Investigation the Relationship among Mobile Value-added Services Quality, Customer Satisfaction and the Continuance Intention: Case Study, Hamrah Avval Operator

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Abstract

Understanding the antecedents and consequences of customer satisfaction in the mobile communications market is important. This study explores the effects of service quality, trust and perceived value on customer satisfaction, which, in turn, affects continuance intention of mobile services. Service quality and customer satisfaction were measured by multiple dimensions. A research model was developed based on this multidimensional approach and was empirically examined with data collected from about one 237 users of mobile value-added services in Tehran university. Results show that all two dimensions of service quality (interaction quality and outcome quality) and perceived value have significant and positive effects on customer satisfaction while only one dimension of service quality (environment quality) and trust have no effect on customer satisfaction.

Keywords: service quality, trust, perceived value, customer satisfaction, continue intention

Introduction

Growth of the mobile communication market, mobile phones that used to be exclusively held by business persons have become personal equipment closely integrated into everyone's daily life (Dabholkar et al., 1996) and relatively more frequently used than other mobile devices (Collier and Bienstock, 2006). However, the telecommunication market, which was once regarded as the golden goose, is now experiencing a new phase, as the market is suffering from saturation, whereby the market is no longer able to supply potential customers (Choi et al., 2001). There has been recent pressure from public communities to lower the mobile calling service price. Therefore, telecommunication service providers are seek breakthroughs, not from new subscription, but from discovering

new revenue sources (Anita et al., 2007; Olsen and Johnson, 2003). The telecommunication industry regularly mounts campaigns to improve customer value by offering new products to existing customers. In response, the industry is shifting its strategic focus away from attracting new customers. Instead, the focus is now on retaining existing customers through the promotion of customer loyalty.

Mobile value-added services are digital services added to mobile phone networks other than voice services in which the contents included can be either self-produced by mobile telecom service providers or provided through strategic alliances with content providers. These services include games, icons, ringtones, messages, web browsing, SMS (short message service) coupons, and electronic transaction. They can bring five values to consumers: time-critical needs and arrangement, spontaneous needs and decisions, entertainment needs, efficiency needs and ambitions, and mobility-related needs (Anckar and D'Incau, 2002). Thus, mobile value-added services will become new opportunities for telecom service providers. However, mobile value-added services provided by telecom service providers can be classified into four types, namely information, communication, transaction, and entertainment, and this classification applies to almost all the providers. Although new services are being released at all times, whether they are appealing to consumers and can induce positive post-purchase intention after consumers have used them so as to effectively increase revenue and sustainable development will be an important issue for telecom service providers.

Moreover, as new mobile value-added services are released, service providers need to focus on if these new services appeal to customers and on the willingness of customers to continue to use the services. Therefore, understanding the antecedents and consequences of customer satisfaction in regard to mobile value-added services is important. This study aims to investigate three factors that are closely related to customer satisfaction, service quality, trust and perceived value. Although they are frequently investigated in service marketing and customer behavior research, these three factors are rarely examined at the same time in information technology (IT) use studies.

In summary, the contributions of this study are threefold. First, we incorporate three factors (service quality, trust and perceived value) that have been rarely investigated together in technology adoption/acceptance studies into our research model and then examine their possible influence on customer satisfaction and continue intention.

Literature review
Service quality

A review of the literature suggests that service quality is a multi-dimensional concept regardless of which measuring method is used. For example, Grönroos (1984) proposed that service quality contained two dimensions—technical quality, which is related to what consumers get from the service encounter, and functional quality, which is related to how the service is delivered. Later on, Parasuraman et al. (1988) proposed a five-dimensional framework for service quality, comprising reliability, responsiveness, assurance, empathy, and tangibility. Based on these five dimensions, they developed a 22-item instrument called SERVQUAL, which has become a widely used instrument to measure service quality in

