Antecedents to Consumers’ Acceptance of Mobile Advertisements – A Hierarchical Construct PLS Structural Equation Model

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Abstract
The paper presents a hierarchical construct PLS structural equation model to analyze mobile advertisement acceptance. Hypotheses are established and tested about the hierarchical structure and the effects of the factors that precede consumers’ behavioral intention to accept mobile advertisement. The results suggest that valuable content and trust in advertisers are key predictors of mobile device users’ acceptance of mobile advertising. In addition, subjective value of the ads and subjective norms mediate these antecedent-acceptance relationships. The results are invaluable to both scholars and business practitioners interested in mobile services.

1. Introduction
Consumers’ attitudes toward advertising in the mobile media have gained significant attention among researchers and business practitioners [6, 19, 31, 33, 41]. The research on consumer acceptance has provided important insights in a myriad of aspects that affect consumers’ attitude toward mobile services and advertising [6]. These attitudes reflect the degree to which consumers identify with the advertising [37]. However, little is known about the hierarchical structure and effects of the underlying factors that antecedent consumers’ behavioral intention to accept mobile advertising content.

The growth of mobile advertising has opened a new area for research. Although the research on major media [e.g., 25] has shown that consumers increasingly ignore advertising as compared to previous decades, Internet advertising seems to generate positive consumer attitudes [45] and the rapid proliferation of mobile devices has created a new channel for marketing [48]. In fact, Schlosser et al. [45] reveal that mobile device users’ attitude towards mobile advertising is less resistant to change than are consumers’ attitude towards advertising in general, and in the mobile media, context, credibility and subjective norms are found to be positively related to consumers’ intentions to subscribe mobile ads [31, 33].

The present study examines consumers’ behavioral intentions in the context of mobile marketing. Extending the Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen [20], the study responds to the recent call for research [e.g., 40, 41] on advertisement content and trust in the advertisers as the key predictors of consumers’ willingness to participate in mobile advertising. In particular, by employing PLS structural equation modeling and the composition of higher-order constructs comprising their underlying variables, the study investigates (1) the hierarchical structure; (2) the relative effects of the factors that precede consumers’ intention to accept mobile advertisement; and (3) provides evidence that validates the model and discusses whether such a conceptualization is generalizable across consumer groups.

The paper is structured as follows. After this introductory section, we offer a literature review on the theoretical foundations of the study. Moreover, we establish a research model and formulate hypotheses based on previous literature. Thereafter, we present our research design, measures, data analysis and the results. Finally, we conclude the paper by discussing the implications of the study.

2. Theory and hypotheses
The literature suggests that intention towards action is the best predictor of individuals' behavior [e.g., 20]. Behavioral intention measures the strength of consumers’ conscious plans to perform the target behavior, such as consumers’ acceptance of mobile advertising. Nantel and Sekhavat [40] argue that the content of marketing messages significantly influence the behavioral intentions evoked by mobile advertisement. They further include the concepts of credibility and trust in the advertiser as important dimensions of the source of these messages. Thus, content and trust need further investigation as the key determinants of consumers’ perception on mobile advertising.
2.1. The theory of reasoned action explains consumers’ mobile ad acceptance

The Theory of Reasoned Action (TRA) provides grounds for investigating consumers’ intention to accept mobile advertisements. The theory is used to predict and understand the factors influencing an individual’s behavior in a specific context. Originating in social psychology, it was developed by Fishbein and Azjen [20]. The theory and its subsequent variation, the Theory of Planned Behavior (TPB), have been applied to research in a variety of fields. TRA provides a theoretical foundation for the linkage among four constructs: behavior, intention, attitude, and belief. Through exposure to an object, people link the object with its attributes in varying strengths. Its premise is that the totality of a person’s belief is the informational base that ultimately determines his or her attitudes, intentions, and behaviors [20].

Bauer et al. [6] show that the TRA is a means of measuring consumers’ acceptance of mobile advertisements. According to their study, acceptance should be forecasted by measuring an individual’s intention to accept. As such, it is of major relevance to both theory and practice to develop a model for testing mobile marketing acceptance. The basic assumption of Ajzen and Fishbein’s theory is that individuals consciously decide to perform or not to perform a specific behavior. In this, they consider and evaluate various criteria pertaining to the behavior before actually performing it. Therefore, for a reliable forecast of the acceptance of mobile marketing, it is necessary to examine the combination of acceptance and use decisions.

