

# Influence of Various Factors on the Intended Use of Mobile Marketing Services

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*Abstract:* - The aim of this paper is to explore the usage potential of mobile marketing within the two aspects. The mobile marketing usage potential was examined from the perspective of 45 business organizations and 118 consumers, more specifically – students in Croatia. In both cases, surveys were grounded on the literature discussed in the theoretical part of the paper and the measurement scales of related studies were adapted and refined for the purposes of this research. Both questionnaires were distributed online with the aim to investigate the theoretical constructs such as perceived usefulness, perceived risk, normative beliefs and motivational factors, subjective norms, and the intention to use mobile marketing services. In the paper, the results of the analysis of internal consistency of measured scales, the regression analysis of measured scales, and the comparison of results obtained from two groups of respondents (i.e. business organisations and consumers) are presented.

*Key-Words:* - Mobile marketing, Mobile marketing services, Interactive ads, Mobile ads, Theory of Reasoned Action, Perceived risk of mobile marketing

## 1 Introduction

The expansion of mobile Internet occurred with the development of mobile communications technology, which consequently led to the development of mobile business. Development of mobile business thus opened space for mobile marketing. By using mobile marketing as a highly efficient communication channel to reach the end user, it is possible to achieve a direct and personalized access to the individual to whom the action is directed [30]. More importantly, it is possible to get immediate feedback on the success of the campaign which opens space for campaign management in real time (ibid).

The main potential of mobile marketing lies within the grand number of mobile phone users. According to a report by the Croatian Post and Electronic Communications Agency there were 6.362.106 active mobile devices in Croatia at the end of the year 2010 [9]. According to estimates from the International Telecommunication Union [17] at the end of 2011 there were 6 billion mobile subscriptions, equivalent to 87 percent of the world population.

Traditional marketing communication strategies are based on the interruption logic [14]. This means that the consumers are forced to momentarily pay attention. However, typical consumer today is

independent, individualistic, involved, and informed [22] which makes it harder than ever to conduct interruption-based communication. In mobile marketing, it is customary that prior to sending promotional materials to consumers' mobile devices, user should "opt-in", i.e. give their permission for receiving mobile ads [28], [12]. If the consumers have agreed to take part in the campaign, it would also be easier to reach them about offerings [14]. Therefore, the success of mobile marketing is based on interactivity and two-way communication between the business and the consumer, and obtaining authorization from potential consumers to be allowed to send promotional material.

There are several reasons contributing the continued growth of mobile marketing services: high global penetration of mobile devices [6], adoption of user friendlier mobile devices with larger screens [36] and higher connection speeds through 3G [28] and 4G.

There are two main categories of mobile marketing campaigns [15], [21], [31]: push and pull campaigns. In push campaigns, messages are sent unsolicited, while in pull campaigns other supporting media serving as trigger for customers' requests is required [25].

There are numerous types of mobile marketing, such as mobile portals, mobile WAP push banner

advertising, Bluetooth advertising, multimedia advertising, location based advertising, and one of the most important ones – SMS advertising (ibid). Mobile marketing is characterized by numerous advantages [13], [20] – e.g. mobile campaigns as opposed to traditional have no costs for printing coupons, sending mails, entering coupon feedback, hiring additional labour, etc. Further on, mobile marketing has the greatest reach to the end user since the location of the business and the user is not an obstacle because of the global mobile market coverage. Mobile device is the only medium that grants a continuous channel of communication with the end user, which leads to a situation where mobile marketing offers a direct access to the consumer. It is an extremely fast way of communicating with the consumers while at the same time it is the most reliable method of sending and receiving messages. On top of that, all the results are measurable. Mobile communication requires a relatively short preparation time for the campaign and is a flexible media format. The campaign can be adjusted “on the fly”, which is extremely important since it supports adding new elements to a campaign that is already active. The flexibility is also important with regards to the exceptional ease of processing the collected data.