subsequent service marketing studies. Subsequent studies, however, suggested the limitations of the SERVQUAL instrument (Van Dyke et al., 1997), thus leading to the emergence of several alternative instruments. Rust and Oliver (1994) recommended a three-component service quality model and proposed that service quality should be measured by three dimensions, i.e., service product, service delivery and service environment. Dabholkar et al. (1996) suggested a multilevel model in which service quality is assessed by five primary dimensions (physical aspects, reliability, personal interactions, problem solving, and policy) and six sub-dimensions (appearance, convenience, promises, doing it right, inspiring confidence, and being courteous and helpful). They found support for the model by conducting empirical tests. Brady and Cronin (2001) constructed a hierarchical model to measure service quality. In their model, service quality has three dimensions (i.e., interaction quality, physical environment quality and outcome quality) and each of these primary dimensions has three sub-dimensions, including attitude, behavior, and expertise for interaction quality; ambient conditions, design, and social factors for physical environment quality; waiting time, tangibles and valence for outcome quality. Through qualitative and empirical research, they obtained strong support that their multidimensional, hierarchical model measured service quality. Many subsequent studies on service quality, both in the physical and virtual environments, have used this three-dimensional model and found strong supporting evidence (Caro and García, 2008, Lu et al., 2010).All these studies indicate that the measurement of service quality varies across the type of service.

More recently, based on Brady and Cronin's (2001) model, Lu et al. (2010) developed a multidimensional and hierarchical model to measure mobile service quality. They proposed that mobile service quality was composed of three primary dimensions, interaction quality, environment quality and outcome quality, and each primary dimension further included sub-dimensions. An instrument was developed and empirically tested using data collected from mobile brokerage service users. Strong empirical support for the model and the instrument was obtained (Lu et al., 2010). In our study, we use multidimensional model of mobile service quality proposed by Lu et al. (2010). We chose this model because it was developed in a mobile services context and it was shown to be empirically valid.

According to Lu et al. (2010), interaction quality reflects the "quality of a customer's interaction with the mobile service provider during the service delivery" (Lu et al., 2010). This dimension consisted of attitude, expertise, problem solving and information. Environment quality refers to the consumer's evaluation of the quality of equipment that is used, the extent to which the interface is well designed, and the extent to which the service is delivered under proper contexts. Outcome quality was defined as "what the customer is left with when the production process is finished (Grönroos, 1984)". Many studies have shown that outcome quality significantly affected the perceived service quality (Carman, 1990; Fullerton, 2005; Grönroos, 1984; Rust and Oliver, 1994).

Interaction Quality
The first dimension is interaction quality, which reflects the quality of a customer's interaction with the m-service provider during the service delivery. Because of the intangibility and inseparability of service (Cronin et al., 2000: Zeithaml et al., 1985), much

research has shown that interaction quality has the most significant effect on service quality (Grönroos, 1984; Hartline and Farrell, 1996). The interaction quality consists of such sub-dimensions as attitude, expertise, problem solving, and information. Gronroos (1990) pointed out that employee attitude and skills influenced customers' perception of service quality. Czepiel et al. (1985) suggested that the attitude and skills of service employees defined service quality. Similarly, both Brady and Cronin (2001) and Martinez Caro and Martinez Garcia (2007) included attitude and expertise as sub-dimensions of interaction quality. In addition to attitude and expertise, the problem solving is sub-dimension because it was shown as being important by previous research. Westbrook (1981) posited that consumers were concerned about the handling of problems and complaints during the interaction process. Similarly, other authors (Kim and Jin, 2002; Caro and García, 2008) pointed out that problem solving was not separate from but rather part of the interaction quality. Also information is sub-dimension because mobile brokerage service was an information service and what consumers wanted was up-to-date and accurate financial market information while they were on the go.

Moreover, much research on e-commerce has suggested the importance of information when Internet users interact with e-service websites (Jiang et al., 2002; McKnight and Chervany, 2002). Similarly, Martinez Caro and Martinez Garcia (2007) also identified information as a sub dimension of service quality.