The fundamental proposition of the TRA is that behavior is determined by behavioral intention. The behavioral intention is in turn postulated to be a function of the individual’s attitude toward the act and toward social norms among consumers. Whether the attitude toward the act or the social norms exerts the greater influence on the behavioral intention depends on the individual and the decision object [2, 20]. According to the TRA, the behavioral intention depends upon the relative impact of the attitude toward the act and the social norms among consumers. However, prior literature on the acceptance of mobile advertisement [e.g., 22] argues that the perceived content of the advertisement is important in an individual’s decision to accept the advertisement [e.g., 19]. Moreover, the effect of social norms on the behavioral intention, and, ultimately, to the action manifested as the acceptance of mobile advertisement, are preceded by trust in the advertiser. It is mediated by social norms related to this kind of behavior. Furthermore, trust is associated with other variables such as credibility [37, 41] and privacy [42]. Therefore, it in the context of a consumer’s acceptance of mobile advertisement, behavior reflects a consumer’s intention to accept advertisements, which in turn, is subject to the consumer’s perception of the content, and, beliefs about its subjective value and the evaluation of its consequences. Furthermore, the explanation of behavioral intent includes the effect of trust, which is subject to the individual’s perception of the consequences of trusting the advertiser.

2.2. Subjective value of mobile advertisement messages

**Informativeness.** Consumers’ propensity to search and use information is an important construct in the analysis and explanation of their behavior [32]. Both Ducoffe [15] and Barwise and Strong [5] assert that consumers prefer informative messages and the informativeness of the content of advertisements is an important predictor of their value and one that is crucial to the effectiveness of advertising. Lee et al. [33] have studied the informativeness of mobile advertisement content in terms of its helpfulness and factuality. To investigate informativeness, they use
variables such as “mobile advertisements are interesting to me” and “mobile advertisements are a great source of timely information.” Barwise and Strong [5] suggest that highly relevant content can only be achieved from data obtained explicitly from the consumer at the time of obtaining permission, rather than by mining an existing customer database. They claim that if the messages are considered irrelevant by the target audience, there is a potential for negative reactions.

**Entertainment.** Tsang et al. [48] and Lee et al. [33] investigate the entertainment value of mobile advertisements through consumers’ perceived enjoyment and entertainment of mobile advertisement. For this purpose, their variables include, “receiving mobile advertisements is enjoyable and entertaining” and “receiving mobile advertisements is pleasant.” Ducoffe [15] posits that the form, or entertainment, of the advertisement content is a vital determinant of their value and crucial to the effectiveness of advertising. Along with their entertainment value, Ducoffe [15] states that irritation with advertisements also influences people’s attitude. This finding is consistent with earlier research [38] that interesting and pleasing advertisements have a positive impact on consumers’ attitudes. Barwise and Strong [5] also maintain that consumers prefer short and entertaining messages. Hence, we hypothesize that:

H1: Subjective value of mobile advertisements has a direct positive relationship with consumer’s behavioral intention to accept mobile advertisements.

**2.3. Subjective norms among mobile ad recipients**

**Attitude.** Bauer et al. [6] posit that the more positive consumers’ attitude toward advertising in general the more positive one’s attitude toward mobile marketing. Zanot [51] reveals that attitudes toward advertising in the major media became increasingly negative after the 1970s. Internet advertising, however, seems to generate positive consumer attitudes [45]. Karjaluoto and Alatalo [31] show that the more favorable the consumers’ attitude towards mobile marketing, the higher their intention to participate in mobile marketing. Jun and Lee [29] add that advertising attitudes are positively related with consumers’ past behavioral experience. This study considers the experience-based attitude as an important antecedent of trust in the advertisers.

**Recommendation.** The theory of reasoned action suggests that subjective norm, i.e. social influence, affects a person’s intention to perform a behavior. It is defined as the person's perception that people think that they should or should not perform the behavior in question [3, 11, 20]. According to Ajzen and Fishbein [2], subjective norm is a function of the product of one’s normative belief and motivation. It is the person’s belief that the salient referent thinks he/she should (or should not) perform the behavior and his/her motivation to comply with that referent. In the information systems research, the effect of subjective norm is shown to be more salient for consumers with little or no experience [49]. Thus, subjective norms may be considered influential in the emergence of trust. Therefore, it is reasonable to suggest that:

H2: Subjective norms have a direct positive relationship with consumer’s behavioral intention to accept mobile advertisements.