The abovementioned advantages illustrate mobile marketing as an extremely promising marketing tool that:

- provides the opportunity to direct advertising messages to the customers in a lot better way than present mass media channels [7], [16],
- makes it ideal for individualized and dialogue-oriented communication [6].

As for mobile marketing statistics in Croatia, the numbers lag behind Western Europe’s, primarily because of the following [1]:

- High cost of mobile internet,
- High mobile operator fees,
- Early mobile operators monopoly,
- Conservative advertisers who prefer traditional methods of promotion, and
- Poor market education.

For the preparation of this paper, the research of mobile marketing potential was conducted with two groups of respondents. First, the usage potential of mobile marketing by business organizations in Croatia was researched. The study was conducted on a sample of 45 randomly selected organizations that have evaluated and filled out the online questionnaire. Secondly, the usage potential of mobile marketing services by consumers in Croatia was investigated. A convenient sample of 118

students attending third year of an undergraduate program of the Faculty of Economics in Split, Croatia was selected, representing consumers. They also submitted the questionnaire online.

The paper provides insight into the theoretical framework in the following, second section. The results of the research are presented in the third section, more specifically it brings the results of the internal consistency of measurement scales, the correlation of the evaluated theoretical constructs - regression analysis, and comparison of the results obtained on two groups of respondents - business organizations and students. The last, fourth section concludes the paper.

## 2 Theoretical framework and hypothetical research model

This paper has used a number of external theoretical sources with constructs and hypotheses related to the subject of our research. We adapted and used certain statements – out of the 24 questionnaire statements, 16 were taken from relevant literature and adapted to this specific research while others were prepared by the authors of this study.

Questions explore the theoretical constructs such as:

- Perceived usefulness of mobile marketing,
- Perceived risk of mobile marketing,
- Normative beliefs and motivational factors of mobile marketing,
- Subjective norms of mobile marketing, and
- The intention to use mobile marketing.

The constructs are shortly presented along with the hypothetical research model in the following.

### 2.1 Perceived usefulness of mobile marketing

Many authors claim that consumers would accept mobile marketing only if they would recognize own benefit from receiving promotional messages to their mobile devices [20]. The Information Economical Model of Communication provides a theoretical basis of this claim. The model assumes that the consumer is an active organism who makes conscious decisions on which marketing stimuli he would react. According to Kaas [18], during the process of decision-making, a consumer balances the perception of advertising in relation to other activities, but also selects the different sources of advertising, where time is the main limitation of this allocation problem. Consumer accepts

advertising stimulus only if its' marginal usefulness exceeds the marginal usefulness which results from using additional units of time to participate in alternative activities (ibid). This implies that the user's perceived usefulness towards mobile marketing is to be more positive if the user considers that the usefulness of mobile marketing is greater.

Another theoretical concept that offers an explanation of beliefs about the importance of mobile marketing as a precondition for its acceptance is the "uses and gratification approach". According to this concept, consumers consciously select and use the media and contents in order to meet their specific needs. Katz [19] has identified the following three categories of needs as the most important ones:

- "Needs related to strengthening information, knowledge and understanding";
- "Needs related to strengthening aesthetic, pleasurable and emotional experience"; and,
- "Needs related to strengthening contact with family, friends, and the world".

This knowledge allows the development of need for the usefulness perception derived from information economical model of communication. "Uses and gratification approach" implies that mobile marketing will be accepted by the consumers only if they perceive it as an opportunity to meet their own needs for information, knowledge and social acceptance.

## 2.2 Perceived risk of mobile marketing

Consumer behavior is heavily influenced by perceptions of risk [6]. Consumers are often uncertain when talking about the consequences of a certain decision or action [5]. Furthermore, consumers are trying to minimize risk rather than maximize usefulness. Subjective perception of risk by a consumer can thus significantly affect his or hers behavior [24]. This is especially important when talking about the adoption of an innovative product or service when consumers lack prior experience with it and find themselves in situations of high risk. Consumers try to reduce the risk associated with a particular decision or behavior, which sometimes may result in rejection of innovations.

