

**EXPLAINING CONSUMER ACCEPTANCE OF
MOBILE COMPETITIONS AND PRIZE DRAWS**

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ABSTRACT

This article aims to develop an improved model for consumer acceptance of mobile competitions and prize draws. Findings obtained from a sample of 335 Spanish mobile users show that SMS compatibility influences directly and positively perceived SMS ease of use, perceived usefulness and attitude towards participating in mobile competitions and prize draws. Perceived SMS ease of use does not directly influence mobile competitions and prize draws usage intention, however, it does activate perceived usefulness which influences future usage intention through attitude. Moreover, SMS compatibility has been revealed as an important antecedent of Technology Acceptance Model's beliefs and consumer attitude towards mobile competitions and prize draws. The study also shows the importance of mobile information dependency on consumer attitude and mobile competitions and prize draws usage intention.

INTRODUCTION

Mobile services are becoming increasingly important for firms and consumers (Nysveen, Pedersen and Thorbjorsen, 2005; Wu and Wang, 2005; Yang, 2005). Following the first release of wireless application protocol in 1998, firms began to send new alerts and location-sensitive ads to mobile users. Mobile commerce has frequently been proclaimed the new service frontier (Kleijnen, de Ruyter and Wetzels, 2007).

A mobile service is an activity or series of intangible activities that occur when mobile users interact with systems or service providers. Short Messaging Service (SMS) is one of the most frequently used mobile services. It allows users to send and receive text messages of up to 160 characters from mobile devices. From a service provider perspective, SMS is an efficient communication medium which does not consume voice-communication channels and resources. Despite declining prices the SMS market continues to be fuelled by new subscribers because SMS messages are the easiest, cheapest and quickest form of peer-to-peer mobile communications. Because of the personal nature of the mobile phone, the use of SMS for marketing purposes has drastically increased in many parts of the world. According to Portio research (2007), SMS generated 47.5 billion dollars worldwide in 2006 and by 2012 global SMS revenues are expected to reach 67 billion dollars, driven by 3.7 million messages and 4.81 billion mobile subscribers.

The increased SMS usage in recent years is a clear example of the system's growth, significance and the opportunities it offers as an independent advertising and sales channel and it therefore merits special attention from researchers.

Much of the research (Cheong and Park, 2005; Elwood, Changchit and Cutshall, 2006; Hung, Ku and Chang, 2003; Nysveen et al., 2005) into user acceptance of mobile devices have used Davis' (1989) Technology Acceptance Model (TAM) as a valid conceptual framework. Although TAM has successfully explained behavioural intentions, several reasons recommend its extension to properly explain the intention to use mobile services. As Konana and Balasubramanian (2005) indicate, an integration of various theoretical perspectives may provide a richer understanding of the mobile services phenomenon and simultaneously improve TAM's limited ability to explain intention to use various forms of technology. Moreover, it seems appropriate to include specific consumer characteristics when explaining consumers' intention to use mobile services (Nysveen, Pedersen and Thorbjornsen, 2005).

Following those recommendations, TAM has been extended in this study by incorporating personal consumer factors like (a) their degree of SMS compatibility, as posited by innovation diffusion theories (Rogers, 1962). This personality construct predicts how well an innovation fits a potential adopter's values and needs (Vijayasarathy, 2004) and (b) mobile information dependency based on individual media dependency theory which is posits that people can achieve some of their personal and collective objectives by having access to information resources which are controlled by the mass media (Ball-Rokeach, 1989).

The study is divided in three parts. In the first section the conceptual model is presented focusing on the rationale of the constructs used to expand TAM and deriving testable hypotheses. In the methodology section, design, sampling and measures are described and validated. Finally, the results, based on a sample of 335 mobile users who have never used SMS services to take part in a mobile competition or prize draw are presented and managerial implications are discussed.

THEORETICAL FRAMEWORK

Technology Acceptance Model

The Technology Acceptance Model (TAM) was developed by Davis (1989) and by Davis, Bagozzi and Warshaw (1989) to explain acceptance of information technology for different tasks and may be used to predict the mobile services acceptance.

This model establishes that intention to use a technology is determined by the individual's attitude towards using that technology. That attitude is, in turn, determined by the technology's perceived usefulness and perceived ease of use.

