

"Mobile advertising between: Acceptance of technology.....or giving up of privacy"

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Introduction:

Devices and systems based on mobile technologies have become common in our everyday lives (Balasubramanian et.al 2002) especially after the growth of worldwide subscribers who are estimated around 6 billion (arkar, 2012). Mobile devices created new markets, alter the competitive landscape of business and enabled direct interactions between customer and advertiser to be fast, easy and independent from the consumer's location (Stewart & Pavlou, 2002) where the receiver is addressed specifically (Haghirian et.al, 2005).

This provided a foundation for mobile commerce to be carried out through mobile phones (Lee & Benbasat, 2003).

Proving that one's perceptions of the advertising medium affect his attitudes toward advertising (Ducoffe, 1996), the present research discusses how mobile advertising explore human factors for accepting such a technology in terms of the factors that drive the consumer (user) to accept SMS mobile advertising and depend on it in his purchase decision versus it's interference to the users privacy. The conceptual model and hypotheses being tested through a survey of (334) mobile phone users in Bahrain was built upon the Unified Theory of Acceptance and Use of Technology (UTAUT).

1. Mobile advertising

The development of mobile devices made mobile advertising more attractive as a marketing medium for both advertisers and consumers (Leppäniemi et.al, 2005), that it grew rapidly in popularity especially

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in Asia as 40% of mobile phone subscribers have received mobile advertisements (sms) from marketers where Europe recorded 36% and 8% in the USA (eMarketer, 2003).

Mobile advertising refers to the transmission of advertising messages via mobile phones (Haghirian et.al, 2005) and sometimes called wireless advertising messaging (Petty, 2003) as it's usually transmitted via short message service (SMS) (De Reyck & Degraeve, 2003). In spite that there's (MMS) or multimedia messaging service, but it's not as popular as SMS as it requires mobile devices with high technical features (Okazaki & Taylor, 2008). Thus we define mobile advertising through the present research as the "*SMS that's transmitted through mobile phones in order to promote the selling of products or services and to disseminate information about them*".

Mobile advertising usually includes types of advertisement: brand building, special offers, timely teasers, requests, competitions and polls (Barwise & Strong 2002). Mobile advertising can be either permission-based, incentive based, or location-based (Lafferty et.al, 2002). *Permission-based advertising* differs from traditional irritating advertising in that the messages about specific products, services, or content are sent only to individuals who have explicitly indicated their willingness to receive the message (Bamba & Barnes, 2007). This is called pull strategy (Dickinger et al., 2004). Meanwhile, sms that is sent directly to consumer regardless of his pre-agreement to receive the message, is called push strategy (Barwise & Strong, 2002). While some argue that push advertising will dominate mobile advertising as it saves consumer time and money compared to browsing content, others see that pull advertising blurs the line between advertising and services (Scharl et.al, 2005).

Location-based advertising makes it possible for advertisers to create tailor-made campaigns targeting users according to where they are (Bamba & Barnes, 2007) or where they are going to (Lafferty et.al, 2002); and according to their needs of the moment and the device they

are using (Bamba & Barnes, 2007) through *Incentive-based advertising* that provides specific financial rewards to individuals who agree to receive promotions and campaigns (Lafferty et.al, 2002).

In spite that the mobile phone users adaptation to mobile shopping is low, they have positive attitudes towards mobile advertising (Barutçu, 2007).

2. Conceptual Framework:

The present study uses the framework of the” Unified Theory of Acceptance and Use of Technology” UTAUT in understanding how one perceives and accepts mobile advertising as it provides a useful starting point for analyzing technology adoption by individuals (Fife & Pereira, 2005) as it’s explanatory power is up to 70% more effective than any of the models that are known before in explaining the use of information system, such as mobile commerce (Carlsson et.al., 2006).

The theory was developed through a review and consolidation of the constructs of eight models (theory of reasoned action, technology acceptance model, motivational model, theory of planned behavior, a combined theory of planned behavior/technology acceptance model, model of PC utilization, innovation diffusion theory, and social cognitive theory) (Venkatesh et. al., 2003).

UTAUT model integrates the points that were addressed in the relevant documents into four core determinants: performance expectancy, effort expectancy, social influence, facilitating conditions; and four control variables: gender, age, experience, and voluntariness of use. Its’ theoretical framework is shown in (Fig.1), (Venkatesh et. al., 2003).