Environment Quality

The second dimension is environment quality. Previous research generally considers environment quality as the extent to which tangible features of the service-place play a formative role in consumer perceptions of overall service quality (Cronin et al., 2000; Rust and Oliver, 1994; Zeithaml, 1988). It has a broader definition than SERVQUAL's tangibles dimension, which refers to the physical aspects of the service. We view environment quality as how the service is effectively transmitted from service providers to consumers. It is related to not only service providers but also consumers. Many authors such as Gronroos (1984), Zeithaml (1988), and Brady and Cronin (2001) considered that the environment quality or tangible dimension had an important influence on the evaluation of service quality. by surveying the m-service literature, we identified three sub-dimensions of environment quality including equipment, design, and context. The equipment refers to the wireless telecommunications network that the service provider uses; on the other hand, it refers to the mobile device that the consumer owns. A second sub-dimension of environment quality is design, which refers to interface design of the trading system. It includes the navigation, color, shapes, font type, and music (Tarasewich, 2002). At last, a third sub-dimension is situation. Compared with e-commerce, mobility is the most significant feature of m-service. Consumers can access m-service at anytime anywhere. However, the mobility depends on the context in which consumers use the m-service. Perry et al. (2001) pointed out that ''the anytime and anywhere access is dependent on technological and social conditions often use environment.''

Outcome Quality

The third dimension is outcome quality, which is similar to the technical quality Gronroos (1984) proposed. Many marketing researchers have shown that outcome quality significantly affected the perceived service quality (Carman, 1990; Fullerton, 2005; Grönroos, 1984; Rust and Oliver, 1994). Literature reviews revealed that three factors influenced the perceived outcome quality: punctuality, tangibles, and valences. Parasuraman et al. (1985) pointed out that consumers considered service punctuality as an important part of their overall service quality evaluation. Houston et al. (1998) also argued that waiting time, which was similar to punctuality, was an important predictor of service quality. Moreover, researchers such as Brady and Cronin (2001) and Martinez Caro and Martinez Garcia (2007) had shown that punctuality was one of the sub-dimensions of outcome quality. In addition, Kleijnen et al. (2007) emphasized on the concept of time consciousness, which was an inherent personality characteristic. The more time conscious a consumer is, the more sensitive she will be (Kleijnen, 2007). That is, a more time conscious consumer views punctuality as being more important. Thus, punctuality will influence the evaluation of the outcome quality. Following Brady and Cronin (2001), tangibles is as an important factor affecting the outcome quality. It was used as a proxy for assessing the outcome quality. The last sub-dimension of valence is also based on Brady and Cronin (2001). It reflects ''attributes that control whether customers believe the service outcome is good or bad, regardless of their evaluation of any other aspect of the experience'' (Cronin et al., 2000).

Perceived Value

According to Parasuraman and Grewal (2000), perceived value is a function of a 'get' component (the benefits a buyer derives from a seller's offering) and a 'give' component (the buyer's monetary and non-monetary costs of acquiring the offering).

In the other words, customer's perceived value can be defined from the perspectives of money, quality, benefit, and social psychology. The Monetary perspective indicates that value is generated when less is paid (such as by using coupons or promotions) for goods (Bishop, 1994). In other words, it is the concept of consumer surplus in economics; perceived value is the difference between the highest price that consumers are willing to pay for a product or a service and the amount practically paid. According to the quality perspective, value is the difference between the money paid for a certain product and the quality of the product (Bishop, 1994). That is, when less money is paid for a high quality product, positive perceived value will be created. The benefit perspective indicates that perceived value is customers' overall evaluation of the utility of perceived benefits and perceived sacrifices (Zeithaml et al., 1985). In other words, consumers may cognitively integrate their perceptions of what they get and what they have to give up in order to obtaining goods. However, the sacrifice means more than the money paid for a certain goods. Non-monetary costs, such as transaction cost, search cost, negotiation cost, and time incurred during the purchase, should also be included (Zeithaml et al., 1985). The social psychology perspective points out that the generation of value lies in the meaning of purchasing a certain goods to the buyer's community (Sheth et al., 1991). That is, goods

carrying particular meanings (such as social economic status and social culture) can increase the effect of social self-concept (Sweeney and Soutar, 2001; Wang et al., 2004). In this study, perceived value is the evaluation of the benefits of a product or a service by customers based on their advance sacrifices and expost perceived performance when they use mobile value-added services.