Davis et al. (1989) identified perceived usefulness and perceived ease of use as the basic determining factors in information system acceptance. These authors define perceived usefulness as the degree to which a consumer believes that the use of a system will increase his or her performance. Specifically, it refers to effectiveness at work, productivity understood as time saving and the relative importance of the system for the individual's work. Perceived ease of use refers to the degree to which a consumer believes that no effort will be required to use the system, with effort being understood to include both physical and mental effort, and how easy it is to learn to use the system (Davis et al., 1989).

Perceived usefulness and perceived ease of use both influence individual attitudes towards a technology. The relation between perceived usefulness and attitude is justified by "expectation-value" models (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Perceived ease of use affects attitudes in two ways: self-efficiency and instrumentality (Davis et al., 1989) so that the simpler the interaction with a system, the greater the individual's sensation of efficiency and control (Bandura, 1982).

The TAM model is considered an influential research model to explain information technology acceptance (Nysveen et al., 2005; O'Cass and Fenech, 2003; Yang, 2005). Many studies have used the TAM model to predict the acceptance and use of information technologies such as email and the web (Fenech, 1998; Gefen and Straub, 2000), Internet shopping (McKechnie, Winklhofer and Ennew, 2006; O'Cass and Fenech, 2003), online games (Hsu and Lu, 2004), mobile services (Luarn and Lin, 2005; Nysveen, Pedersen and Thorbjornsen, 2005; Wang, Lin and Luarn, 2006); and Mobile Internet (Cheong and Park, 2005; Hsu, Lu and Hsu, 2007; Lu, Yu, Liu and Yao, 2003).

Based upon the preceding research, the following hypotheses are proposed:

- H1. Perceived ease of use of SMS has a positive effect on the perceived usefulness of SMS to participate in mobile competitions and prize draws.*
- H2. Perceived ease of use of SMS has a positive effect on attitude toward sending SMS to participate in mobile competitions and prize draws.*
- H3. Perceived usefulness of SMS has a positive effect on attitude toward sending SMS to participate in mobile competitions and prize draws.*

H4. Perceived usefulness of SMS has a positive effect on mobile competitions and prize draws future usage intention.

H5. Attitude toward sending SMS to participate in mobile competitions and prize draws has a positive effect on mobile competitions and prize draws future usage intention.

Mobile information dependency

Individual media dependency is defined as “a relation where the individual’s capacity to reach his or her objectives, depends to a certain extent on the information resources in the medium” Ball-Rokeach, Rokeach and Grube (1984, p.3). Therefore, individuals develop dependency relationships because they have objectives, some of which require access to mass media-controlled resources (Ball-Rokeach, 1985, 1989). These objectives range from the need to find the product or service best suited to their needs, to obtain as much information as possible on a product/service or world events, or the need to get away from everyday problems and tensions (Ball-Rokeach, 1985).

Individual medium dependency has three dimensions or categories: understanding, orientation and play (Ball-Rokeach, 1985, 1989; Ball-Rokeach et al., 1984; Defleur and Ball-Rokeach, 1989; Grant, 1996; Grant, Guthrie and Ball-Rokeach, 1991; Loges, 1994; Loges and Ball-Rokeach, 1993; Skumanich and Kintsfather, 1998). Understanding focuses on individuals’ need to have a basic understanding of themselves and to find sense in the world that surrounds them. Orientation refers to the need to obtain a guide to behave correctly. Play also provides escape mechanisms and release from tension. Each of these dimensions is divided in turn into a personal and social dimension, providing 6 levels of media dependency.

This paper is focused on the action orientation dimension (personal dimension) which leads the individual to create his/her own behaviour decisions on the basis of different specific behaviour guides provided by the medium (Ball-Rokeach, 1989). Thus, the information provided by the medium helps the consumer to decide what to buy, how to buy it, where to buy it, etc. This is a key dimension in direct media use, as previous studies have verified their importance in the context of online shopping (Ruiz and Sanz, 2006) and teleshopping (Grant et al., 1991; Skumanich and Kintsfather, 1998).