Fig. 1: UTAUT model

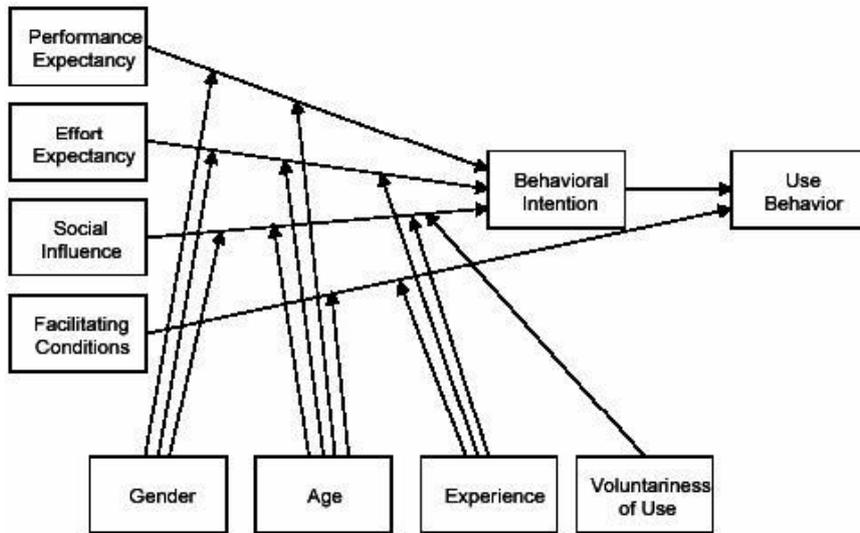
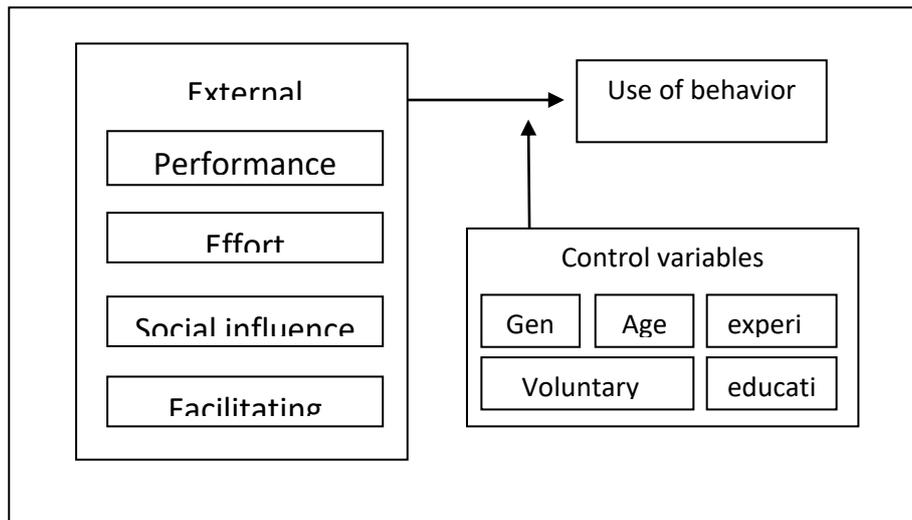


Fig 2: The Study Frame Work



The framework of this study depended on The above-mentioned literature reviews (Fig.2). The external variables are formed by the four core determinants in UTAUT model; the control variables are in accordance with the UTAUT model's variables, including gender, age, experience, voluntariness of use, and level of education is added.

The main difference between the present study and the original UTAUT model lies in firstly, that (Venkatesh et. al., 2003) believes the relationship between social influence and use intention would be influenced by the interfering factors such as gender, age, experience and use voluntarily, but we believe that the control variables moderate the relation between all the external variables and the intention to accept mobile advertising and the actual usage for it. Secondly, we measure voluntary of use in terms of either permission based mobile ad. or non permission based mobile ad., which we expect could make for unethical interference of the mobile ad. From the point of view of the mobile user to his privacy. As a result, it's expected to affects one's evaluation of any positive sides of mobile ad in terms of any or all of the external factors. Thirdly, intention to accept mobile advertising on their purchase decisions is not measure but instead we measured the actual acceptance to it due to the various data that proved the high usage of individuals to sms that has exceeded all initial expectations and become a great market success (Bauer et.al, 2005). Study dimensions are summarized as follows:

2.1. Independent Factors

2.1.1. Performance Expectancy (PE)

PE is the “degree to which an individual believes that using the information system will help him or her to improve or attain gains in job performance” (Venkatesh et. al., 2003). In our research context, We define performance *expectancy* as *the degree to which an individual believes that using Mob. Ad. Would reduce his or her time*

and effort required to get the needed information about a product, or a service.

PE including perceived usefulness has been considered the most powerful tool for explaining the intention to use the technology system (Park et.al, 2007) and even all kinds of mobile services (Nysveen et.al, 2005). So consumers will feel that mobile ad has a high value , (Lopez-Nicola´s et.al., 2008), develop a positive attitude towards it which and in return leads to the behavioral intention to use mobile services only if it provides them high information value (Bauer et al., 2005). Perceived utility and the utilization of contextual information are the strongest positive drivers of consumer acceptance of mobile advertising that provides up-to-date information, and in return keeps the mobile audience constantly aware of the various promotions a firm has (Haghirian et.al., 2008).

Mobile advertising offers through its' characteristics benefits based on how users develop expectations about its' performance (Junglas & Watson, 2003) as follows:

- a- Portability (physical aspects of mobile devices that enable them to be readily carried for long periods of time).
- b- Reachability (a person can be in touch with and reached by other people at any time during the day).
- c- Accessibility (describes the case where a person can access the mobile network at any time from any location).
- d- Localization (describes the ability to locate the position of a mobile person or entity).
- e- Identification (ability of the mobile device to uniquely identify the user).

These features in other terms made some to define mobile advertising as *"a wireless medium to provide consumers with time, and location –*

sensitive, personalized information that promotes goods, services and ideas, thereby benefiting all stakeholders” (Scharl et.al, 2005).