**2.4. Mobile advertisement content**

Mobile advertising depends upon consumers’ acceptance. Rettie et al. [43] show that although their initial attitudes toward mobile advertising are sometimes negative, many consumers are prepared to accept advertising if the content appeals to them. Similarly, Muk [39] reports that the relevance of the advertising message content and the perceived value of the offering are of great importance in the success of advertising via mobile devices. According to Muk [39], this is due to that these factors have the largest impact on attitude toward advertising by reducing the perception of intrusiveness and, thus, increasing the acceptance of mobile advertisements.

Bauer et al. [6] distinguish two kinds of acceptance drivers: perceived utility and perceived risk. Consumers will only accept mobile marketing if they perceive a benefit in receiving advertising messages on their mobile phone and if they can avoid the potential negative consequences receiving those advertisements. Moreover, Carroll et al. [52] show that the content and its relevance to the audience are critical to the acceptance of mobile marketing. These arguments are congruent with Kaas’ [30] claim that consumers’ perception of the advertisement is subject to its marginal utility compared to the utility that results from an alternative activity. This implies that a consumer’s attitude toward mobile marketing will be more positive if the content has a higher perceived utility. The content of mobile advertisements consists of several dimensions: the degree of personalization, advertisement context, informativeness of the message, and entertainment value [5, 6, 24, 33, 48].

**Personalization.** Bauer et al. [6] accentuate the role of personalization in mobile marketing, arguing that a mobile phone is rarely used by anyone but its owner. Moreover, Barwise and Strong [5] claim that consumers expect highly personalized messages, because they receive the messages through their mobile devices.
phones which they consider an intimate device. Bauer et al. [6] emphasize that most users maintain a very personal relationship with their mobile phone, and, that the Subscriber Identity Module (SIM) card allows for the exact identification of each mobile phone and its user. Using the mobile medium for communication therefore enables the advertiser to personalize the content. Leppäniemi and Karjaluoto [34] posit that personalization is grounded on “building customer loyalty by building a meaningful one-to-one relationship.” That is, they stress the importance of understanding the needs of each consumer, and, helping to satisfy a goal that efficiently and knowledgeably meets each consumer’s need in a given context. Hence, they define personalization in terms of individual preferences, needs, mindsets and lifestyles, and both cultural as well as geographical differences. Jingjun Xu [28] shows that personalization can enable marketers to reach their potential customers in a very individual way while improving their relationships with the existing customers. Furthermore, Jingjun Xu [28] adds personalization as an essential means of influencing consumers’ attitudes toward mobile advertising.

**Context.** Heinonen and Strandvik [24] argue that consumers’ willingness to receive and respond to marketing communication can be viewed as a function of the content and the context of the message. They contend that any channel can and should be evaluated according to consumer responsiveness in order to understand the effects and effectiveness of communication. In conformity with this view, Muk [39] and Leppäniemi and Karjaluoto [34] stress that the uniqueness of mobile advertising lies in its potential to target consumers in a specific context. In other words, mobile advertising should take into account the usefulness of information in regard to consumers’ time, location, and other contextual attributes.

**H3:** Advertisement content has a direct positive effect on consumers’ subjective value of mobile advertisements.

### 2.5. Trust in the mobile advertiser

Consumers prefer to minimize risk rather than maximize utility. According to Bauer et al. [6], a consumer’s subjective risk perception can thus strongly determine his or her behavior. Bauer et al. [6] suggest that in the context of mobile marketing, trust should be conceptualized as consisting of two constructs, brand trust and mobile advertising trust, both of which affect users’ choice to accept mobile advertising. They posit that consumers are likely to accept push advertisement only when they perceive both the medium and the content to be trustworthy and non-deceptive. Attributes of trust are identified in several ways. Traditionally, the relevance and credibility of advertisements have been considered important mediators of advertising effects [37]. Trust becomes crucial when consumers make decisions or take action on the basis of unclear information. In particular, perceived trust can be seen as a reflection of an individual’s determination of the veracity of the imparted information. However, Eastin [16] states that it is difficult to distinguish more from less trustworthy information because much of the content of online information is not subject to governmental or ethical regulation. In the literature, the aspects of trust consist of attitude towards advertising, subjective norm, the perceived credibility of the advertiser, and consumer privacy issues [6, 40, 41, 48].