Trust

In prior research, trust has been conceptualized in several ways; researchers have long acknowledged this confusion. Trust has often been studied in the electronic commerce context. According to McKnight and Chervany (2002), trust can be viewed as trusting belief and trusting intention. Trusting belief refers to the users' perceptions of attributes of service providers, including the ability, integrity, and benevolence of the providers; trusting intention describes the truster's willingness or intention to depend on the trustee. Therefore, trusting intentions include a one-time or continuous usage of value added services. In both the electronic commerce and mobile commerce context, customers cannot fully regulate the business agreement; thus it is necessary for them to rely on the service providers not to engage in unfair and opportunistic behavior (Gefen, 2002). Seen as a considerably important factor for building and maintaining relationships, trust is viewed as a main part of the success of electronic commerce (Lee and Turban, 2001), as well as of mobile commerce (Siau and Shen, 2003). In this context, mobile phone users must provide personal information, such as their phone numbers, in order to become subscribers. They will also send messages to their friends. In the experience of usage, if customers perceive no risks or unexpected conditions that will impair their communications from the service or the service provider, trust will be built. When a customer trusts a service provider, he or she will expect to increase satisfaction and loyalty towards the vendor (Kassim and Abdullah, 2008). In general, if a consumer does not trust the provider based on past experience, he or she will probably be dissatisfied with that provider. Researchers found that trust will affect satisfaction in the long term (Kim et al., 2009). When a customer's feeling of faith in the provider is satisfied, his satisfaction will be enhanced over time (Chiou and Droge, 2006).

Customer Satisfaction

Customer satisfaction is one of the issue which has been most interest in the marketing literature in general and in the sphere of services in particular. Many definitions describe satisfaction as an evaluation process, whose antecedents can be clearly identified. Giese and Cote (2000) criticize definitions which treat satisfaction as an evaluative process given that these definitions do not determine the character of this phenomenon. These authors prefer to approach satisfaction as a summary affective response which varies in intensity, reflecting satisfaction as a holistic evaluative outcome. "This distinction does not preclude the importance of cognitions in determining satisfaction; however, cognitions are bases for the formations of satisfaction, but the cognitions are not satisfaction" (Giese and Cote, 2000). As the authors point out, "focusing on the response (construct) rather than the process (model) facilitates the operationalization of consumer satisfaction as a single construct unencumbered by various antecedents or consequences" (Giese and Cote, 2000).

In addition, the conceptualization of consumer satisfaction can be interpreted by focusing on a specific transaction or from an accumulative perspective. Most definitions in the literature correspond to the first approach (Giese and Cote, 2000; Mano and Oliver, 1993; Spreng et al., 1996) although some of the more recent contributions support the idea that satisfaction is "a global measure of a set of satisfactions with previous specific experiences" (Yu and Dean, 2001). According to Jones and Suh (2000), defining satisfaction in this way provides a better explanation for behavioral intentions.

Research model and hypotheses

Based on the above literature review, we developed a research model as depicted in Fig. 1. In this study, service quality, trust and perceived value reflect customers' cognitive judgments with the consumption experience (Oliver and Swan, 1989; Smith and Bolton, 2002). Customer satisfaction reveals customers' affective responses to the consumption experience (Giese and Cote, 2000). Continuance intention refers to the future continuation of satisfied customers. Therefore, the research model generally hypothesizes that cognitive judgments (i.e., service quality, trust and perceived value) lead to customers' affective responses which, in turn, drive behavior (continuance intention). The hypotheses are presented below.

Relationship between service quality and customer satisfaction

The relationship between service quality and customer satisfaction has been studied extensively and ample positive evidence that "service quality significantly influences customer satisfaction" has been gathered (Bolton and Drew, 1991). In the traditional environment, Chiou and Drog (2006) found that the quality of interactive service provided by employees played a more important role in impacting customer satisfaction than facility service quality. Though in the context of mobile services, consumers may not meet with the service provider face to face, the interaction between the two parties occurring through the mobile device is still an important component in mobile service delivery. Thus, we may posit that a higher level of interaction quality will lead to a stronger sense of satisfaction toward the mobile value-added services. Thus, Hypothesis 1 is proposed as follows:

H1. Interaction quality positively affects customer satisfaction.

