Analyzing Consumer Loyalty of Mobile Advertising: A View of Involvement, Content, and Interactivity and the Mediator of Advertising Value

Wei-Hung Hsiao
Institute for Information Industry,
Taipei, Taiwan
e-mail: miswhhsiao@gmail.com

Shwu-Ming Wu
Department of Human Resource Management, National Kaohsiung University of Applied Science
Kaohsiung, Taiwan
e-mail:mingwu@cc.kuas.edu.tw

Ing-Long Wu
Department of Information Management, National Chung Cheng University
Chia-Yi, Taiwan
e-mail: ilwu@mis.ccu.edu.tw

Abstract—**Mobile commerce has been growing popular recently and mobile advertising is one of the important aspects in marketing. Advertising value is an important criterion for measuring its success. Previous studies have focused on message content or technology use. The purpose of mobile advertising is to provide personalized information for consumers. Individual beliefs thus play an important role in identifying advertising value. Three major concerns arise for advertising value, personal involvement, message content, and user interactivity. However, advertising value may be temporary to define advertising effectiveness. Consumer loyalty is defined as the target for rapid growth and proliferation of advertisements. Based on these issues, this study thus proposes a novel research model for defining the relationship structure for the key drivers, advertising value and customer loyalty, in a m-commerce. The empirical results show important links among these components and advertising value acts as a critical mediator in realizing consumer loyalty.**

Keywords-Mobile advertising; Consumer loyalty; Advertising value; Involvement; Message content; Interactivity.

I. INTRODUCTION

Mobile advertising has become increasingly important in marketing practice. According to Gartner research, mobile advertising revenue reached 3.3 billion dollars in 2011, more than double the 1.6 billion dollars of revenue in 2010. Existing research for exploring its effectiveness has been fragmentally focused on two perspectives, technology use and message content. The first examines it from a technology use perspective according to relevant theories, such as the technology acceptance model (TAM) [13], the theory of planned behavior (TPB) [1] or their extensions, to investigate advertising value of mobile advertising in a national or cross-cultural context [20]. Other studies investigated it from content perspective in terms of identifying message characteristics to study advertising value, attitude, or intention toward mobile advertising [26].

However, to study how consumers process mobile advertising/message in their minds, it is necessary to gain an understanding of the individual's involvement state when experiencing this type of advertising [4]. For example, different people perceive the same product differently and have different levels of involvement with the same product. Recently,

interactivity has been identified as an important concern for technology use of mobile devices, such as in the case of the Web 2.0 platform, as it is the major feature which differentiates new media from traditional ones [14]. However, most technology-use based theories have focused more on the attributes of IT itself, such as perceived usefulness, computer self-efficacy, and other technology related factors [40]. Next, previous studies have confined research targets to only examining advertising value or initial acceptance of mobile advertising, which is just an initial step to defining the success of mobile advertising. Bhattacherjee [6] contended that long-term viability of an IT/IS and its eventual success depends on its continued use rather than initial acceptance. There has been a lack of the studies of consumer loyalty or continued use in relation to mobile advertising [3].

In sum, this study first attempts to define the antecedents of advertising value by integrating three perspectives, involvement, advertising content, and interactivity in the particular context of mobile advertising. Furthermore, this study explores customer loyalty in relation to mobile advertising, as loyalty issue has been considered as the main purpose from effectively realizing advertising value with the rapid growth and proliferation in the mobile advertising [18]. Accordingly, this study thus proposes a novel research model to define a relationship structure for the key drivers, advertising value, and customer loyalty, in an m-commerce context.

Specifically, based on a comprehensive review of the literature, we further define five attributes of message characteristics, entertainment, informativeness, irritation, credibility, and personalization. When it comes to the meaning structure of mobile devices, both involvement and interactivity are complex factors. We thus define both as a second-order construct with three indicators for each. The former includes personal, stimulus, and situation indicators and the latter contains communication, synchronicity, and user control indicators. Finally, the structure of this paper is as below, Section II for literature review, Section III with research design, Section IV for hypothesis testing, Section V with findings and discussions, and Section VI for conclusions and suggestions.