**Credibility.** The term “credibility” is used to refer to the traits of the communicator (whether an individual or a company). It includes expertise, trustworthiness, attractiveness, and power [33]. Mackenzie and Lutz [37] and Drossos et al. [14] show that credibility strongly influences a consumer’s attitude toward the advertiser, which in turn is an important predictor of the consumer’s behavioral intention toward the advertisement. Sterntahl et al. [46] noted that a source with high credibility has a greater power of persuasion than a source with low credibility. Furthermore, Choi and Rifon [9] define the credibility of the advertiser as “the extent to which consumers believe that a firm can design and deliver products and services that satisfy customer needs and wants.” Moreover, Nantel and Sekhavat [40] point out that credibility of a source is connected with its power to inspire trust in the advertiser.

**Privacy.** The perceived risk of losing one’s privacy is also related to a consumer’s trust in the advertiser. The risk associated with mobile marketing is mainly perceived as one of data security. The conception of privacy is vital in mobile advertising; Bauer et al. [6] emphasize that new media service users tend to have concerns about data manipulation, unauthorized data access, and unwanted tracking of usage patterns. According to Bauer et al. [6], another security issue is the protection of consumers’ privacy. By using the mobile medium it is possible for marketers to reach consumers at any time and in any place. This characteristic provides the basis for high-potential, personalized mobile marketing on one hand, but also accounts for consumers’ fear of privacy violations on the other. In addition, Rappaport [42] cites the urgency of treating consumers’ personal information with integrity. According to him, this concern is framed in terms like the “privacy issue” as an essential foundation for brand-consumer relationships and brand demand. It pertains to consumers’ belief that advertisers are reputable and responsible, and that they
will treat consumers' personal information with care. On the basis of these considerations the following hypothesis is formulated:

H2: Consumer's trust in advertisers has a direct positive effect on subjective norms related to mobile advertising.

3. Methodology and data

An online survey to test the hypotheses was conducted in 2007. The empirical inquiry was carried out among European mobile phone users hailing from Finland and the Netherlands. Using the competitiveness indicators, Finland and the Netherlands are the leading European information societies in the benchmark analysis of EU-15 countries [1]. Furthermore, according to the European Commission’s Information Society and Media reports [17, 18], in 2007 the mobile penetration rate in Finland exceeded 108% and in the Netherlands 111%. Thus, mobile market profiles in these two countries are highly similar, making them a feasible sampling frame. Moreover, these countries have high broadband penetration rates (over 34%), and thus, they attractive markets for mobile advertisers.

Respondents were recruited via an e-mail in which an invitation and a link to the survey were included in the message body. The total sample size consisted of 420 potential respondents and the questionnaire yielded one hundred three usable responses for analysis. Thus, the response rate equals 24.5% which is considered acceptable. Respondents’ demographic information was collected for control purposes. The sample comprised 68% males and 32% females. The average age of the respondents was 32, with the youngest respondent being 21 and the oldest 63 years old. Overall, over 75% of the respondents were younger than 39 years old and more than half (51.5%) were younger than 30 years old. Most respondents had been exposed to mobile advertising; 79% of them had previously received mobile advertisements and 21% had not.

Multi-item scales were used to measure all constructs. The survey explored user experience, attributes of mobile advertising, and the consumer’s intention to accept mobile advertising. All items were measured on a five-point Likert-type scale (1 = "strongly disagree" to 5 = "strongly agree"). The items were drawn from the literature, but the wording of the questionnaire was slightly modified in order to fit this context of mobile advertising.

3.1. Scale validity and reliability

To avoid the standard assumptions of multinormality and the necessity of a large sample size, Wold’s [50] method of partial least squares (PLS) was used for parameters estimation. To assess the reliability and validity of the constructs, composite reliability values (ρc) and average variance extracted values (ρv) were examined for each first-order latent variable. Construct reliability was assessed using composite reliability analysis as suggested by Fornell and Larcker [21].