The second dimension of service quality is environment quality. Previous research on traditional services consider environment quality as the extent to which tangible features of the services cape play a formative role in overall service quality perceptions (Brady and Cronin, 2001). In the mobile context, environment quality is viewed as how the consumer considers the overall environment of the service delivered by the service provider (Lu et al., 2010). Environment quality of mobile services reflects the basic requirement of using such services, such as the equipment quality, the interface design and service delivery contexts (Lu et al., 2010). It would be difficult for a consumer to achieve his goal without a supportive environment. For example, a consumer may get frustrated if the interface of a mobile service he used is complicated. Though he finally achieves the goal, negative feelings would still remain and cumulate to exert negative influences on satisfaction.

Previous research on mobile service also found empirical evidence for the positive relationship between environment quality and customer satisfaction. Thus, Hypothesis 2 is proposed as follows:

H2. Environment quality positively affects customer satisfaction.

Outcome quality is closely related to satisfaction as it also reflects a global assessment of the service quality based on customers' experiences. Dabholkar and Overby (1996) studied real estate agent services and found that outcomes were closely related to satisfaction, while process factors were closely related to service quality. Thus, outcome quality is positively related to customer satisfaction. In addition, as Cronin et al. (2000) pointed out, even if an individual had a positive assessment of other service quality dimensions, the negative valence of the outcome would result in an unpleasant experience. Thus, Hypothesis 3 is proposed as follows:

H3. Outcome quality positively affects satisfaction.

Relationship between perceived value and customer satisfaction

In the research of the relationships between perceived value and customer satisfaction, empirical studies of the conventional retailers discovered that perceived value positively influences customer satisfaction in most cases (Cronin et al., 2000; Eggert and Ulaga, 2002). A similar conclusion was also proposed in the studies of online shopping websites and e-commerce 39, 110. In the aspect of the telecom industry, Wang et al. (2004) (focusing the telecom industry in China), Tung (2004) (SMS service in Singapore), Lin and Wang (2006) (mobile commerce in Taiwan), and Turel and Serenko (2006) (mobile services in Canada) all revealed that perceived value is positively related to customer satisfaction. Thus, Hypothesis4 is proposed as follows:

H4. Perceived value positively influences customer satisfaction.

Relationship between trust and customer satisfaction

Some researchers have suggested that online customers generally stay away from electronic vendors whom they do not trust (Jarvenpaa and Tractinsky, 1999; Reichheld and Schefter, 2000). Following McKnight and Chervany (2002), we integrated the trust-related constructs, mentioned earlier, within the broad framework of the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975). This posits that beliefs lead to attitudes, which, in turn, affect behavioral intention. Applying the viewpoints, we posited that trusting beliefs (perceptions of specific m-vendor attributes) could lead to attitudes (customer satisfaction), which, in turn, influenced intention to engage in repeat purchases. In addition, most researchers agreed that trusting beliefs directly influenced trusting intentions (e.g., repurchase intentions) (Mayer and Davis, 1999). Chiou (2004) found that perceived trust had direct and positive impacts on the overall satisfaction. Because we also expected this variable and relationships to apply in mobile commerce, Thus, Hypothesis5 is proposed as follows:

H5. Trust has a positive effect on customer satisfaction.