II. LITERATURE REVIEW

Based on the above discussion, Figure 1 provides a pictorial depiction of this research model. The proposed model is also

consistent with the basic relationship structure, including stimulus, satisfaction/value, and loyalty/retention, when often applied in consumer research [5]. As follows, we discuss the relevant literature and the development of the hypotheses.
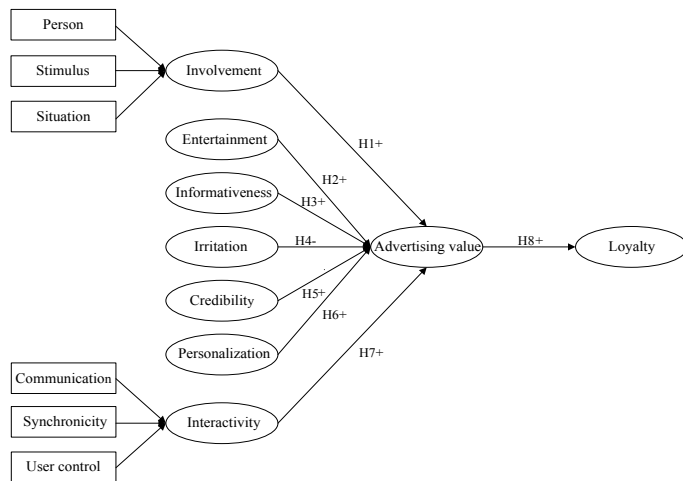

Figure 1. Research model

Node: Variable, Edge: Link for two variables, Rectangle: First order indicator

A. Mobile Advertising

Mobile advertising focuses on communication by mobile media with the intent to influence consumers' cognitive and emotional states. Mobile advertising employs two basic publicization methods: push-based and pull-based. The push-based strategy signifies that marketers send information directly to recipients without the latter's request. In contrast, the pull-based strategy implies that the specific information received by consumers is sent as a result of their own request [21]. Although the two publicization methods make no distinctions in traditional advertising or flyer promotions, however, they are different with mobile devices for each user. In sum, mobile advertising has some distinctive features, that is, interactivity and personalization.

Advertising value refers to a subjective evaluation of the relative worth or the utility of advertising to consumers [27]. Advertising value may serve as an index of customer satisfaction in the communication with products purchased from a vendor; moreover, it also represents a general cognitive belief or an attitude toward advertising. Studies of advertising value have demonstrated it to be a useful performance criterion for evaluating advertising effectiveness and further to help advertisers develop their advertising strategy more effectively [20]. When mobile advertising does not provide certain values for consumers, it may be perceived by consumers as coercive and unwelcome and fail to capture the attention of consumers [29].

B. Involvement

Involvement generally refers to the mediating role in determining if a cognitive experience of external stimuli is effectively relevant to the receiver [29]. In the advertising domain, involvement is manipulated by making the advertisement relevant to the consumers in terms of being personally affected and hence motivated to respond to the advertisement [26]. This study is mainly concerned with the impact of involvement when a consumer experiences mobile advertising messages. Although there are no agreements on what clusters constitute a good taxonomy of involvement, most researchers agree that involvement should include at least three dimensions: personal, stimulus, and situational [19]. The personal dimension defines a person's inherent value system along with her/his unique experiences, which determines whether the person is affected by the advertisement. The stimulus dimension relates to the physical characteristic of the advertisement. The situational dimension refers to the varying situations in presenting advertisement that temporarily affect the state of involvement with the advertisement. Involvement is conceptualized as a formative construct with the three indicators as involvement is clearly a composite of three indicators that may be very different [23]. Reflective indicators, however, are interchangeable and share a common theme.