All composite reliability values were above the recommended level of .70 [21]. A complementary measure to composite reliability is the average variance extracted, which is useful in examining convergent validity. Average variance extracted is the average variance shared between a construct and its measures [26]. It shows directly the amount of variance captured by the construct in relation to the variance due to measurement error. In our study, all constructs exceeded the recommended .50 benchmark [13]. Overall, the composite reliability values and average variance extracted values indicate that the scales perform adequately. In addition to these two measures, Table 1 shows the means, standard deviations, Cronbach’s alphas for internal consistency, and correlations for the constructs.

3.2. Second-order constructs

PLS enables scholars to investigate models at a higher level of abstraction [36] which is useful in estimating complex models [7]. For this purpose, Wold [50] suggests the use of repeated indicators (i.e., the hierarchical component model) for measuring second-order constructs. That is, all indicators of the first-order constructs are reassigned to the second-order construct, as second-order models are a special type of PLS path modeling that uses manifest variables twice for model estimation. According to Hulland [26], the researcher needs to decide whether it is more correct to think of the underlying construct as causing the observed measures (i.e., a reflective relationship) or of the measures as causing or defining the construct (i.e., a formative relationship). However, a prerequisite for the repeated indicators approach is that all indicators of the first-order and the second-order factors should be reflective. According to Jarvis et al. [27], such a model is called a total disaggregation second-order factor model. It has a series of first-order latent factors with reflective indicators. These first-order factors are themselves reflective indicators of an underlying second-order construct. Moreover, the second order latent variable should be used as exogenous variable,
because its variance is explained by its indicators and, otherwise, the specification of an additional source of variation (i.e., an antecedent construct) would be conceptually questionable [12]. Thus, all items included in our PLS analysis were configured as reflective indicators [21, 23] and the second-order constructs CONTENT, VALUE, NORMS and TRUST are considered exogenous variables. Reflective indicators are expressed as a function of their associated latent variables.

Table 1 Construct correlations and descriptive statistics of measures (n=103)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>SD</th>
<th>( \rho_v )</th>
<th>( \rho_c )</th>
<th>( \alpha )</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PERSONAL</td>
<td>2.53</td>
<td>.91</td>
<td>.87</td>
<td>.93</td>
<td>.85</td>
<td>(.93)</td>
<td></td>
<td></td>
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<tr>
<td>2. CONTEXT</td>
<td>3.15</td>
<td>.97</td>
<td>.89</td>
<td>.94</td>
<td>.88</td>
<td>.45 (.94)</td>
<td></td>
<td></td>
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<tr>
<td>3. INFORM</td>
<td>2.42</td>
<td>.91</td>
<td>.77</td>
<td>.87</td>
<td>.70</td>
<td>.38 (.88)</td>
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<tr>
<td>4. ENTERTAI</td>
<td>1.86</td>
<td>.83</td>
<td>.90</td>
<td>.94</td>
<td>.88</td>
<td>.35 (.95)</td>
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<tr>
<td>5. ATTITUDE</td>
<td>2.61</td>
<td>1.06</td>
<td>.84</td>
<td>.91</td>
<td>.81</td>
<td>.31 (.92)</td>
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<tr>
<td>6. RECOMM</td>
<td>3.22</td>
<td>.97</td>
<td>.88</td>
<td>.93</td>
<td>.86</td>
<td>.12 (.94)</td>
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<tr>
<td>7. CREDIB</td>
<td>2.49</td>
<td>.92</td>
<td>.88</td>
<td>.93</td>
<td>.86</td>
<td>.18 (.94)</td>
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<tr>
<td>8. PRIVACY</td>
<td>2.87</td>
<td>1.20</td>
<td>.90</td>
<td>.95</td>
<td>.88</td>
<td>.26 (.94)</td>
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<td>9. ACCEPT</td>
<td>2.26</td>
<td>.93</td>
<td>.82</td>
<td>.93</td>
<td>.89</td>
<td>.29 (.90)</td>
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<tr>
<td>10. CONTENT (1-2)</td>
<td>-</td>
<td>-</td>
<td>.64</td>
<td>.87</td>
<td>.81</td>
<td>- -</td>
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<td></td>
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<tr>
<td>11. VALUE (3-4)</td>
<td>-</td>
<td>-</td>
<td>.69</td>
<td>.90</td>
<td>.85</td>
<td>- -</td>
<td></td>
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</tr>
<tr>
<td>12. NORMS (5-6)</td>
<td>-</td>
<td>-</td>
<td>.60</td>
<td>.86</td>
<td>.78</td>
<td>- -</td>
<td></td>
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<tr>
<td>13. TRUST (7-8)</td>
<td>-</td>
<td>-</td>
<td>.58</td>
<td>.85</td>
<td>.76</td>
<td>- -</td>
<td></td>
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<td></td>
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</tbody>
</table>