Relationship between customer satisfaction and post-purchase intention

Many studies of satisfaction have pointed out a positive relationship between customer satisfaction and post-purchase intention (Cronin et al., 2000; Johnson and Fornell, 1991). Consumers with a higher level of satisfaction tend to have a stronger intention to repurchase and recommend the purchased product (Zeithaml et al., 1996). In other words, when customer satisfaction is enhanced, repurchase can be more frequent. The extant studies of e-retailing and online shopping also provided the similar conclusions (Collier and Bienstock, 2006; Lee and Turban, 2001). Among the studies of the telecom industry, Gerpott, Rams, and Schindler (2001) and Tung (2004), respectively, examined the telecom industry in Germany and SMS service in Singapore. They also concluded that customer satisfaction is positively related to post-purchase intention. Moreover, other studies of the mobile services in Canada and China also supported this argument (Yang and Peterson, 2004; Wang et al., 2004). Thus, Hypothesis 6 is proposed as follows:

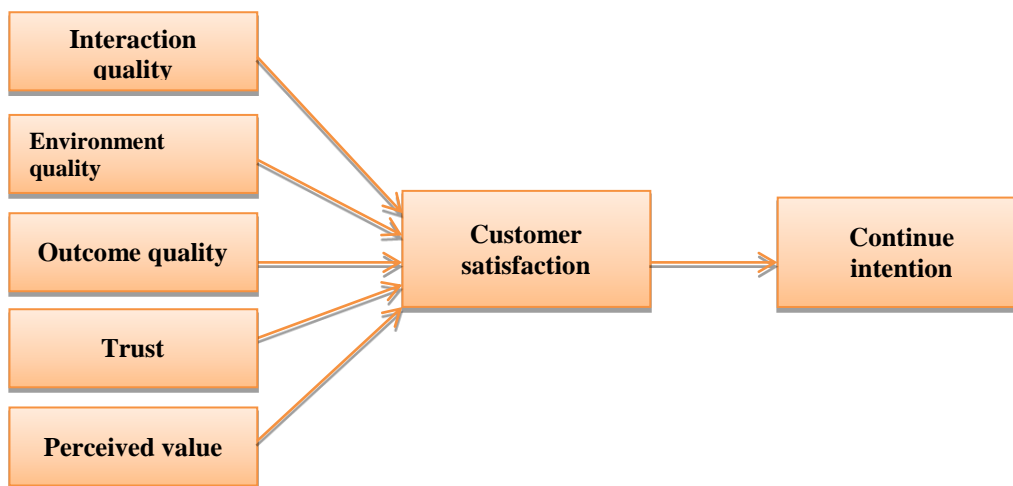**H6.** Customer satisfaction positively influences post-purchase intention in mobile value-added services.

Figure 1. Research model

Methodology

Measures

To measure the constructs in the research model, validated items by other researchers in the extant literature were adapted and multi-item scales were used. All items were modified to fit the mobile value-added services context. The measurement scales of interaction quality, environment quality, and outcome quality were adapted from Lu et al. (2010) and Brady and Cronin (2001). Each dimension of service quality was measured by three-item scales. The measurement scales for perceived value and trust were adopted from the services marketing literature. Perceived value was measured by three-item measures adapted from Cronin et al. (2000), Tung (2004), and Wang et al. (2004). These items were also modified in wording appropriate for mobile value- added services context. Trust was

measured by three-item measures adapted from Gefen et al. (2003). Customer satisfaction was measured by three-item measures taken from previous measures of the overall level of user satisfaction in mobile services (Chae et al., 2002; Lin and Wang, 2006). Lastly, the five items measuring continuance intention were taken from prior studies on repurchase intention in mobile services. Thus, a total of thirty-nine items were used to measure the constructs. For each item, a five-point Likert scale was used with anchors from "1=strongly disagree" to "5=strongly agree".

Sample

The main survey was conducted in a major university in Iran. University students at both undergraduate and graduate levels were selected as subjects for two reasons. First, according to a mobile value-added service survey report of 2007 released by Analyses, the age group of 16 to 30 was the primary group that used mobile value-added services, which is approximately 70.7% of the market share. If this age group was selected for sampling, the results could be representative to a certain degree of the population, thus enhancing the study's generalizability. Second, most researchers investigating customer behaviors with mobile services also selected this age group as their survey sample (Cho and Sung, 2007; Kuo et al., 2009).We chose students from several different schools in the same university as our sample. We then distributed the questionnaires to the students through classes that were randomly selected in each school. As the sample in our study was a convenience sample to some extent, we then compared major demographic characteristics and variable means of the samples from different schools to avoid potential sample bias. The results showed that there were no significant differences among the samples, indicating that we could conduct further analysis based on the combination of the full samples. A total of 262 questionnaires were distributed. After two weeks, 237 valid questionnaires had been returned.