As follows, we develop a hypothetical link. Researchers noted that consumers' involvement with online advertising has a direct impact on their attitude toward web advertising and their perceived value of the advertised products or services [28]. As such, involvement has several influences on personal perceived value in relation to stimuli in different types of advertising messages [28]. Following this argument, we can propose the first hypothesis.

H1: Involvement with mobile advertising positively affects advertising value.

C. Message Content

Information objects include a storage format (physical or digital) and one or more forms of human usable expressions (e.g., visual, aural, and tactile) [22]. Mobile advertising is an information object in a digital form for human use and the information content of advertisement is usually related to products or services to be sold to consumers. Several studies have proposed similar classifications for indentifying message content. Ducoffe [11] defined three major message attributes forming personal attitudes toward web advertising, including entertainment, informativeness, and irritation.

Haghirian et al. [15] discussed the advertising value of mobile marketing in Austria, and suggested that media characteristics, including entertainment, informativeness, irritation, and credibility, significantly affect the perceived advertising value of consumers. Brackett and Carr [7] discussed similar message characteristics, including, entertainment, informativeness, irritation, and credibility, for understanding how college students perceive the advertising value of web advertising.

Personalized mobile advertising aims precisely at target customers and accommodates their needs according to their preference profiles and shopping experiences. This can further ensure that customers find the most appropriate and appealing mobile advertising and create positive benefits, ranging from improved advertising value or attitude toward the advertising to purchasing the advertised products [17]. Taken together, we identify five attributes of message content, entertainment, informativeness, irritation, credibility, and personalization, based on a comprehensive classification discussed above. By the same token, the five message attributes are important antecedents to determine advertising value. Accordingly, we thus propose the following hypotheses.

H2: Entertainment positively affects the advertising value of mobile messages.

H3: Informativeness positively affects advertising value of mobile message.

H4: Irritation negatively affects the advertising value of mobile messages.

H5: Credibility positively affects the advertising value of mobile messages.

H6: Personalization positively affects the advertising value of mobile messages.

D. Interactivity

Interactivity is the most salient feature of mobile communications [5] and is considered as an important factor in differentiating between new forms of media and traditional ones [23]. Advertisers can get immediate and direct feedback from the consumers through the mechanism of mobile advertising, which is based on interactivity [15]. In contrast, consumers could have the ability to choose and respond to particular advertisement of their liking [29].

Interactivity is generally believed to be a multidimensional construct [14]. Most previous studies have agreed that there are three major components in the exchange of communication between various parties, user control, two-way communication, and synchronicity [19]. A user, as a receiver, has more power to control the advertisement as mobile devices allow prompt, two-way communication online. Accordingly, interactivity was conceptualized as a formative construct of the three indicators. The reasons are similar to the above arguments.

In this study, we argue that interactivity is a critical factor affecting consumers' perceptions of advertising value in a mobile environment. One study attempted to examine the effect of perceived interactivity on attitude toward mobile advertising experimentally by manipulating the design of various interactive features to customers in order to understand their differences; the results indicated that interactivity was a strong predictor of attitude toward mobile advertising [14]. Moreover, a study of e-tailing investigated the role of interactivity, showing that consumers' interactivity with commercial messages plays an important role in creating perceived value of these messages and increasing customer satisfaction [28]. Based on these arguments, we propose the following hypothesis.

H7: Interactivity offered by mobile devices positively affects advertising value.

E. Consumer Loyalty

Consumer loyalty has long been recognized as an important issue in marketing [12]. Oliver [22] defined loyalty as "a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potentials to cause switching behavior." In particular, with rapid growth and proliferation of mobile services, it is necessary to know what factors mainly determine consumers' attitudinal commitment and behavioral intention continue using these services [18]. This study defines loyalty as consumer' behavioral intention to continuously use mobile advertising, as well as their inclinations to recommend mobile advertising to other people.