In the present research, we conceptualize Performance expectancy of mobile advertising in accordance to the consumer to include the following:

- a- Time - effectiveness & reachability (a consumer can be in touch with and reached by the advertiser 24 hours per day, 7 days per week as well as being able to read text message at his/her leisure and choose when to respond).
- b- Location -effectiveness & localization (a consumer’s mobile can be located and thus being provided location-based services).
- c- Preference – effectiveness & identification (a consumer can be identified and provided with a personalized SMS designed upon databases on actual client’s demographics, desires & interests).

Thus we expect:

H1- Performance expectancy positively influences acceptance of mobile advertising to depend on it in one’s purchase decisions.

2.1.2. Effort Expectancy (EE)

EE is the degree or ease associated with the use of the system or how an individual perceives it's easy to use a system which consists of three sub-dimensions of “consciousness of easy to use”, “systematic complexity”, and “operating simplicity” (Venkatesh et. al., 2003). In our present research, we conceptualize EE as "how the individual feels comfortable and finds it easy to use and interact with SMS mob. Ads". The easiness a new technology system offers to its’ user is one of the key factors of accepting it (Venkatesh et. al., 2003). Consequently, mobile phone users have positive attitudes towards mobile advertising

due to the ease of effort related with how to use and interact with it (Barutçu, 2007) and even to purchase whatever is advertised with the least effort without leaving their places (Barnes, 2002). This ease of effort is expressed in the following:

- 1- Flexibility in allowing the user to conduct transactions or receive information even when he is engaged in another activity (Geser, 2004).
- 2- Convenience in being convenient for users to operate (Sadeh, 2002).
- 3- Instant connectivity as the marketer can easily connect to target customers (Sadeh, 2002).
- 4- Dissemination in being the most exciting tool to expand customers shopping in a new, easy, practical and price-conscious shopping tool (Hsieh, 2007).

In spite that EE has been found to be significant only at the beginning and becomes non significant over periods of sustained and extended usage (Thompson, 1994), it positively influences attitudes towards using mobile technology (Leppäniemi & Karjaluoto, 2005), as well as, being positively related to performance expectancy (Xu et.al, 2009).

H2: Effort expectancy positively influences acceptance of mobile advertising to depend on it in one's purchase decisions.

2.1.3. Social Influence/SI

Social Influence is conceptualized as the “the degree that an individual senses that those who're important to him, thinks he should use the new system” (Wu et.al, 2008). SI is explained in three sub-dimensions as “subjective norm”, “social factor”, and “public image” (Venkatesh et. al., 2000).

“subjective norm” refers to “the person’s perception that most people who are important to him think he should or should not perform the

behavior in question (Fishbein & Ajzen,1975). “Public image” as individuals often respond to social normative influences to establish a favorable image within a reference group (Wu et.al, 2008). “social factor” are the interfering factors such as gender, age, experience and use voluntarily that are believed to influence the relationship between social influence and use intention(Venkatesh et. al., 2003). Though these influences would usually happen only at the beginning of use, SI does not have significant influence on behavioral intention (Wu et.al, 2008).

H3: Social Influence positively influences acceptance of mobile advertising to depend on it in one’s purchase decisions

2.1.4. Facilitating conditions

Facilitating conditions are defined as “the degree to which an individual believes that an organizational and technical infrastructure exist to support use of the system” (Park et.al. 2007). Usage time, the technology use related skills as well as familiarization of mobile phones can be seen as special characters of facilitation as these factors can be expected to influence the perceptions of individuals towards it (Venkatesh et.al, 2003). Consequently, mobile ad. is characterized by a multiplicity of exciting new technologies, applications, and services that facilitate it’s usage as follows :

- a) “Location-based mobile services”: ability to identify the exact geographical location of a mobile user at any time is a facility described as (Casal et.al, 2004).
- b) The ability to personalize messages as phones are equipped with a profiling option in which users can build their own profiles or use existing ones (*e.g.* silent, meeting, outdoors) (Leppäniemi & Karjaluoto, 2005).
- c) High connection speed:the ability for both a consumer and an advertiser to receive, plan and implement more advanced m-

advertising campaigns and integrate those with existing marketing channels (Leppäniemi & Karjaluoto, 2005).

H4: *Facilitating conditions positively influences acceptance of mobile advertising in depending on it in one's purchase decisions*

2.2. Mediated factors

2.2.1. Voluntariness of use & Permission/ privacy matters

Voluntariness of use is the context in which the user will accept technology voluntarily (Venkatesh & Davis, 2000). In spite that privacy and permission to send SMS was discussed as an aspect of facilitating conditions (Xu et.al, 2009), we discuss it in the present research as a factor of voluntariness of use. That is, if consumer being interrupted during his daily activities by an ad, brand image may be damaged (Hoyer & MacInnis, 2004). Some describe this cost as an involuntary cost borne by the consumer who faces an unselected exposure (Petty, 2000). In other terms, permission is usually considered to be a major factor that may affect attitudes towards SMS advertising (Kavassalis et.al, 2003) offering the individual the access of free choice & control whether or not to receive messages & the ability of by passing sales managers easily (Nokia, 2002).