Results

Sample characteristics

The demographic details of the respondents have been shown in Table 1. Among the respondents, 43.5 were male and 56.5 were female. Since the survey was conducted in a university, the respondents tended to be young and well educated. In all, 61.6 were between 21–25 years old; 24.9 held or were working towards a master's degree or higher; 49.8 held or were working towards a bachelor's degree; and 25.3 held or were working towards an associate's degree. As for usage experiences of mobile value-added services, most respondents (32.5) had at least two years of experience with these services. The top three types of mobile value-added services that were used by respondents were e-payment (28.7), ringing tone services(18.6), SMS or MMS (15.6) using internet (14.3).

Table 1. Demographics of survey respondents

measure	option	Frequency	Percentage
Gender	male	103	43.5
	female	134	56.5
Age	18-20	73	30.8
	21-25	146	61.6
	26-30	18	7.6
Length of using mobilevalue-added services	> 1year	89	37.6
	>1year-2year	71	30
	>2year	77	32.5
education	>master degree	59	24.9
	>bachelor	118	49.8
	>diploma	60	25.3
Mobile services use	SMS or MMS	37	15.6
	E-Payment	68	28.7
	Rooming	21	8.9
	Ring tones	44	18.6
	Urban Intelligent Software	12	5.1
	Exchange software	4	1.7
	Sudoku	17	7.2
	Internet access	34	14.3

Reliability of the instrument

To test the reliability the instrument used in the study, Cronbach's alpha was used. As shown in Table 2, the alpha value of each factor was greater than the thresholds, indicating that the scales were reliable.

Table 2. Cronbach's alpha

Constructs	Cronbach's alpha
Interaction quality	0.88
Environment quality	0.72
Outcome quality	0.70
Trust	0.77
Perceived Value	0.80
Customer satisfaction	0.75
Continuance intention	0.77

Testing the research model

The structural equation model (SEM) technique was utilized to examine the structural relationships of the research model. The analysis was conducted using SPSS20 and AMOS20.Table 3shows the fit indices of the structural model together with the recommended values. As shown, all fit indices except χ2/df ratio were greater than their corresponding recommended values (RMSEA=0.01, AGFI=0.94, NFI=0.94, CFI=0.99, RFI=0.97), suggesting good model fit. Though the χ2/df ratio is under the threshold of

3.Fig. 2 depicts the model testing results. Results show that two dimensions of service quality (interaction quality and outcome quality) and perceived value have significant and positive effects on customer satisfaction while only one dimension of service quality (environment quality) and trust have no effect on customer satisfaction. Customer satisfaction was found to have a significant positive effect on continuance intention.

Furthermore, the results indicated that the structural model had a good exploratory power with 67% of the variance in continuance intention jointly explained by customer satisfaction.

Table 3. Overall fit of the research final model

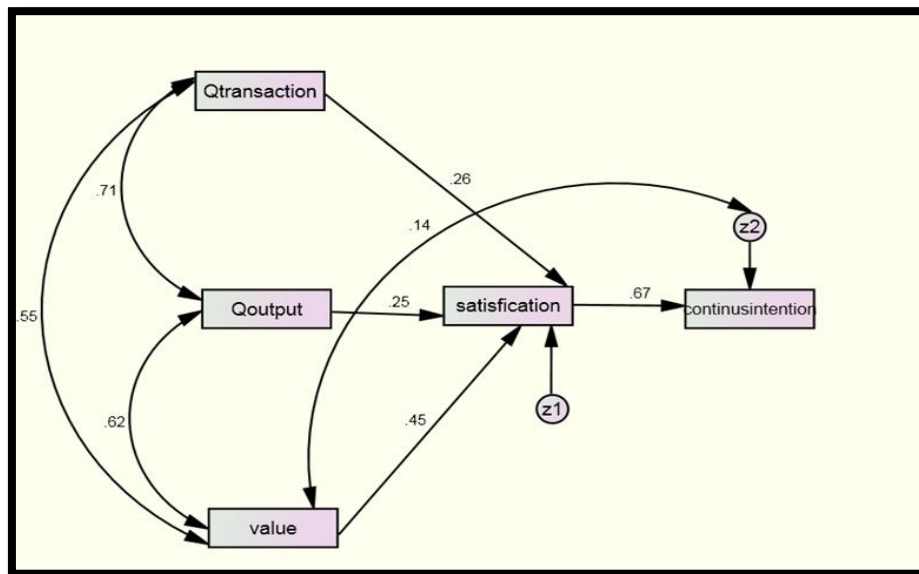| Fit indices	Recommended value	Values in this study
χ2/df	>3	2.194
RMSEA	0.1>	0.014
AGFI	>0.9	0.945
NFI	>0.9	0.944
CFI	>0.9	0.997
RFI	>0.9	0.970