Advertising value refers to a subjective evaluation of the relative value or the usefulness of advertising by consumers [12]. It is a form of perceived value regarding mobile

advertising. Several studies of consumer loyalty have suggested that when the perceived value of mobile services is low, customers are more inclined to switch to competitors in order to increase perceived value, thus contributing to a decline in loyalty. Turel et al. [25] looked into the usage of hedonic digital artifacts (i.e. mobile phone ringtones) from the perceived value perspective. Their results showed that consumers' perceived value can successfully predict behavioral usage in the future and leads to positive word-of-month intentions. Harris and Goode [16] indicated that perceived value of online services is a critical factor affecting customer loyalty. Accordingly, this study proposes the following hypothesis.

H8: Advertising value of mobile advertising positively affects consumer loyalty.

III. RESEARCH DESIGN

A survey study was conducted to collect empirical data. The research design is describe below.

A. Instrument

The instrument includes a three-part questionnaire. The first part uses a nominal scale and the rest uses a 7-point Likert scale.

1) Basic Information: We collected basic information about respondent characteristics including gender, age, education, occupation, type of mobile advertising (push or pull-based), and volume of mobile advertising received daily.

2) Antecedents of advertising value: Here, we measure the seven antecedents of advertising value. The items used for measuring involvement were adapted from the instruments developed by Huang et al. [19]. Involvement consists of three sub-constructs, person, stimulus, and situation, each including four items.

3) There are three items used for measuring entertainment, informativeness, irritaton, and credibility, adapted from the instruments developed by Brackett and Carr [7]. The three items used for measuring personalization were adapted from the instrument developed by Xu [40]. The three items used for measuring interactivity were adapted from the instrument developed by Gao et al. [14]. Interactivity is defined as three subconstructs, each including three items.

4) Advertising Value and Loyalty: This part measures the perceived value of mobile advertising and consumer loyalty. The three items used for measuring advertising value were adapted and revised from the instrument developed by [11]. The three items used for measuring loyalty were adapted from the instrument developed by [10].

B. Sample Design

Consumers qualified for this study require previous experience using mobile advertising. An online survey was placed in online communities to seek users as potential respondents. The online survey was placed in several larger online communities simultaneously. Website users (potential subjects) can reach the questionnaire with a hyperlink to its website when they access these online communities. A wider variety of data sources in terms of these different larger communities, were covered for the survey, allowing the responses to be more representative for the population. This

survey was carried out during the period of April-June, 2012. A reward system was also provided for the respondents. At least 30 participants were drawn from the response sample, with a reward of 10 USdollars.

C. Scale Validation

Initially, a pretest was conducted for the scale. The scale was carefully examined by selected practitioners and scholars in this area, including translation, wording, structure, and content. Their comments were used to modify the scale, in order to guarantee acceptable initial reliability and validity. When the questionnaire had been finalized, the online survey was performed, using the previously mentioned sampling procedure. A total of 533 respondents were received with a certain level of experience using mobile advertising. After 57 invalid responses were deleted, including 23 with no experience mobile advertising, there was a response sample of 476. The demographics showed that a high proportion of respondents (more than 80%) had the experience of receiving push-based mobile advertising and received at least 3 mobile messages daily.

In addition, common method bias was examined with Harman's single factor test [24]. We included all items for a factor analysis to determine whether the majority of the variance could be accounted for by one general factor. The result reported no single factor accounted for the bulk of covariance, leading to the conclusion that common method bias was not present.

D. Measurement Model

Partial Lease Square (PLS) allows latent variables to be modeled as either formative or reflective constructs and places minimal demands on sample size [8]. In this study, involvement and interactivity variables were formulated as a second-order structure with formative indicators. A measurement model was conducted for reliability and validity.

