (Genis-Gruber & Tas, 2011). Customers acknowledge the convenient aspect of m-commerce when some unpleasant tasks are eliminated in their mobile banking process. Avoiding long line at counter desk and avoiding a trip to the branch are some of the benefits that consumers take advantage of when using m-payment. As a consequence, it is assumed that in mobile banking such as time and cost are being considerably reduced to facilitate or to encourage the use of m-commerce. M-commerce services give providers a unique opportunity to tailor services to m-commerce users.

It appears that most of the value propositions that customers gain from m-commerce are translated into the constant and convenient access to mobile services. Similar benefits are well represented through the usage of m-payment because with m-payment consumers benefit from a discontinuous and systematic access to financial transactions (Rogers, 1983). One can argue that a discontinuous financial access is already present through electronic payment system such as debit and credit cards.

8.3 Driving Forces That Lead Mobile Commerce on Saudi Bank towards Success

Wireless communications are not just based on the telephones but it also includes different appliances such as PDAs (personal digital assistants). Driven by a widely spread understanding about the capabilities of the Internet, the strength, power and reach of electronic commerce, and advancements in the wireless devices and technologies, m-commerce has rapidly been adopted by the business entities and banks in Saudi Arabia. According to the findings of various researches, mobile commerce the conduction of business activities and services through wireless and portable devices will soon become a dominating force in the society and the business world (Ghezzi, 2010).

Among a number of driving forces, social influence also has a positive impact on the adoption of mobile commerce activities. The decision of approving or disapproving the integration of social networks in the business activities plays a very important part in the adoption of mobile commerce. It is quite interesting to understand how mobile networks have been frequently using social networks, whether professional or personal, the use of older telephone networks or the new platforms such as social networking.

The major driver for the pervasive adoption of mobile devices and m-commerce services is the introduction of advanced technologies such as (1G, 2G, 2.5G, 3G and 4G). Internet technology is another major driver for the expansion of mobile communication (Bedford, 2005). Mobile users can connect to the Internet wherever and whenever, and therefore, Banks can expand the delivery of services to mobile users through multiple channels, such as mobile phones and PDAs.

8.4 Barriers for Using Mobile Commerce

Mobile commerce is applicable to business to consumer area, such as mobile retailing, mobile advertising, mobile

auction, mobile banking, mobile shopping, and mobile ticketing. Furthermore, it is also applicable for performing business to business activities. As suggested by Leung and Antypas (2001), mobile commerce enhances the efficiency for performing banking activities by readily disseminating information to the remote workforce and by offering new mediums through which banks are easily able to interact with their customers. It was further suggested by Christou (2010) that banks having the capability to harness the power of mobile technologies for streamlining and automating banking procedures might reap the benefits of improved and enhanced productivity, increased level of customer satisfaction, improved decision-making, and reduced operational cost. However, mobile devices and m-commerce has led and opened doors for new and innovative services and applications and also provides easy access to their owners and users, wherever they go.

For the first time in the history of electronic transactions, mobile commerce has promised more convenient, more than a simpler and more secure way for performing transactions. Mobile commerce adopted by the banks of Saudi Arabia offers a convergence of previous autonomously performed functions in one set of instantly accessible consumer-demanded services (Ghezzi, 2010). Banks promises hassles free transactions, complete avoidance from the extremely time consuming procedures and instant payments. Mobile commerce offers simplicity, flexibility, cost-effectiveness, etc.

8.5 Security and Privacy

From the technical perspective, over the wireless networks- mobile commerce is essentially insecure as compared to the electronic commerce. The reasons for this insecurity include reliability and integrity, privacy and confidentiality, authentication and identification, and the capability (Salo & Karjaluo, 2007). The fading and interferences make the errors of wireless networks prone. With frequent disconnections and handoffs the channels tend to degrade the security services. Therefore, the communication message is easily interpreted and intercepted, and information can easily be extracted if there is no security mechanism applied, like cryptographic encryption. There is an additional difficulty introduced by the mobility of wireless devices for the identification and authentication of mobile terminals.

9. Conclusion

The application of mobile commerce is emerging and the business entities and banking sector are committing themselves towards the adaptation of m-commerce. The platform is characterized by accessibility, location sensitivity, flexibility and Ubiquity. The mobile device is intensely personal with different input and output sensibilities. As m-commerce is a new kind of instrument of commerce, this study includes consumers' prior mobile banking experiences and their impact on banking sector of Saudi Arabia including the factors related to security and privacy.

The model explored in this study is especially ideal to test cross-nationally because m-commerce services are more a global than a local issue. Moreover, because the majority of technology adoption studies have been conducted in a certain countries, it is not easy to say that theories and models used in technology adoption studies are applicable to other countries or cultures. Consequently, the verification of whether the existing theories and models are applicable to people in different countries and cultures is important. In response to the current discrepancy in diffusion of mobile commerce in the world, after verifying factors affecting the intentions and actual use of m-commerce services, this study investigates the impact of m-commerce on Saudi Banks and the increased use of m-commerce application around the globe.

Like any study, this work naturally leaves some clues and limitations for further researches. First, this study reviewed previous researches based on TAM and considered secondary data in the context of different nationalities. Future research may consider primary data from different regions to carry out similar studies. Second, all the previous researches considered by this study were conducted in single time point. Longitudinal studies are recommended to study the impacts of m-commerce on banks in different regions. Third, this study highlighted the significant impact of trust security and risk on banks in terms of m-commerce. Further studies are recommended to highlight the in depth factors of trust and security in terms of m-commerce which have impacts on banks. Moreover, the bank industry can attract more customers towards m-commerce by providing user friendly applications with more value added services.

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