Figure 2. Hypothesis testing results

Discussion

The main objective of this study was to assess the effects of service quality, trust and perceived value on customer satisfaction, which in turn influence continuance intention of mobile value-added services. Taking a multi-dimensional approach with reference concepts from studies on service marketing and consumer behavior, a research model was proposed and empirically tested against data collected from over 237 mobile value-added services users. The results generally support the model and most of the hypotheses. The results show

that two dimensions of service quality (interaction quality and outcome quality) and perceived value have significant and positive effects on customer satisfaction while only one dimension of service quality (environment quality) and trust have no effect on customer satisfaction. Under the context of traditional services where simultaneous participation of customers and service providers is needed most of the time, Grönroos (1984) found that the functional quality (which relates to how the service is delivered—the interaction process) was more important than the technical quality (which relates to what service is delivered) in the service encounter. In obtaining mobile services, customers might not interact with service providers directly all the time, but the customers interact with the service system frequently. Thus, customers would definitely place importance on the interactional quality of each service encounter.

In the other side, customers emphasize outcome and environment quality. The explanation would be that with an increase in consumption experiences, customers become more familiar with the service process, thus making the interaction part more or less standard, and thus less important. in this study, environment quality has no effect on customer satisfaction and since the Customer focus on environment quality we can conclude hamrah avaal operator couldn't apply user friendly interface for impressive connection with customer because customers may now pay relatively more attention to the environment of the service provided by the service provider and the outcome of the service (what they actually get from the service).

Results show trust has no effect on customer satisfaction. We can justify this with this reason, In Iran, mobile value added services are offered in short time by mobile network operators, and customers are not quite familiar with these service providers. In addition according to the results, perceived value positively influenced customer satisfaction. In other words, higher perceived value can lead to higher customer satisfaction customer satisfaction directly and positively influenced post-purchase intention, when the effect of perceived value was the largest, followed by that of customer satisfaction. This result implies that if hamrah avval operator attempt to induce positive post-purchase intention from mobile value-added service users, such as the intention to refer or repurchase the service, improvement of perceived value should be prioritized. it can evaluate whether the release of a certain value-added service can make customers feel the service is ''more valuable than it costs", the benefits of the service for consumers, and the reasonableness of its price. Therefore, users not only use a certain service but also feel the value added of the service, which elevates the simple use of service to enjoyment. In this way, the value-added service can create stickiness of users and even become a real competition advantage.

Limitations

Like all empirical studies, this study has several limitations. First, data were collected from students in a university. Although the 18 to 30 age group is the primary group using mobile value-added services, it is still only one single part of the user population. Moreover, the survey was performed in Iran. Although the research results may reflect the situation in Iran, owing to the differences of culture in different countries, the significance found for individual paths in the research model might be different in other countries. Thus,

future research testing the research model and the corresponding hypotheses in other population groups and geographical contexts may be necessary in order to improve the generalizing of the results. Second, as shown in prior literature, there exist many other factors influencing customer satisfaction and continuance intention, such as, expectation, performance, customer care and so on. examination of other factors might improve the model.

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