Reliability is assessed by the criterion that Cronbach's α is larger than 0.7. Convergent validity is assessed by three criteria: (1) item loading (λ) is larger than 0.70 (2) composite construct reliability is larger than 0.80, and (3) the average variance extracted (AVE) is larger than 0.50 [13]. Next, discriminant validity between constructs is assessed using the criterion that the square root of AVE for each construct should be larger than its correlations with all other constructs [13]. Item loadings range from 0.83 to 0.98, composite construct reliabilities range from 0.91 to 0.98, and average variances extracted (AVE) range from 0.75 to 0.95. The results indicate that all the constructs are highly acceptable for reliability, and convergent and discriminant validity.

IV. HYPOTHESIS TESTING

PLS was used for analyzing the structural model. This study uses bootstrapping analysis with 1000 subsamples to estimate path coefficients and relevant parameters, including means, standard errors, item loadings, and item weights. Next, we need to compute the coefficient of determination (R^2) for endogenous variables to assess the predictive power in the structural model. Figure 2 presents the results of the structural model.
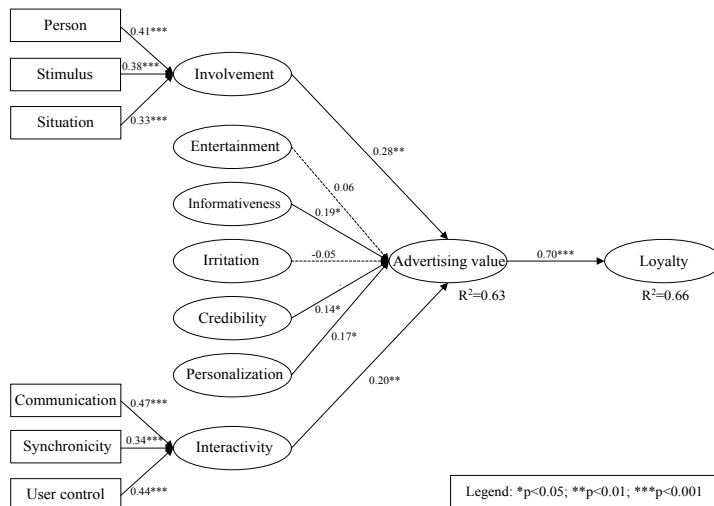

Figure 2. Result of the structure model

Hypotheses testing is reported in Table 1. For the psychological state, involvement was found to be a notable predictor of advertising value at the level of 0.01 (β=0.28). Hypothesis 1 is supported. Among the five message attributes, informativeness, credibility, and personalization were important in affecting advertising value at the level of 0.05 (β=0.19, 0.14, and 0.17), but entertainment and irritation were not important (β=0.06 and -0.05). Hypothesis 3, 5, and 6 are supported. However, Hypothesis 2 and 4 are not supported. For the technology use, interactivity had a significant effect on advertising value at the level of 0.01 (β=0.20). Hypothesis 7 is supported. The three issues, involvement, message attributes, and interactivity, jointly explain 63% of variance in advertising value. In turn, advertising value was critical in determining customer loyalty at the level of 0.001 (β=0.70). Hypothesis 8 is supported. It further explains a large of proportion of variance (R^2 =66%) in loyalty.

Table 1. Hypotheses testing

Hypotheses	Testing results
H1	Supported
H2	Not supported
H3	Supported
H4	Not Supported
H5	Supported
H6	Supported
H7	Supported
H8	Supported

This gives rise to a thinking of an important mediating role of advertising value in the realization of loyalty from the initial drivers. We based on a comparison between the original model and a competing model with extra paths for the antecedents directly to loyalty. Accordingly, the f^2 statistic is based on the difference between the R^2 in the two models, was used to assess their effect size [9]. This indicates a full mediating role of advertising value in realizing loyalty. Moreover, personal, stimulus, and situation are three important indicators in explaining involvement (*W*=0.41, 0.38 and 0.33, weight score). Interactivity is significantly explained by three key indicators, communication, synchronicity, and user control (*W*=0.47, 0.34, and 0.44).