Dependency on the medium’s information resources may cause cognitive, affective and behavioural changes in people who are regularly exposed to them (Ball-Rokeach, 1989; Ball-Rokeach et al., 1984; Grant, 1996; Grant et al., 1991). Affective changes include changes in attitude, feelings and affective responses (Ball-Rokeach, 1989; Defleur y Ball-Rokeach, 1989; Emmers-Sommer and Allen, 1999). In terms of behavioural effects, for example, the purchase of

products and services may be intensified when individual medium dependency is high (Ball-Rokeach, 1985; Defleur and Ball-Rokeach, 1989).

Previous studies focused on the television medium (Grant et al., 1991; Skumanich and Kintsfather, 1998) show that individual dependency on the television medium/genre leads to the development of very positive attitudes towards programme hosts and is also a significant predictor of teleshopping behaviour. Other studies have also found a direct, positive relationship between Internet user dependency levels and the present and future online purchase decision (Patwardhan and Yang, 2003; Ruiz and Sanz, 2006).

In order to complete the literature findings, we posit that the greater the dependency of consumers on mobile messages informing them about competitions and prize draws, the more favourable their attitude and usage intention will be towards participating in a competition or prize draw by sending an SMS.

In order to complete the literature findings, we hypothesise that,

H.6. Mobile information dependency has a positive effect on attitude towards sending SMS to participate in mobile competitions and prize draws.

H.7. As mobile information dependency increases, so does future mobile competitions and prize draws usage intention.

Compatibility

Innovation diffusion literature suggests that the following perceived innovation attributes have an impact on the rate of innovation diffusion: relative advantage, compatibility, complexity, divisibility (trialability) and communicability. These characteristics are used to explain the user adoption and decision making process. Results from previous studies found that compatibility, complexity and relative advantage are the most important predictors of innovation adoption (Agarwal and Prasad, 1998; Wu and Wang, 2005). Both relative advantage, which refers to the incremental benefits of the innovation to its existing substitutes, and complexity, which is a measure of how difficult it would be learn to use an innovation, already have comparable representations in TAM through the constructs of usefulness and ease of use (Vijayasathy, 2004).

Compatibility has been defined as the degree to which an innovation is consistent with adopters' behaviour patterns, life-styles and values (Holak and Lehmann, 1990). Since to take part in a competition or prize draw could be considered an innovation because it represents a change from

the habit in doing so by making a telephone call or by sending a coupon/leaflet by post instead of sending an SMS, we included compatibility in our study. In our research compatibility can be defined as “the extent to which a consumer believes that using SMS messages to take part in a competition or prize draw matches his/her lifestyle, needs and service usage preferences”.

Previous research posits the influence of compatibility both on consumer attitude and TAM beliefs. Agarwal and Karahanna (1998) pointed out that the more compatible a technology, the less effort is required to use it. In our research, ease of use represents the perceived cognitive burden induced by sending SMS to take part in a competition or prize draw. We posit that perceived SMS compatibility increases perceived ease of use. This is because if a technology (SMS) is perceived as compatible with lifestyle and existing practices (the way a consumer takes part in a competition or prize draw), it implies that the mobile user has the cognitive schemas in place to use the technology (SMS) which, in turn, results in a lower cognitive burden (perceived ease of use of SMS to take part in a competition or prize draw).

In view of the literature review, we posit a similar effect with the following hypothesis:

H.8 Compatibility positively affects perceived ease of use of SMS to participate in mobile competitions and price draws

Research by Wu and Wang (2005) shows that mobile commerce compatibility positively and directly influences both perceived usefulness and behavioural intention to use mobile commerce. Agarwal and Karahanna (1998) also evidence empirically a positive influence of compatibility on perceived usefulness of the World-Wide-Web. In our research, perceived usefulness refers to the instrumental value derived from the use of SMS to take part in a competition or prize draw instead of making a telephone call or sending a coupon by post. As Hirschman (1980) pointed out, the more experience a consumer has in the innovation domain, the easier is to recognize the value of the innovation. Therefore, we posit that perceived usefulness of sending SMS is a function of the fit between using SMS to take part in competitions and prize draws and one’s preferred way of taking part in competitions and prize draws.