The risk associated with mobile marketing is mainly perceived through personal data security. Users of new media services often tend to worry about data manipulation, unauthorized data access, and the unwanted usage tracking of certain services

by third parties. However, most of the consumers are particularly worried about keeping their privacy. By using mobile marketing, marketers are able to reach consumers anywhere and anytime. This characteristic provides the basis for personalized mobile marketing on one hand, while taking into account consumer's fear of invasion of privacy on the other hand.

Therefore, perceived risk can significantly affect consumer's intention of using mobile marketing as an innovative approach. The usual relation between the perceived risk and the intention to use mobile marketing services is negative.

## 2.3 Normative beliefs and motivational factors of mobile marketing

Normative beliefs reflect consumer perception of what most people who are important to the consumer think he or she should or should not do in relation to the observed object [4]. Relevant referents have a significant impact on consumers and their ideas by encouraging or preventing the execution of certain actions or manifesting certain behaviors [29]. Normative beliefs present consumer's perceptions about a particular behavior that is influenced by others assessments, or assessment of someone who is somehow connected with the consumer. This can be considered as a perceived environment pressure. Along with normative beliefs, motivational factors and the desire of consumers for consistent behavior under the influence of others were also measured.

For the purpose of this research, two basic units of measure were calculated as normative beliefs: friends and experts in terms of consumers and clients and experts in terms of the business organizations. The contribution of each of the referents was measured by motivational factors that the consumers have to submit to the ideas or wishes of that certain referent.

## 2.4 Subjective norms of mobile marketing

The concept of subjective norms reflects the existence of social explanations, and is recognized as a key concept of the Theory of Reasoned Action. A meta-analytic review of the Theory of Reasoned Action suggests that it has strong predictive usefulness across different conditions [32]. It has been widely addressed in different areas as business ethics, internet banking, product purchasing and many others.

Subjective norms are what makes the Theory of Reasoned Action take into account the elements of

social influence [33], where they monitor the impact of various people from the social environment on customer and on its intentions, behaviors and beliefs, depending on the extent at which each of their opinions and actions would affect certain attributes.

It is important to point out that this social aspect of subjective norms is based on the information provided from external in relation to observed consumer and its perceived pressure from the environment on taking certain actions or conducting certain behaviors. Furthermore, they can also be understood as a social pressure of the environment which an individual faces when deciding whether to take certain actions or not.

There are four different referents or groups used for the purposes of this research - referents that are considered relevant for the business organizations and the ones considered relevant for the consumers. The contribution of their opinions depends on the importance of each referent observed by the particular business organization or consumer.

### 2.5 The intention to use mobile marketing

The intention to use mobile marketing in this particular case is a construct that measures whether or not a consumer is planning to use mobile marketing technology.

This is a consumer's general feeling or a preference whether it is advisable to take certain actions or not [27]. The intention can be measured by providing an alternative to the consumer, and testing which alternatives the consumer plans to implement. Measure of intention can be a single criterion (e.g. that the consumer is likely to perform an action), or criteria with more features (e.g. voting in parliamentary elections).

The Theory of Reasoned Action has defined intention as the amount of effort that the consumer is willing to take to achieve a certain goal [2], or an action plan to achieve a particular goal [3]. In

essence, the intentions can be thought of as goals or expected values that are the result of a conscious process which requires time and consideration, while focusing on the consequences [23]. The aim of these assumptions is to predict consumer behavior.

### 2.6 Hypothetical research model

Using the theoretical framework outlined in the previous chapters, we formed a hypothetical model of this research. From this model illustrated in Figure 2, it follows that subjective norms and normative beliefs and motivational factors positively correlate to perceived usefulness, while perceived usefulness positively correlate to the intention to use mobile marketing. Also, the assumption is that the perceived risk negatively correlates to the intention to use mobile marketing. For the purpose of statistical analysis, this model can be observed as two separate models, which will be shown in sections below.