Note: SD = standard deviation; \( \rho_v \) = average variance extracted; \( \rho_c \) = composite reliability; Cronbach’s alpha (\( \alpha \)) = ((\( \Sigma_{h \neq h'} \text{cov}(x_h, x_{h'}) \))/\( \text{var}(\Sigma x_h) (p/(p-1)) \) [47]; square root of \( \rho_v \) on diagonal (in parentheses).

Discriminant validity was assessed by examining the correlation matrix of the constructs. According to Fornell and Larcker [21], satisfactory discriminant validity among constructs is obtained when the square root of the average variance extracted is greater than corresponding construct correlations. This implies that the variance shared between any two constructs is less than the variance shared between a construct and its indicators. For each pair of constructs, the square root of the average variance extracted exceeded their correlations, thus supporting the discriminant validity of the constructs.

4. Empirical analysis and results

Hypotheses were tested using the SmartPLS 2.0 developed by Ringle et al. [44]. PLS path modeling is a component-based SEM approach that does not require multivariate normal data and places minimum requirements on measurement levels [26, 47]. Moreover, the use of the PLS method is typically recommended in situations in which the sample size is small [23]. The sample size in the present study is 103, thus supporting the use of PLS. In addition, PLS is viable for analyzing predictive research models that are in the early stages of theory development [4], as is the model in the present study. Because PLS considers all path coefficients simultaneously and estimates multiple individual item loadings in the context of a theoretically specified model rather than in isolation, it helps to avoid biased and inconsistent parameter estimates for equations.

Both hypotheses were examined with full-sample using t-tests (df=186). First, PLS generates estimates of standardized regression coefficients for the paths in a structural equation model. Then, the bootstrap procedure approximates the sampling distribution of an estimator by resampling with replacement from the original sample, which is necessary to derive valid t-values. The analysis was conveyed using 1000 bootstrap replications as suggested by Chin et al. [8]. Structural equation model and the results of the analysis are shown in Figure 2.
The explanatory power of the model for the dependent construct was measured by using the squared multiple correlations value ($R^2$). As PLS does not provide overall fit indexes for the model, Hulland [26] suggests that researchers report $R^2$ values for all endogenous constructs included in their models. In the present study, the independent constructs explained 60% of the variance in intention to accept mobile advertisements, which is considered good for this kind of analysis.

PLS path modeling includes no proper single goodness-of-fit measure. However, to conclude our structural analysis, we calculate the goodness of fit (GoF) of the model using Tenenhaus et al.’s [47] global fit measure for PLS. By taking the square root of the product of the variance extracted of all constructs with multiple indicators and the average $R^2$ value of the endogenous constructs, we can calculate a fit measure ranging between 0 and 1. The measure was calculated using the second-order constructs and the dependent construct. According to the categorization by Cohen [10] and using .50 as a cut-off value for communality [21], the GoF criteria for small, medium, and large effect sizes are .10, .25, and .36. In our model, the GoF is .52, which indicates a good fit of the model to the data.