Thus, we hypothesize that,

H.9 Compatibility positively affects perceived usefulness of SMS to participate in mobile competitions and price draws

Previous research (Moore and Benbasat, 1991; Taylor and Todd, 1995) has posited a direct influence of compatibility on attitude. Later, Chen et al. (2002, 2004) found compatibility can have a positive effect on consumer attitude towards online shopping. We posit that if sending SMS

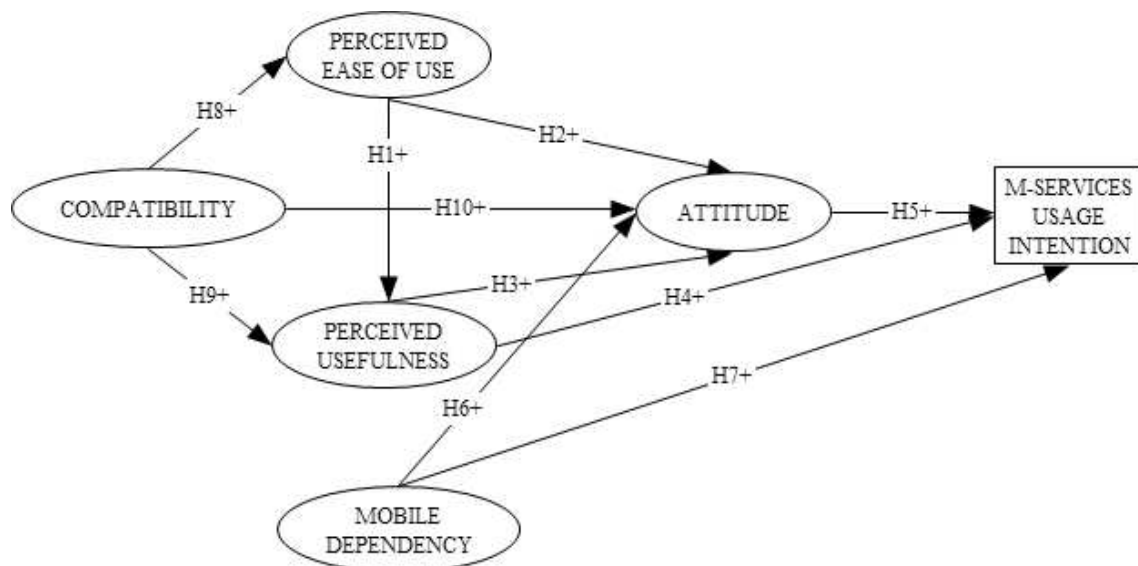
is perceived to be compatible with mobile user lifestyle and with the way they take part in competitions or prize draws (existing shopping habits), it is likely to induce positive feelings towards participating in mobile competitions and price draws.

Therefore, we propose the following hypothesis:

H.10 Compatibility positively affects consumer attitude towards sending SMS to participate in mobile competitions and price draws

Figure 1 illustrates the extended TAM examined here. The model below shows the influence of mobile information dependency, compatibility and TAM model variables on future mobile competitions and prize draws usage intention.

Figure 1. Conceptual Model



METHODOLOGY

The sample consisted in 335 mobile users who have never participated in mobile competitions or prize draws. As in previous studies (Chung and Tan, 2004; Wu and Wang, 2005; Yang, 2005) the sample was chosen using the convenience sampling method, with a greater proportion of young people (48.1% were between 14-24 years old). Young adults were selected because consumers under 30 have been found to be faster adopters of mobile services in general (Bigné, Ruiz and Sanz, 2007; Netsize, 2008). The fieldwork was developed in Spain from January to February 2008.

A questionnaire with close-ended questions was used for this study. Forms were delivered to and collected from volunteer participants over 14 years old. A total of 480 individuals, located

in Valencia (Spain), were contacted during the survey; 392 agreed to participate in this study. Among the questionnaires received, 335 were completed and analyzed.

Table 1 displays demographic and usage variables associated with the sample. Respondents were mainly young (66.1% below 34 years old) with secondary (36.7%) or higher education (32.2%). They are mainly employees (43.5%) and students (36.7%) with a family income level similar to or above average (25.5% and 36.9% respectively) (see Table 1). Furthermore, a significant percentage of interviewees use the mobile frequently (60.6% more than 3 or 4 times a day) and have been mobile users for several years (73.7% claim they have had a mobile for more than three years).