### 2.7 Research hypothesis

Based on the theoretical framework outlined in previous chapters, and the illustrated hypothetical model, following research hypotheses were formed:

*H1: Normative beliefs and motivational factors of mobile marketing are positively correlated to perceived usefulness of mobile marketing.*

*H2: Subjective norms of mobile marketing are positively correlated to perceived usefulness of mobile marketing.*

*H3: Perceived usefulness of mobile marketing is positively correlated to the intention to use mobile marketing.*

*H4: Perceived risk of mobile marketing is negatively correlated to the intention to use mobile marketing.*

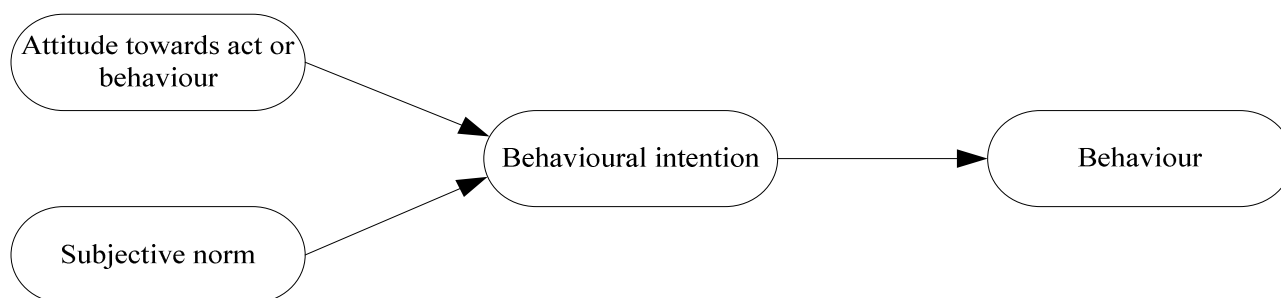


Fig.1 Modified Theory of Reasoned Action model [11]

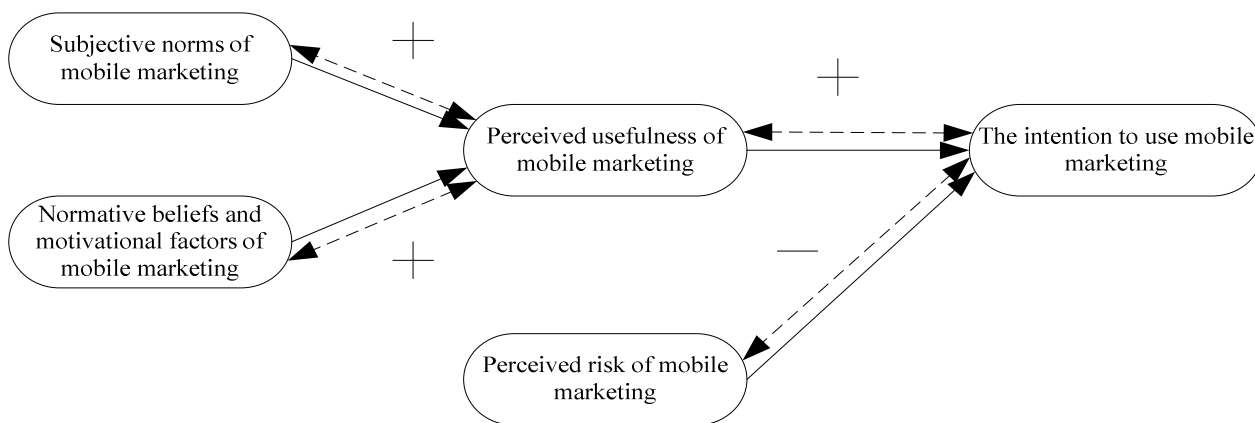


Fig.2 Hypothetical research model

### 3 Research results

With regards to the results of the research first detailed information about the conducted research is given followed by the results of the internal consistency of measurement scales. Then the correlations of the evaluated theoretical constructs using regression analysis are presented followed by the comparison of the results obtained on two groups of respondents - business organizations and students.