V. FINDINGS AND DISCUSSIONS

Involvement with mobile advertising is the underlying basis for explaining a consumer's psychological state during the subjective evaluation of advertisement in terms of being personally affected by affective and cognitive relevance, such as personal, stimulus, and situational attributes. In order to understand the effect of involvement, researchers commonly manipulated involvement by leading subjects to believe one of these stimuli or situations. In their studies, subjects in both high and low-involvement groups receive the same communication messages. However, high-involvement subjects are led to believe the communicated message affects them, while low-involvement subjects do not believe the communicated message has a personally relevant effect. Practitioners therefore place their emphasis on the issue of involvement to increase advertising value.

Informativeness, credibility, and personalization remain as important predictors of advertising value and in turn, consumer loyalty, as in prior studies of mobile advertising [17]. Informativeness seems to be the primary predictor among three key factors. While mobile-based mechanisms are highly penetrable for their users to send or receive timely and important information, such as mobile advertising, consumers are often find it easy to understand the new products or services offered by marketers. Credibility indicates that the content of mobile advertising can be trusted or believed by consumers for their futures decisions. Marketers should take notice of the building of the initial trust of consumers as an important precursor for further being able to nurture and recognize the effectiveness of advertising in their purchasing decision process. Personalized mobile advertising is a major concern of consumers in relation to their willingness to read/receive messages as it targets the real needs of consumers. For marketers, the importance of personalization makes one-to-one mobile marketing a better marketing strategy. Marketers could take the initiative in sending personalized advertising by means of the collection and analysis of consumers' basic information, purchase records, or a combination with location-based service/awareness, to increase the return on marketing investment.

In contrast, entertainment and irritation show a non-significant impact on advertising value. The findings should be quite interesting to marketers. The reasons behind this can be explained as below. First, the most common way forms of mobile advertising are short message services (SMS) and multimedia messaging services (MMS). These advertisements are usually presented with texts, pictures, or together with hyperlinks. All of these look similar and monotonous. However, many marketers have started using the APPs (Applications) to increase the degree of pleasure and enjoyment during interaction with mobile advertising. In this study, a high proportion of respondents (more than 80%) have received pushed-based mobile advertising on a daily basis. Mobile advertising offers new opportunities to marketers to deliver messages in a personalized manner to meet the needs of consumers. It is thus recognized as a friendly type of service in terms of both meeting the needs and time restraints of individual consumers. As a result, consumers may gradually get accustomed to mobile messages and may no longer feel irritated about them.

Interactivity has positive relationship with advertising value, which is consistent with some previous studies [14]. In general, this study indicates the importance of considering the interactivity perspective in the mobile context. Marketers can take full advantage of the features of mobile devices (e.g., mobility, synchronicity, and two-way communication), and design a better form of interactive interface. System interfaces should be presented in a user-friendly way to enable good communication with consumers. Therefore, marketers can quickly get feedback from consumers and further provide them with the capability to adjust sale forecasts and marketing strategies in real time. In contrast, if consumers have the experience of interaction failures when using mobile advertising, they may not feel that mobile advertising is valuable, thus decreasing advertising value. Finally, advertising value is useful in evaluating the effectiveness of mobile advertising and is an important mediator for achieving customer loyalty when using mobile advertising. Advertising value should be considered as an important criterion when designing an effective mobile advertising mechanism for marketers.

VI. CONCLUSIONS AND SUGGESTIONS

Several important practical implications arise from our findings. A high proportion of respondents (83.6%) have the experience of receiving push-based mobile advertising. The primary work, in general, focuses on improving the value of mobile advertising so that consumers do not think mobile advertising as equivalent to spam.