Table 1. Sample Demographics

Variable		Column percentage (N = 335)
Gender	Male	56.4%
	Female	43.3%
Age	14-24	48.1%
	25-34	18.0%
	35-44	14.1%
	45-54	13.8%
	Over 55	6.0%
Education	Below Primary	2.7%
	Primary	28.4%
	Secondary	36.7%
	University	32.2%
Occupation	Employee	43.5%
	Self employed	9.6%
	Retired/Pensioner	2.7%
	Unemployed	2.4%
	Housewife	5.1%
	Student	36.7%
Incomes	Well below average	6.0%
	Below average	9.7%
	Average	25.5%
	Above average	36.9%
	Well above average	21.9%
Frequency of mobile usage	More than 10 times a day	14.0%
	Between 5 & 10 times a day	22.7%
	Between 3 & 4 times a day	23.9%
	Between 1 & 2 times a day	22.1%
	Several times a week	12.8%
	Once a week	1.2%
	Twice a month	2.1%
	Less frequently	1.2%
Length of mobile use	Less than 1 year	3.3%
	Between 1 and 2 years	10.1%
	Between 2 and 3 years	12.8%
	Between 3 and 5 years	36.4%
	Between 5 and 8 years	31.0%
	Over 8 years	6.3%

Measures

The constructs used in our study were adapted from previous studies and measured by multiple item 5-point Likert-type scales, with the exception of M-services usage intention (1 item), as shown in more detail in Table 2.

Table 2. Measurement scale

CONCEPT	ITEMS	SOURCE
PERCEIVED EASE OF USE (5 point Likert Scale)	I think that I would find it easy to learn how to participate in competitions and prize draws using SMS	Adapted from Davis (1989), Ahn, Ryu and Han (2004) and Wu and Wang (2005)
	I think that I am able to participate in mobile competitions and prize draws using SMS without the help of an expert	
	I think that my mobile is flexible to interact with when participating in competitions and prize draws using SMS	
	I think that I could become skilful at using SMS to participate in competitions and prize draws	
	I think that it is easy to use the mobile to find information about competitions and prize draws that I would like to take part in	
	I think that using SMS to participate in competitions and prize draws does not require great mental effort	
PERCEIVED USEFULNESS (5 point Likert Scale)	Using SMS allows me to accomplish the tasks needed to participate in competitions and prize draws quickly	Adapted from Davis (1989), Ahn, Ryu and Han (2004) and Wu and Wang (2005)
	Using SMS can help me to make better decisions concerning my participation in competitions and prize draws	
	Using SMS will improve the performance of my participation in competitions and prize draws	
	I think that participating in competitions and prize draws using SMS does not require a great financial outlay	
	I think that SMS allow me to participate more efficiently in new, original, fashionable competitions and prize draws.	
	I think that using SMS to participate in competitions and prize draws is useful	
ATTITUDE TO SMS USAGE (5 point Likert Scale) Sending SMS to participate in a mobile competitions and prize draws....	...is appealing	Adapted from Zaichkowsky (1994); Bigné, Ruiz and Sanz (2007)
	...is convenient	
	...is involving	
	...is fascinating	
	...is interesting	
	...is valuable	
	...is exciting	
	...is secure	
	...is needed	
	...is a good idea	
COMPATIBILITY (5 point Likert Scale)	Sending SMS to participate in mobile competitions and prize draws fits in with the way I like to participate in competitions and prize draws.	Adapted from Wu and Wang (2005)
	Sending SMS to participate in mobile competitions and prize draws fits in with my lifestyle	

MOBILE INFORMATION DEPENDENCY (5 point Likert Scale)	Mobile advertisements help you to decide which competitions and prize draws to participate in.	Adapted from Grant (1996) (Individual action orientation dimension)
	Mobile advertisements help you to find out how to participate in the competitions/prize draws that interest you.	
	Mobile advertisements help you to know what to do in your free time or at the weekend.	
FUTURE M-SERVICES USAGE INTENTION Would you send SMS to participate in a mobile competition or prize draw in the next year?	1. Yes, definitely 2. Probably yes 3. Indifferent 4. Probably not 5. No, definitely not	Adapted from Bigne, Ruiz and Sanz (2007)

The scale items for perceived ease-of-use and perceived usefulness were developed from the measurement defined by Davis (1989), Wu and Wang (2005) and Ahn, Ryu and Han (2004). The scales were slightly modified to suit the context of mobile services usage. Attitude to mobile competition and prize draws was measured by using Zaichkowsky's Personal Involvement Inventory Scale (Zaichkowsky, 1994) with modifications to suit the setting of mobile services usage. SMS compatibility was measured via a two item scale based on research by Wu and Wang (2005). Mobile information dependency, derives from the individual action orientation dimension of the scale provided by Grant (1996) and M-services usage intention was measured by asking the interviewees to rate to what extent they thought that they would participate in a mobile competition or prize draw in the future by sending a SMS.