Table 1 Results of hypotheses testing (n=103, bootstrap samples=1000, df=186)

<table>
<thead>
<tr>
<th>H#</th>
<th>Relationship</th>
<th>Coefficient</th>
<th>t-value</th>
<th>p-value</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>VALUE $\rightarrow$ ACCEPT</td>
<td>.47</td>
<td>5.01</td>
<td>&lt;.001</td>
<td>Yes</td>
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<tr>
<td>H2</td>
<td>NORMS $\rightarrow$ ACCEPT</td>
<td>.37</td>
<td>3.65</td>
<td>&lt;.001</td>
<td>Yes</td>
</tr>
<tr>
<td>H3</td>
<td>CONTENT $\rightarrow$ VALUE</td>
<td>.60</td>
<td>10.45</td>
<td>&lt;.001</td>
<td>Yes</td>
</tr>
<tr>
<td>H4</td>
<td>TRUST $\rightarrow$ NORMS</td>
<td>.36</td>
<td>3.71</td>
<td>&lt;.001</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 2 lists the results for the hypotheses. As hypothesized, the subjective value of mobile ads (VALUE) has significant positive effect on consumers’ behavioral intention to accept (ACCEPT) mobile advertisements ($\beta=.47$, $p<.001$), thus supporting Hypothesis 1. Moreover, subjective norms (NORMS) has significant positive effect on consumers’ behavioral intention to accept (ACCEPT) mobile advertisements ($\beta=.37$, $p<.001$), thus supporting Hypothesis 2. In general, these findings support the arguments that both the perceived value and subjective norms are important predictors of consumers’ intention to accept mobile advertising. Furthermore, advertisement content (CONTENT) has significant positive effect on consumer’s subjective value (VALUE) of mobile ads. Thus, Hypothesis 3 is supported ($\beta=.60$, $p<.001$). Similarly, trust in the advertiser (TRUST) has significant positive effect on consumer’s subjective norms (NORMS) related to mobile ads. Also Hypothesis 4 is thus supported ($\beta=.36$, $p<.001$).

5. Discussion and Conclusion

Our study contributes to the literatures on mobile services by extending the scope of application of the Theory of Reasoned Action (TRA) to the field of mobile advertising. The findings suggest that TRA is applicable in predicting consumers’ behavioral intention to accept mobile advertisements. However, the present study extends the original TRA by emphasizing the role of subjective value in addition to subjective norms as a key predictor of the acceptance of mobile ads. The results underline the importance of appealing content and trust in the advertisers in the consumers’ behavioral intention to accept marketing messages. According to Bauer et al. [6], the communication of advertising content over mobile media can only be effective if consumers permit the continuous reception of advertising messages on their mobile devices.

The present study improves the understanding of marketers’ persuasive options. The findings are congruent with Heinonen and Strandvik [24] and Carroll et al. [52], who suggest that the acceptance of a mobile marketing message is likely to be influenced by the consumer’s acceptance of the mobile medium, the relevance of the content and the context of the marketing communication. According to their findings, messages that are concise, funny, interactive, entertaining and relevant to the target group usually achieve higher levels of success. It provides evidence of the underlying dimensions that are relevant in designing content of mobile advertisements, and, in increasing consumers’ trust in mobile advertisers. Our results suggest that these dimensions have a hierarchical structure, where the subjective value is preceded by personalized and context-sensitive content. The value itself is a component of informative and entertainment dimensions. This finding contributes to the TRA, which emphasizes the role of subjective norm in behavioral intentions. According to our results, subjective norms include consumers’ attitudes and peer recommendation, and are subject to trust towards the advertiser.

The results are relevant for both scholars and business practitioners interested in mobile services. For scholars, the study provides evidence on the antecedents of mobile advertisement acceptance and dimensions of consumers’ behavioral intentions by showing that the factors affecting consumers’ intention to accept mobile advertisement are multifaceted constructs that are products of a number of underlying attributes. The present study provides theoretical and methodological grounds for classifying these underpinnings. In particular, the results extend the TRA by highlighting the importance of focusing consumers’ subjective values in addition to subjective norms among the antecedents of behavioral intention. The present study conceptualizes subjective value in terms of the message’s information and entertainment value. For mobile advertisers, our findings explain the role of subjective values in getting through personalized and context-sensitive messages. In addition, the study underlines the significance of encouraging trust in terms of personal and social dimensions, and consumers’ perception of the advertiser’s credibility and the protection or safety of their private information.

Although the present study provides solid evidence of the roles of subjective value and norms in consumer behavior, it is not free from limitations. As our sample consisted of one hundred three respondents, caution needs to be exercised in generalizing the results. Moreover, the established higher-order constructs should be validated though other empirical methods and larger sample sizes. In addition, our data includes demographic control variables, but the empirical analysis did not consider possible differences among consumer groups in terms of age, gender, cultural background, and other characteristics.

6. References