Culture doesn't seem to cause any difference in accepting mobile advertising, except in context of irritation where unpermitted SMS messages in some countries is considered illegal and annoy consumers regardless of the medium (Haghirian et.al, 2008). As well, gathering data for tailoring messages raises privacy concerns (Scharl et.al, 2005) as the individual has the right to control the terms under which personal information is acquired and used about him/her (Xu et.al, 2009).

Most of the researches proved negative impact of privacy concerns on behavioral intention in the ecommerce context as the fear of losing control over personal information reduces one's expectancy about the

performance of the technology or in what others call fear of privacy invasion (Dinev & Hart, 2006). Fear of unsolicited messages, commonly known as spam (Golem, 2002) is the strongest negative influence on consumer attitudes towards SMS advertising as one feels that SMS is typically private (Bamb& Barnes, 2007). The major privacy violations in term of information capture are demographics and purchase-data disclosure without consumers' consent (Barnes & Scornavacca, 2003). The difference between permission-based advertising and unauthorized spamming proved to be statistically significant (Tsang et.al, 2004) where Corporate policies must consider legalities such as electronic signatures, electronic contracts, and conditions for sending SMS messages (Scharl et.al, 2005). Thus, consumers are more likely to adopt an innovation if they are assured of their privacy and safety via existing rules and regulations (Tanakinjal et.al, 2007) and vice versa.

H5: Voluntary of use negatively affects the influence of the study variables to accept mobile advertising in depending on it in one's purchase decisions

2.2.2. Age:

Though, mobile advertising is considered to be a very young research topic (Lee et.al, 2006), some studies proved that age has significant difference towards using mobile technology (Wu et.al, 2008) but others proved no relation between age and perceived advertising value (Ito & Okabe, 2005). Meanwhile, SMS is useful for targeting young audiences (Scharla et.al, 2005) causing younger consumers to be more prone to accept mobile advertising making them more attractive to advertisers, even if the overall market is somewhat slow in accepting mobile advertising (Okazaki & Taylor, 2008).

In the present research, we go with the point of view that postulates that mobile advertising (SMS) targets more young people especially that mobile technology is related to technology usage which is more

related to younger ones whose innovativeness is more, compared to older ones (Rosen, 2004). Innovativeness of the person affects one's acceptance to use mobile advertising as well as his perception of usefulness of advanced mobile services (Lopez-Nicolas et.al., 2008). So, we expect that:

H6: Age has significant difference towards the study variables of accepting to depend on mobile advertising in one's purchase decisions

2.2.3. Gender:

Gender proved to have significant difference towards behavioral intention to use mobiles (Wu et.al2008). Males are more inclined to rely on performance expectancy rather than effort expectancy, whereas female respond oppositely (Park et.al, 2007). That's especially when considering age in correspondence to gender (Venkatesh et. al., 2003). As well, female appeared to care more about others point of view having a tendency to put more on social influence than males when shaping their attitude and behavioral intentions towards mobile technology (Park et.al., 2007).

H7: Gender has significant difference towards the study variables of accepting to depend on mobile advertising in one's purchase decisions

2.2.4. Experience:

Extent of experience is found to be significantly related with technology acceptance (Mao & Palvia, 2006). Experience has significant difference towards behavioral intentions towards using mobile technology (Wu et.al, 2008). The more the importance mobile phones are in people's lives (affinity), the higher the probability of acquiring services through mobile phones like mobile advertising and thus increasing the possibility of purchase through it (Manzano et.al, 2009).

Some researches considered previous experience of using distance shopping tools like internet, may be considered as an indicator of technological compatibility considering the use of mobile phones for the same function (Eastin's, 2002) as consumers who have purchased a product or service through the internet have broken the barriers to distance shopping and therefore are more predisposed to M-commerce (Sivanad et al., 2004) or in other words, technologically oriented (Rice & Katz, 2003). Meanwhile, we viewed prior experience in the present research in how frequent the respondent depended on mobile devices, no of mobile lines he uses and how he relies on the commercial SMS he receives.

H8: Prior experience has significant difference towards the study variables of accepting to depend on mobile advertising in one's purchase decisions

2.2.5. Education:

Education has significant difference towards behavioral intentions to use mobile technology (Wu et.al, 2008). That's lower education are more sensitive to effort expectancy factor that's considered one of the means that encourages technology adoption (Venkatesh & Morris, 2000). Meanwhile, there's a significant role of performance expectancy on higher educated people rather than lower ones in adopting technology (Park et.al., 2007).

H9: Education has significant difference towards the study variables of accepting and to depend on mobile advertising in one's purchase decisions

3. Methodology

A field survey was conducted where a questionnaire was developed based on the conceptual model (see Fig 2) that followed the "Unified Theory of Acceptance and Use of Technology". The sample was comprised of (334) mobile phone users in Bahrain in the age of 18

years and above. The questionnaire consisted of three parts. The first part was an introductory part about the number of mobile lines each respondent has and the most frequent kind of SMS advertising he usually receives. As well it included how the respondent depends on SMS in his usage to mobile service to measure one's experience. The second part was a construct of five parts that represent the five independent variables in the study. We used five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5) for measuring the different independent variables. Performance expectancy was measured through five sentences where validity test Cronbach's alpha for them= 0.79. Effort expectancy was measured through three sentences where validity test Cronbach's alpha for them= 0.74. Social influence was measured through three sentences where validity test Cronbach's alpha for them= 0.76. Facility conditions was measured through four sentences where validity test Cronbach's alpha for them= 0.73. Effort expectancy was measured through five sentences where validity test Cronbach's alpha for them = 0.76. Thus, Cronbach's alpha for the above factors suggested the scales were reliable. The third part of the questionnaire was concerned with the intention of the respondent to use mobile advertising (SMS ad) in making his purchase decisions and his actual or present usage to such SMS's.