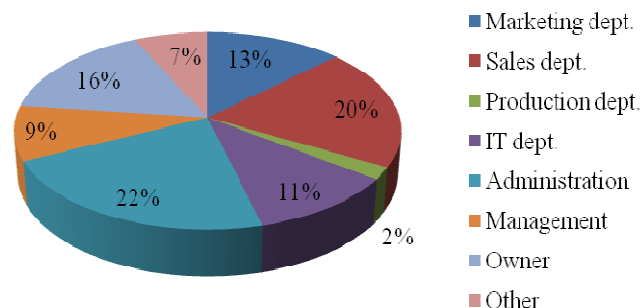


Fig.4 Structure of employees who answered the questionnaire for the business organization

#### 3.1 Research implementation

The research included examining the potential of mobile marketing services for both business organizations and consumers. When talking about business organizations, research was conducted on a sample of 45 companies presented graphically in Figure 3.

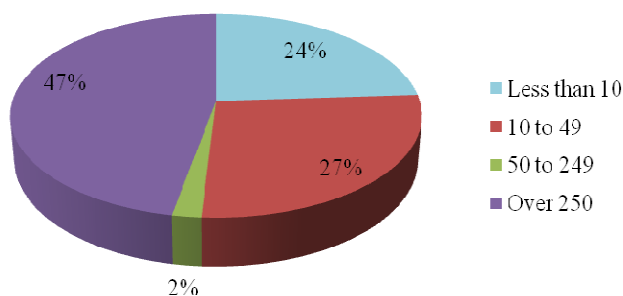


Fig.3 Business organizations employee structure

Most of the business organizations that participated in the research have 250 or more employees.

The questionnaire was filled out mainly by administrative staff. The structure is illustrated in Figure 4.

Furthermore, 118 third year undergraduate students of the Faculty of Economics in Split, who represented consumers participated in the research. Each of the students surveyed own a mobile device, and all regularly use the Internet. Also, 98% of the students own a personal computer or laptop. The gender structure of respondents was almost equal, and is illustrated in Figure 5.

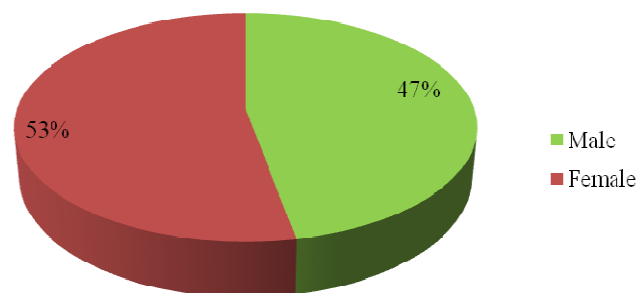


Fig.5 Gender structure of student participants

Standard 5-point Likert scale was used in both questionnaires, with gradation presented below:

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree

Statistical analysis was performed using SPSS program package, while the questionnaire was delivered online. Further on the questionnaire is presented in detail. It is the one that was used for surveying business organizations, while the questionnaire for students is just an adopted version of the one presented hereinafter.

Perceived usefulness of mobile marketing is surveyed using statements:

- By using mobile marketing services, we would provide our customers timely information.
- By using mobile marketing services, we would provide our customers exclusive information.
- Mobile marketing services personalized to profile of our customers are interesting for us.
- By using mobile marketing services as a direct marketing channel, we would demonstrate our customers and competitors our innovativeness.
- We believe that our company can benefit by using personalized advertising via mobile devices.
- By using mobile marketing services, we achieve multiple benefits for our company.
- Use of mobile marketing services would fit the business image of our company.