For the involvement, marketers may need to look into consumer behavior to understand the decision-making process, including personal characteristics and external stimuli. For example, personal income and job would be considered by marketers concerned with delivering mobile advertising to the appropriate person in order to effectively induce purchase. External stimuli, such as price, may be sensitive to a variety of factors, such as preference for a particular brand, relative importance or perceived differences of product attributes, and promotions to target consumers. After such considerations, mobile marketing could be an important mechanism to effectively communicate with consumers and increase their level of involvement.

Next, message content are also important for advertising value. Efforts by marketers may focus on the following directions. In terms of informativeness and personalization, marketers should use a new mobile advertising approach, location-based service (LBS), which is pull-based mobile advertising. This service could facilitate timely delivery of customized marketing information to target consumers. In addition, marketers may often need to conduct surveys to understand the real requirements of consumers in order to reduce the gap between marketers/vendors and consumers. Regarding credibility, as building the initial trust belief is important for the effectiveness of mobile advertising, marketers may initially apply both traditional (print, radio, and TV) and mobile advertising approaches for promoting consumer recognition of marketers/vendors. Finally, while interactivity

implies that the mechanism of mobile advertising needs to be further enhanced for improving two-way communication channels and consumers' self-efficacy in using the advertising, marketers can create an effective conversation between marketers/vendors and consumers through better accessible hardware, higher speed networking systems, and user-friendly interfaces.

Some theoretical implications are also noted from the findings. We approach this research as an integration of three unique features. This will provide a new way of thinking for the future research. Based on this study, future research could focus on a variety of issues. As cross culture issues may result in important effects in the fields of consumer behavior and commercial advertising, future research can target consumers from different countries, to understand their differences and similarities. IT-based features, such as interactivity, are usually an important concern of users of mobile advertising.

Although this research has produced some interesting results, it may have a number of limitations. For example, push-based advertising occupies a high proportion (more than 80%) in the survey as compared to pull-based advertising. However, this is a major stream of current mobile advertising. The result does properly reflect the regular population distribution of subjects.

REFERENCES

[1] I. Ajzen, "The theory of planned behavior," Organizational Behavior and Human Decision Processes, vol. 50, issue 2, 1991, pp. 179-211.

[2] K. Amoako-Gyampah, "Perceived usefulness, user involvement and behavioral intention: an empirical study of ERP implementation," Computers in Human Behavior, vol. 23, issue 3, 2007, pp. 1232-1248.

[3] R. E. Anderson and S. S. Srinivasan, "E-satisfaction and e-loyalty: a contingency framework," Psychology and Marketing, vol. 20, issue 2, 2003, pp. 123-138.

[4] H. Barki and J. Hartwick, "Rethinking the concept of user involvement," MIS Quarterly, vol. 13, issue 1, 1989, pp. 53-63.

[5] S. J. Barnes, "Wireless digital advertising: nature and implications," International Journal of Advertising, vol. 21 issue 3, 2002, pp. 399-420.

[6] A. Bhattacherjee, "Understanding information systems continuance: an expectation-confirmation model," MIS Quarterly, vol. 25, isssue 3, 2001, pp. 351-370.

[7] L. K. Brackett and B. N. Carr, "Cyberspace advertising vs. other media: consumer vs. mature student attitudes," Journal of Advertising Research, vol. 41, issue 5, 2001, pp. 23-32.

[8] W. W. Chin, B. L. Marcolin, and P. R. Newstead, "A partial least squares latent variable modeling approach for measuring interaction effects: results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study," Information Systems Research, vol. 14, issue 2, 2003, pp. 189-217.

[9] J. Cohen, "Statistical Power Analysis for the Behavioral Sciences," Lawrence Erlbaum, NJ, 1988.

[10] Z. Y. Deng, Lu, K. K. Wei, and J. Zhang, "Understanding customer satisfaction and loyalty: an empirical study of mobile instant messages in China," International Journal of Information Management, vol. 30, issue 4, 2010, pp. 289-300.

[11] R. H. Ducoffe, "How consumers assess the value of advertising," Journal of Current Issues and Research in Advertising, vol. 17, issue 1, 1995, pp. 1-18.