4. Analysis and results

4.1. General results:

From the total sample that was 334 respondents, 46% were male and 54% were female. 75.1% ranged from the age 18-32 and 28.5% ranged from the age of more than 32 and above. 37.1% only had one mobile line, where 62.9% of them had two lines or more. 14.4% of the respondents always use SMS, where 39.8 use SMS sometimes versus 45.8 rarely use them. The majority of SMS that have been received by the respondents were about special offers or discounts with a

percentage of 62.3%, where the least percentage 2.7% regarding consultancy services (religious, medical,...).

4.2 Results in terms of research hypothesis

H1 has been proved by a degree of significance = .000 By using univariate analysis (table 1) where the value of F= 5.53 with a degree of freedom (df)= 19, showing that Performance expectancy positively influences acceptance to depend on mobile advertising in one's purchase decisions

H2 has been proved with a significance = .02 on bases of the influence of effort expectancy on the acceptance to depend on mobile advertising in one's purchase decisions (table 1) where the value of F= 2.040 and degree of freedom (df)= 12

As for social influence, the results of the study show that H3 was accepted By using univariate analysis (table 1), with a significant = .000 where the value of F= 7.34 with a degree of freedom (df)= 12, showing that Social influence positively influences acceptance of mobile advertising to depend on it in one's purchase decisions.

Table. 1 univariate analysis for the effect of independent variables PE (H1), EE (H2) ,

SI (H3) & FC (H4) on acceptance of mob. Ad

No of hypothesis	Name of hypothesis	Type III Sum of Squares	df	Mean Square	F	Sig.
H1	effect of performance expectancy (PE) on acceptance of mob. Ad	32.228a	19	1.696	5.531	.000
H2	effect of effort expectancy (EE) on acceptance of mob. Ad	9.107a	12	.759	2.040	.021
H3	effect of Social Influence (SI) on acceptance of mob. Ad	27.692a	12	2.308	7.346	.000
H4	effect of Facilitating Conditions on (FC) acceptance of mob. Ad	7.785a	16	.487	1.277	.210

Meanwhile, H4 was rejected as univariate analysis didn't prove to be significant (table 1), claiming that Facilitating conditions don't influences acceptance to depend on mobile advertising in one's purchase decisions.

H5 was accepted on basis of all study variables except on facilitating conditions as univariate analysis (table 2), proved that voluntary of use negatively affects the influence of performance expectancy with a significance .000 where F value is less compared to F in table. 1 (5.532 compared to 5.268), effort expectancy with a significance .024 where F value is less compared to F in table. 1 (2.04 compared to 1.99), social influence with a significance .000 where F value is less compared to F in table. 1 (7.34 compared to 6.64), on accepting to depend on mobile advertising on one's purchase decision; where it didn't affect the influences of Facilitating conditions on acceptance of mobile advertising to depend on it in one's purchase decisions.

Table. 2 univariate analysis for the effect of co-variate factor Voluntary of use on the influence of study variables on acceptance of mob. Ad

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PE	30.380	19	1.599	5.268	.000
EE	8.713	12	.726	1.991	.024
SI	25.011	12	2.084	6.645	.000
FC	8.437	16	.527	1.425	.128

H6 was accepted on basis of all study variables except on facilitating conditions as univariate analysis (table3), proved that age affects the influence of performance expectancy with a significance .000, effort expectancy with a significance .010, social influence with a significance .000, on accepting to depend on mobile advertising on

one's purchase decision, where it didn't affect the influences of Facilitating conditions on acceptance of mobile advertising to depend on it in one's purchase decisions.

Table. 3 univariate analysis for the effect of the co-variate factor "age" on the influence of study variables on acceptance of mob. Ad

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PE	32.122	19	1.691	5.565	.000
EE	9.869	12	.822	2.243	.010
SI	29.257	12	2.438	7.965	.000
FC	8.163	16	.510	1.354	.163

H7 was accepted on basis of all study variables except on facilitating conditions as univariate analysis (table4), proved that gender affects the influence of performance expectancy with a significance .000, effort expectancy with a significance .022, social influence with a significance .000, on accepting to depend on mobile advertising on one's purchase decision, where it didn't affect the influences of Facilitating conditions on acceptance of mobile advertising to depend on it in one's purchase decisions.

Table. 4 univariate analysis for the effect of the co-variate factor "gender" on the influence of study variables on acceptance of mob. Ad

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PE	31.308	19	1.648	5.376	.000
EE	8.983	12	.749	2.025	.022
SI	26.775	12	2.231	7.106	.000
FC	7.511	16	.469	1.239	.237

H8 was accepted on basis of all study variables except on facilitating conditions as univariate analysis (table 5), proved that prior experience affects the influence of performance expectancy with a significance .000, effort expectancy with a significance .016, social influence with a significance .000 on accepting to depend on mobile advertising on one’s purchase decision, where it didn’t affect the influences of Facilitating conditions on acceptance of mobile advertising to depend on it in one’s purchase decisions.