Reliability and validity assessment

To assess measurement reliability and validity, a confirmatory factor analysis (CFA) containing all the multi-item constructs in our framework was estimated using the maximum likelihood method (Bentler, 1995). Robust statistics (Satorra and Bentler, 1988) will be provided.

The following steps were taken to evaluate the reliability and validity of the measurement instrument which synthesises the hypothesised relations. Firstly, a confirmatory factor analysis of the latent variables whose indicators are described above was done using robust maximum likelihood estimation. To guarantee convergent validity, items with factor loadings which were not significant or below .60 (Bagozzi and Baumgartner, 1994; Bagozzi and Yi, 1988) and those for which the Lagrange multiplier test suggested significant relations over a different factor to the one they were indicators for (Hatcher, 1994) were eliminated. The resulting model is shown in Table 3. The Chi Square value is significant (S-B $X^2=324.313$;

gl=179; p<.01), but when the sample size is large (N>200), this test tends to reject models which fit the data well and so is not a very reliable indicator (James, Mulaik and Brett, 1982). In addition, the other specific indicators show a good fit (BBNFI=.923; BBNNFI=.957; CFI=.963; IFI=.964; RMSEA=.05). Significant factor loadings, all over 0.60 (Bagozzi and Yi, 1988) confirm the convergent validity of the proposed instrument.

In terms of reliability, all Cronbach's alpha (Cronbach, 1951) are above the recommended value of .70 (Churchill, 1979). Given that this coefficient assumes that items have been measured without error, which is not plausible, it tends to overestimate reliability (Bollen, 1989). Table 3, therefore, also offers the composite reliability index, which is also above the recommended value of .70 for all the factors (Fornell and Larcker, 1981). The last column offers the average variance extracted which is an indicator of the variance captured by a factor in relation to the variance due to measurement error (Fornell and Larcker, 1981). All factors have a value over .50 which is that recommended by Fornell and Larcker (1981). Taken as a set, all these indicators show sufficient evidence of measurement instrument reliability.

Table 3. Internal consistency and convergent validity

Factor	Indicator	Standardised Loading	Robust t Value	Cronbach's alpha	Composite Reliability	Average Variance Extracted AVE
F1. Compatibility	COMP1	.872**	17.44	.83	.85	.76
	COMP2	.822**	15.63			
F2. Dependency	DEP1	.892**	18.71	.94	.95	.78
	DEP2	.991**	21.10			
F3. Perceived ease of use	PEOU1	.681**	13.13	.73	.74	.52
	PEOU4	.687**	12.71			
	PEOU6	.694**	12.90			
F4. Perceived usefulness	PU1	.658**	12.62	.89	.89	.59
	PU2	.841**	19.80			
	PU4	.836**	19.48			
	PU5	.845**	23.73			
	PU6	.837**	17.25			
F5. Attitude	ACT1	.776**	18.47	.93	.93	.69
	ACT2	.707**	18.32			
	ACT4	.824**	22.91			
	ACT5	.856**	25.38			
	ACT6	.888**	25.46			
	ACT7	.871**	23.14			
	ACT8	.719**	14.47			
	ACT9	.671**	12.42			
	ACT10	.679**	14.74			

S-B χ^2 (179 gl) = 324.313 (p<0,01); BBNFI=.923; BBNNFI=.957; CFI=.963; IFI=.964; RMSEA=.05

**p<.01; *p<.05

Two procedures were used to analyse discriminant validity: (a) checking that the confidence interval for the correlation estimation between each pair of factors does not include value 1

(Anderson and Gerbing, 1988) and (b) that the average variance extracted for each factor is greater than the square of the correlation between each pair of factors (Fornell and Larcker, 1981). It can be seen from Table 4 that neither criterion shows evidence of absence of discriminant validity.