[12] R. H. Ducoffe, "Advertising value and advertising on the web," Journal of Advertising Research, vol. 36, issue 5, 1996, pp. 21-35.

[13] C. Fornell and D. F. Larcker, "Structural equation models with unobservable variables and measurement error: algebra and statistics," Journal of Marketing Research, vol. 18, issue 3, 1981, pp. 382-388.

[14] Q. Gao, P. L. Rau, and G. Salvendy, "Perception of interactivity: affects of four key variables in mobile advertising," International Journal of Human-Computer Interaction, vol. 25, issue 6, 2009, pp. 479-505.

[15] P. Haghirian, M. Madlberger, and A. Tanuskova, "Increasing advertising value of mobile marketing: an empirical study of antecedents," In: Proceedings of the 38th Hawaii International Conference on System Sciences, 2005, pp. 1-10.

[16] L. C. Harris and M. M. H. Goode, "The four levels of loyalty and the pivotal role of trust: a study of online service dynamics," Journal of Retailing, vol. 80, issue 2, 2004, pp. 139-158.

[17] G. S. Kim, S. B. Park, and J. Oh, "An examination of factors influencing consumer adoption of short message service (SMS)," Psychology and Marketing, vol. 25, issue 8, 2008, pp. 769-786.

[18] H. H. Lin and Y. S. Wang, "An examination of the determinants of customer loyalty in mobile commerce contexts," Information and Management, vol. 43, issue 3, 2006, pp. 271-282.

[19] P. B. Lowry, N. C. J. Romano, J. L. Jenkins, and R. W. Guthrie, "The CMC interactivity model: how interactivity enhances communication quality and process satisfaction in lean-media groups," Journal of Management Information Systems, vol. 26, issue 1, 2009, pp. 155-195.

[20] Y. A. A. Megdadi and T. T. Nusair, "Factors influencing advertising message value by mobile marketing among Jordanian users: empirical study," European Journal of Economics, Finance and Administrative Sciences, vol. 31, 2011, pp. 87-98.

[21] S. A. Nasco and G. C. Bruner, "Comparing consumer responses to advertising and non-advertising mobile communications," Psychology and Marketing, vol. 25, issue 8, 2008, pp. 821-837.

[22] R. L. Oliver, "Whence consumer loyalty?" Journal of Marketing, vol. 63, 1999, pp. 33-44.

[23] S. Petter, D. Straub, and A. Rai, "Specifying formative constructs in information systems research," MIS Quarterly, vol. 31, issue 4, 2007, pp. 623-656.

[24] P. M. Podsakoff, S. B. Mackenzie, J. Y. Lee, and N. P. Podsakoff, "Common method biases in behavioral research: a critical review of the literature and recommended remedies," Journal of Applied Psychology, vol. 88, issue 5, 2003, pp. 879-903.

[25] O. Turel, A. Serenko, and N. Bontis, "User acceptance of hedonic digital artifacts: a theory of consumption values perspective," Information and Management, vol. 47, issue 1, 2010, pp. 53-59.

[26] C. S. Wan, S. H. Tsaur, Y. L. Chiu, and W. B. Chiou, "Is the advertising effect of virtual experience always better or contingent on different travel destinations?" Journal of Information Technology and Tourism, vol. 9, issue 1, 2007, pp. 45-54.

[27] E. Wang, "Forming positive advertising and product attitude: the role of product involvement," International Journal of Technology Marketing, vol. 6, issue 3, 2011, pp. 259-271.

[28] W. S. Yoo, Y. Lee, and J. Park, "The role of interactivity in e-tailing: creating value and increasing satisfaction," Journal of Retailing and Consumer Services, vol. 17, issue 2, 2010, pp. 89-96.

[29] J. L. Zaichkowsky, "Conceptualizing involvement," Journal of Advertising, vol. 15, issue 2, 1986, pp. 4-34.