Table. 5 univariate analysis for the effect of the co-variate factor “prior experience ” on the influence of study variables on acceptance of mob. Ad

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
PE	31.331	19	1.649	5.364	.000
EE	9.347	12	.779	2.109	.016
SI	27.064	12	2.255	7.182	.000
FC	7.846	16	.490	1.295	.198

H9 was accepted on basis of all study variables except on facilitating conditions as univariate analysis (table 6), proved that education affects the influence of performance expectancy with a significance .000, effort expectancy with a significance .017, social influence with a significance .000 on accepting to depend on mobile advertising on one’s purchase decision, where it didn’t affect the influences of Facilitating conditions on acceptance of mobile advertising to depend on it in one’s purchase decisions.

Fig. 6 univariate analysis for the effect of the co-variate factor “education ” on the influence of study variables on acceptance of mob. Ad

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
PE	32.022	19	1.685	5.496	.000
EE	9.311	12	.776	2.092	.017
SI	27.767	12	2.314	7.387	.000
FC	7.825	16	.489	1.286	.204

5. Discussion:

The study aimed to discover the factors that influence one’s acceptance to mobile advertising as a mean to depend on in taking his purchase decisions. The hypothesis were built upon the UTAUT theory that has proved to be more effective than any of the models that are known before in explaining the use of information system, such as mobile commerce (Carlsson, et.al., 2006).

It has been proved (as predicated in the study) that the four external factors discussed by the UTAUT theory would positively influence mobile advertising acceptance and depending on it in one’s behavior, except for the effect of facilitating conditions. Facilitating conditions (FC) in the study were discussed in terms of location-awareness, range of connectivity and availability of connecting the advertiser or the sender.

Meanwhile, it seems that in spite that the mean of Fc= 14.2 with a minimum = 4, and maximum= 20 claiming positive attitude towards FC in mobile advertising, still individuals view these facilities as a requirement accompanying the technology (mobile). Thus, not considering it as an added facilities that may affect their acceptance to mobile advertising and depending on it in their behavior.

As, for the mediated factors (age, gender, level of education and voluntary of use), in spite that they all proved to have a significant

effect on the influence of the study variables on accepting mobile advertising; but these mediated factors didn't prove to have significant difference between groups except for voluntary of use which was significance .03 where $F=1.63$. Thus we couldn't prove which age, or level of education or gender was more effective. Meanwhile as expected through our research, permission to send mobile advertising affected the positive sides one perceives in that service, which should make communication companies seek a way to receive a consent from the receiver to avoid negatively effect of advertised product image.

References:

- Arkar (13oct. 2012). Six billion mobile phone subscribers worldwide: UN report. Retrieved from: www.allvoices.com/contributed-news/13180
- Balasubramanian, S., Peterson, R. A. and Jarvenpaa, S. L. (2002). Exploring the Implications of MCommerce for Markets and Marketing. *Journal of the Academy of Marketing Science*, 30(4), 348 - 361.
- Bamba, Fatim and Barnes, Stuart J. (2007). SMS advertising, permission and the consumer: a study. *Business Process Management Journal*, 13(6), 815-829
- Barnes, S. and Scornavacca, E. Jr (2003). Mobile marketing: the role of permission and acceptance. *Proceedings of the Second International Conference on Mobile Business*, Vienna, Austria. Retrieved from: www.inderscience.com/info/inarticle.php?artid=4663
- Barnes, S. J. (2002). The mobile commerce value chain: Analysis and future developments. *International Journal of Information Management*, 22(2), 91-108
- Barutçu, Süleyman (2007). Attitudes towards mobile marketing tools: A study of Turkish consumers. *Journal of Targeting, Measurement and Analysis for Marketing*, 16(1), pp. 26-38
- Barwise, P and Strong C., (2002). Permission-based mobile advertising. *Journal of Interact Market*, 16(1), 14-24.
- Bauer, Hans H., Stuart J. Barnes, Tina Reichardt, and Marcus M. Neumann (2005). Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study. *Journal of Electronic Commerce Research*, 6(3), 181-191.
- Carlsson, C., Carlsson, J., Hyvonen, K., Puhakainen, J. and P. Walden, P. (2006). Adoption of mobile devices/services-searching for answers with the UTAUT. *In Proceedings of the 39th Hawaii International Conference on System Sciences, IEEE Computer Society Press*. Retrieved from:
www.csulb.edu/journals/jecr/issues/20073/Paper3.pdf
- Casal, C.R., Burgelman, J.C. and Bohlin, E. (2004). Prospects beyond 3G, *Info*, 6(6), 359-362. Retrieved from: www.emeraldinsight.com/journals.htm?articleid=874023&show=pdf
- De Reyck, B. and Degraeve, Z. (2003). Broadcast Scheduling for Mobile Advertising. *Operations Research*, 51(4), 2003, 509-518.
- Dickinger, A., Haghirian, P., Murphy, J. and Scharl, A. (2004). *An Investigation and Conceptual Model of Sms Marketing*. 37th Hawaii

International Conference on System Sciences, 1-10. Retrieved from:
<http://search.incredibar.com/search>.