Table 4. Measurement model: Discriminant validity

	F1	F2	F3	F4	F5
F1	.87	.467**	.627**	.700**	.672**
F2	[.367; .567]	.88	.349**	.533**	.421**
F3	[.525; .729]	[.231; .467]	.72	.625**	.507**
F4	[.626; .774]	[.445; .621]	[.531; .719]	.76	.680**
F5	[.594; .748]	[.325; .517]	[.401; .613]	[.612; .748]	.83

**p<.01; *p<.05

Under the diagonal: confidence interval for interfactor correlation estimation

Diagonal: square root of the variance extracted

On the diagonal: estimated interfactor correlation.

RESULTS

After evaluating the psychometric properties of the measurement instrument, the structural model shown in Figure 1 which synthesises the hypotheses posited was estimated. This was done by applying the conventional approach based on the model specification stages, identification, estimation, evaluation of the fit, re-specification and interpretation (Kaplan, 2000). After identifying the model, it was estimated by the maximum robust likelihood method because this method guarantees consistency in the estimation even when the normality assumption does not hold (Babakus and Ferguson, 1987; Jöreskog and Sorbom, 1990). As robust estimation methods were used, only robust fit indices provided by EQS will be showed.

Estimation of the initial model proposed did not offer good fit indicators (S-B $\chi^2=370.89$; $gl=19$; $p<0.01$; BBNFI=0.844; BBNNFI=0.856; CFI=0.881; IFI=0.882; RMSEA=0.08) thus indicating the advisability of evaluating a re-specification of the model. Specifically Wald's test has advised deleting non-significant relations in the model: 1) Perceived ease of use \rightarrow Attitude, 2) Perceived usefulness \rightarrow M-services usage intention. After deleting these relations the final model was obtained which is shown in Table 5. Again, although the Chi-square is significant (S-B Chi-square = 373.129; $gl=201$; $p<0.01$), the other indicators show an appropriate fit (BBNFI=.912; BBNNFI=.951; CFI=.957; IFI=.958; RMSEA=.05). Table 5 shows the estimated parameter information which leads to the acceptance and/or rejection of the hypotheses.

Table 5. Hypotheses testing

HYPOTHESES	Standardised Loading	Robust t Value
H1: SMS Ease of use → SMS Perceived usefulness	.251**	2.934
H2: SMS Ease of use → Attitude	n.s	-
H3: SMS Perceived usefulness → Attitude	.432**	4.200
H4: SMS Perceived usefulness → M-services usage intention	n.s	-
H5: Attitude → M-services usage intention	.348**	6.006
H6: Dependency → Attitude	.109*	2.019
H7: Dependency → M-services usage intention	.152*	2.312
H8: SMS compatibility → SMS ease of use	.626**	8.719
H9: SMS compatibility → SMS Perceived usefulness	.516**	6.295
H10: SMS compatibility → Attitude	.437**	3.954
S-B χ^2 (201 gl) = 373.129 (p<0.01); BBNFI=.912; BBNNFI=.951; CFI=.957; IFI=.958; RMSEA=.05		

**p<.01; *p<.05

The above results suggest that perceived ease of use does not have a direct influence on purchase intention, but does influence perceived usefulness ($\beta=.251$; $p<.01$) which through attitude ($\beta=.432$; $p<.01$) influences the intention to participate in competitions and prize draws by sending SMS ($\beta=.348$; $p<.01$). Attitude thus becomes a very important measurement variable in the proposed model.

Compatibility has also proved to be a significant variable as it exercises a direct, positive and very significant influence on perceived ease of use ($\beta=.626$; $p<.01$), perceived usefulness ($\beta=.516$; $p<.01$) and attitude ($\beta=.437$; $p<.01$), which shows that this variable is key in the decision to participate in competitions and prize draws using SMS.

Dependency on mobile information also plays a significant role in the proposed model. In addition to influencing the intention to participate in competitions and prize draws using the mobile ($\beta=.152$; $p<.05$), dependency also influences attitude ($\beta=.109$; $p<.05$). Thus, the information the mobile provides on competitions and prize draws can generate a positive attitude and the purchase intention for the competitions/prize draws for which information is received.