- Dinev, T. and Hart, P. (2006). An Extended Privacy Calculus Model for E-Commerce Transactions. *Information Systems Research*, 17(1), 61-80. Retrieved from:

<http://isr.journal.informs.org/content/17/1/61.full.pdf>

- Ducoffe, R. H. (1996). Advertising Value and Advertising on the Web. *Journal of Advertising Research*, (September - October), 21 - 36. Retrieved from: www.accessmylibrary.com/article-1G1-76914157/advertising-value-and-advertising.html

- Eastin, M. (2002). Diffusion of e-commerce: an analysis of the adoption of four e-commerce activities. *Telematics and Informatics*, 19(3), 251-67. Retrieved from:

<http://www.sciencedirect.com/science/article/pii/S0736585301000053>

- eMarketer (2003). SMS marketing yields strong results. eMarketer Research Report. Retrieved from:

www.springerprofessional.de/spmblob/931542/bodyRef/021---integrated-marketing-communications-in-mobile-context.pdf

- Fife, Elizabeth and Pereira, Francis (2005, June 2-3). *Global Acceptance of Technology (GAT) and Demand for Mobile Data Services*. Hong Kong Mobility Roundtable

- Fishben, M.A. and Ajzen, I. (1975). Belief, attitude, intention and behavior: an introduction to theory and research. p.203, retrieved from:

http://edutechwiki.unige.ch/Theory_of_reasoned_action

- Geser, H. (March 2004). Towards a sociological theory of the mobile phone.

Retrieved from: www.socio.ch/mobile/t_geser1.htm.

- Golem. De. (2002). Mobiles Marketing ist noch ein Wunschtraum. retrieved from:

www.golem.de/0108/15375.html

- Gruber, F. (2006, July 26). Advertising on Social Networks. Retrieved from:

<http://www.imediconnection.com/content/10585.asp>

- Haghirian, Parissa, Madlberger, Maria and Inoue, Akihiro (2008). Mobile Advertising in Different Stages of Development: A Cross-Country Comparison of Consumer Attitudes. *Proceedings of the 41st Hawaii International Conference on System Sciences*, 1-9

- Haghirian, Parissa, Madlberger, Maria, Tanuskova, Andrea (2005). Increasing Advertising Value of Mobile Marketing – An Empirical Study

of Antecedents. *Proceedings of the 38th Hawaii International Conference on System Sciences*, 1-10

- Hsieh, Chang-tseh (2007). Mobile Commerce: Assessing New Business Opportunities. *Communications of the IIMA* 87, 7(1) Retrieved from: <http://www.iima.org/CIIMA/13%20CIIMA%207-1-07%20Hsieh%2087-100.pdf>
- Hoyer, W.D. and MacInnis, D.J. (2004). *Consumer Behavior, Houghton Mifflin*. New York, NY.
- Ito, M. & Okabe, D. (2005). Intimate Connections: contextualizing Japanese youth and mobile messaging. *The Kluwer International Series on Computer Supported Cooperative Work*, 4, 127-145. Retrieved from: http://link.springer.com/content/pdf/10.1007%2F1-4020-3060-6_7.pdf#
- Junglas, I., Watson, R. T. (2003). U-commerce: an experimental investigation of ubiquity and uniqueness. *24th International Conference on Information Systems (ICIS)*, 414-426
- Kavassalis, P., Spyropoulou, N., Drossos, D., Mitrokostas, E., Gikas, G., and Hatzistamatiou (fall 2003). A Mobile permission marketing: Framing the market inquiry. *International Journal of Electronic Commerce*, 8(1), 55–80.
- Lafferty, B. A., Goldsmith, R. E. and Newell, S. J. (2002). The Dual Credibility Model: The Influence of Corporate and Endorser Credibility on Attitudes and Purchase Intentions. *Journal of Marketing Theory and Practice*, 10(3), 1-12.
- Lee, S.-F. , Tsai, Y.-C. and Jih, W.-J (2006). An Empirical Examination of Customer Perceptions of Mobile Advertising. *Information Resources Management Journal*, 19(4), 39-55
- Lee, Y. E. and Benbasat, I. (2003). Interface Design for Mobile Commerce. *Communications of the ACM*, 46(12), 49 - 52. Retrieved from: <http://dl.acm.org/citation.cfm?id=953487>
- Leppäneniemi, Matti and Karjaluoto, Heikki (2005). Factors influencing consumers' willingness to accept mobile advertising: a conceptual model. *Int. J Mobile Communications*, 3(3), 197-213. Retrieved from: http://www.academia.edu/726843/Factors_influencing_consumers_willingness_to_accept_mobile_advertising_a_conceptual_model
- Lopez-Nicolas, Carolina Lo, Molina-Castillo, Francisco J. and Bouwman, Harry (2008). An assessment of advanced mobile services acceptance: Contributions from TAM and diffusion theory models. *Information & Management*, 45(6),359–364. Retrieved from:

<http://www.sciencedirect.com/science/article/pii/S0378720608000670>

- Manzano, Joaquín Alda's, Mafe, Carla Ruiz-´ and -Blas, Silvia Sanz (2009). Exploring individual personality factors as drivers of M-shopping acceptance. *Industrial Management & Data Systems*, 109(6), 739-757. Retrieved from:

<http://www.emeraldinsight.com/journals.htm?articleid=1798665&show=abstract>

- Mao, E. and Palvia P. (2006). Testing an Extended Model of IT Acceptance in the Chinese Cultural Context. *Advances in Information Systems*, 37(2 / 3), 20-32
- Nokia (2002). New Nokia research shows consumers ready for m-marketing via mobile

Handsets. by HPI Research Group, Research Report, January–October 10, press

Release. Retrieved from: http://press.nokia.com/PR/200201/846567_5.html

- Nysveen, Herbjørn, Pedersen, Per E. and Thorbjørnsen, Helge (2005). Intentions to use Mobile Services: Antecedents and Cross-Service Comparisons. *Journal of the Academy of Marketing Science*, 33 (3), 330-346.

- Okazaki, Shintaro and Taylor, Charles R. (2008). What is SMS advertising and why do multinationals adopt it? Answers from an empirical study in European markets. *Journal of Business Research*, 61(1), 4-12. Retrieved from:

http://tpub.scu.edu.tw/scutwebpub/website/DocUpload/CourseTeaching/cyc20078391819_1.pdf

- Park, JungKun, Yang, SuJin and Lehto , Xinran (2007). Adoption of Mobile Technologies for Chinese Consumers. *Journal of Electronic Commerce Research*, 8(3). Retrieved from:

<http://www.csulb.edu/journals/jecr/issues/20073/Paper3.pdf>

- Pavlou, P. A. and Stewart, D. W. (2000) .Measuring the Effects and Effectiveness of Interactive Advertising: A Research Agenda. *Journal of Interactive Advertising*, 1(1). Retrieved from:

http://www.researchgate.net/publication/228638125_Measuring_the_effects_and_effectiveness_of_interactive_advertising_A_research_agenda/file/79e4150b54c2236884.pdf

- Petty, R. D. (2003) .Wireless Advertising Messaging: Legal Analysis and Public Policy Issues. *Journal of Public Policy & Marketing*, 22(1), 71 - 82.

- Petty, R.D. (2000). Marketing without consent: consumer choice and costs, privacy, and public poetry. *Journal of Public Policy and Marketing*, 19(1), 42–53.
- Rice, R.E. and Katz, J.E. (2003). Comparing internet and mobile phone usage: digital divides of usage, adoption and dropouts”. *Telecommunications Policy*, 27(8/9), 597-623.
- Rosen, Peter A. (2004). The effect of personal innovativeness in the domain of information technology on the acceptance and use of technology: a working paper. *Proceeding of the 35th annual meeting of the decision science institute*, 6421-6426
- Sadeh , N . (2002). *Mobile Commerce: Technologies, Services, and Business Models*. New York: Wiley Computer Publishing
- Scharl, Arno, Dickinger, Astrid and, Murphy, Jamie (2005). Diffusion and success factors of mobile marketing. *Electronic Commerce Research and Applications*, 4(2), 159–173. Retrieved from: <http://www.sciencedirect.com/science/article/pii/S1567422304000390>
- Sivanad, C., Gesta, M. and Sulep, M. (2004). Barriers to mobile internet banking services adoption: an empirical study in Klang Valley of Malaysia. *Internet Business Review*, 1, 1-17.
- Stewart, D. W. and Pavlou, P. A. (2002). From Consumer Response to Active Consumer: Measuring the Effectiveness of Interactive Media. *Journal of the Academy of Marketing Science*, 30(4), 376 - 396.
- Tanakinjal, Geoffrey H., Deans, Kenneth R. and Gray, Brendan J. (2007). Management of Permission-based Mobile, Marketing Diffusion: A Conceptual Model. *International Journal of Business and Management*, 2(6), 52-59
- Thompson, R.L. , Higgins, C.A. and Howell, J.M (1994). Influence of experience on personal computer utilization: testing aconceptual model. *Journal of Management Information Systems*, 11(1), 167-187.
- Tsang, Melody M., Ho, Shu-Chun and Liang, Ting-Peng (2004). Consumer Attitudes Toward Mobile Advertising: An Empirical Study. *International Journal of Electronic Commerce, Spring*, 8(3), 65–78.
- Venkatesh, Viswanath, Morris, Michael G., Davis, Gordon B.; Davis, Fred D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), pp. 425-4
- Venkatesh, V. and Davis, F. D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 45(2), 186–204.
- Venkatesh, V. and Morris, M.G. (2000). Why Don't Men Ever Stop to Ask

for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behavior. *MIS Quarterly*, 24(1), 115-139

- Wu, Yu-Lung, Tao, Yu-Hui and Yang, Pei-Chi (2008). The use of unified theory of acceptance and use of technology to confer the behavioral model of 3G mobile telecommunication users. *Journal of Statistics & Management Systems*, 11(5), 919–949.
- Xu, Heng, Gupta, Sumeet and Shi, Pan (2009). Balancing User Privacy Concerns in the Adoption of Location-Based Services: An Empirical Analysis across Pull-Based and Push-Based Applications. *I conference*, university of Illinois. Retrieved from:

<http://www.researchgate.net/publication/220300520>