DISCUSSION AND CONCLUSIONS

The main contribution of this research lies in proposing and empirically verifying a model which integrates the influence of SMS compatibility, mobile information dependency and the traditional TAM model on future mobile competitions and prize draws usage intention. Our results help to complete previous proposals in the literature, by analysing jointly different theoretical frameworks which until now had only been studied individually.

The indirect influence of perceived SMS ease of use on future mobile competitions and prize draws usage intention through attitudes highlights the central role of perceived ease of use of SMS in the acceptance of the mobile services analysed. This result has important managerial implication. To promote the use of this type of mobile services, marketers should facilitate the tasks required to participate in competitions and prize draws to make them as short and as easy as possible. This result may be especially true for older users, due to their particular reluctance to adopt new technologies (Rao and Troshani, 2007). Moreover, if individuals perceive that participating in competitions and prize draws sending SMS is useful in terms of convenience and time saving, they will show greater future M-services use intention.

Contradicting the findings of previous TAM studies, but agreeing with Hsu and Lu (2004) our results indicate that perceived usefulness does not increase users' intention to participate in competitions and prize draws using mobile devices even although it has a direct effect on attitude. The rationale of this result suggests that in addition to considering utilitarian motivations (time saving etc...) which encourage mobile users to participate in competitions and prize draws using SMS, hedonic motivations must also be considered (e.g. enjoyment, expressiveness, status, relaxation) when developing M-services adoption. Previous studies (Ling, 2001; Nysveen, Pedersen and Thorbjournsen, 2005; Skog, 2002) suggest that the use of mobile services is motivated by expression of style, image, fashion, and symbolic capital. Consequently, a mobile competition/prize draw should not be simply designed as easy to participate in, but also as an enjoyable experience.

Compatibility has a direct, very significant influence on perceived ease of use and perceived usefulness and attitude towards using SMS to take part in competitions and prize draws. This result agrees with previous studies (Wu and Wang, 2005) and highlights the importance of psychological factors in M-services adoption. This result has important implications for mobile shopping agents. There is a close relationship between the mobile device and the person who uses it, a relationship which can be strengthened by increasing customisation of mobile devices. Companies should take great care over mobile aesthetics and functionalities, since this will undoubtedly improve life-style compatibility and this will have an indirect, positive impact on the use of all M-services including the sending of SMS to participate in competitions and prize draws.

Finally, we have found that mobile promotional information is a determining factor in the decision to take part in mobile competitions and prize draws, as not only does it generate positive attitudes towards the use of these M-services but also arouses interest in them. This

result is consistent with earlier studies focused on Internet shopping which show that online purchase information dependency has a direct, positive influence on the online shopping intention (Patwardhan and Yang, 2003; Ruiz and Sanz, 2006). Given the importance of mobile information dependency, it is important for companies to pay particular attention to the content of their promotional messages, offering information which is always true, clear and cannot be misinterpreted. While information is always important for decision-making, in M-commerce it appears to be even more so. Differentiation in the amount and quality of information on the service being offered thus becomes a significant competitive instrument.

In terms of the limitations of this study, maybe the most important one is the sampling technique used. Lack of randomness in the sample limits the generalizability of our findings beyond our specific sample. However, the convenience sampling technique is being increasingly used in M-commerce research (Chung and Tan, 2004; Wu and Wang, 2005; Yang, 2005). Additionally, there are complementary aspects not included in the questionnaire which it could be relevant to analyse. In this paper we have noted that psychological variables have a significant influence on the M-services (competitions and prize draws) acceptance decision. Therefore, another future line of research would be to analyse the life-styles of individuals who declare themselves most compatible with M-services. This study has focused on measuring attitudes (future M-services usage intention) which do not always become behaviours. Thus, a possible future line of research would be to contrast the proposed model with a sample of mobile users that have participated in mobile competitions and prize draws to see if these results remain valid. Furthermore, this study is focused on a specific service (mobile competitions and prize draws) and therefore it would be useful to contrast the model for other types of M-services and compare the results. Given that there are other factors which may be a break on M-service use (perceived cost, credibility, mobile trust) another line of research would be to focus on analysing the influence of these factors on the different variables considered in the model.

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