Perceived risk of mobile marketing is surveyed using statements:

- We believe that there is a risk of personal data misuse when using mobile marketing services.
- We believe that there is a risk of receiving unwanted content for our customers when using mobile marketing services.
- We believe that there is a risk of compromising the privacy of our customers when using mobile marketing services.
- We believe that there is a risk of unwanted charges for our customers when using mobile marketing services.

Normative beliefs and motivational factors of mobile marketing are surveyed using following statements:

- If our clients would recommend the use of mobile marketing services, we would accept this proposal.
- If experts would recommend the use of mobile marketing services, we would accept this proposal.
- If our business partners would recommend the use of mobile marketing services, we would accept this proposal.
- If the use of mobile marketing would mean achieving additional savings for our company, we would accept that.

Subjective norms of mobile marketing are surveyed using statements:

- The companies in our business environment prefer direct and interactive types of marketing, such as mobile marketing.
- Our business associates believe that the use of mobile marketing would be useful.
- Our business associates believe that the use of mobile marketing services would be interesting.
- Our business associates believe that by using mobile marketing services, they would achieve additional savings when purchasing goods and / or services.

The intention to use mobile marketing is surveyed using statements:

- We intend to periodically use mobile marketing services as a part of our marketing campaigns in the future.
- We intend to routinely and regularly use mobile marketing services as a part of our marketing campaigns in the future.
- We intend to offer our customers a free application for receiving promotional content of our company on their mobile devices.
- We intend to organize SMS award competitions in the future.
- We intend to recommend the use of mobile marketing services to our business partners.

Descriptive statistics of the obtained results are presented in Table 1. Mean values of the surveyed business organizations and consumers score the maximum value at the perceived risk of mobile marketing. When talking about the lowest mean values, they are mostly noticed at the intention to use mobile marketing within the sample of business organizations, and at the perceived usefulness of mobile marketing within the sample of consumers.

Table 1. Descriptive statistics of theoretical constructs – mean and standard deviation (S denotes number of statements within a single construct)

	S	Business organizations		Consumers	
		MEAN	ST.DEV	MEAN	ST.DEV
<b>The intention to use mobile marketing</b>	5	2.902	1.013	2.736	1.018
<b>Perceived usefulness of mobile marketing</b>	7	3.231	1.023	2.663	1.019
<b>Perceived risk of mobile marketing</b>	4	3.633	0.745	3.512	0.951
<b>Normative beliefs and motivational factors</b>	4	3.444	0.972	2.900	0.908
<b>Subjective norms of mobile marketing</b>	4	2.922	0.827	2.897	0.861

### 3.2 Internal consistency of measurement scales

In statistical studies, internal consistency is a common measure based on correlations between different particles of the same construct measuring whether several statements suggested by the same construct provide similar results.

Internal consistency ( $\alpha$ ) is usually measured by Cronbach's alpha test - statistics calculated from the correlation between items ranging between zero and one. It is generally accepted rule that the value of  $\alpha$  from 0.6 to 0.7 is acceptable, while 0.8 or more indicates very good reliability. High reliability (0.95 or more) is not necessarily desirable since it may indicate that some items of the same construct can be fully redundant [10].

The goal in designing a reliable instrument for the achievement of relevant results is that the items are well-connected and internally consistent, but also that every item contributes with unique information.

As explained in previous sections, five theoretical constructs were defined in this paper. Cronbach's alpha test points out that the items are well connected and that the value of  $\alpha$  is above 0.7 for every of the five theoretical constructs.

The highest internal consistency was achieved with perceived usefulness of mobile marketing when talking about both business organizations ( $\alpha=0.95$ ) and students ( $\alpha=0.886$ ).

The lowest internal consistency was found with perceived risk of mobile marketing when talking about business organizations ( $\alpha=0.826$ ) and at normative beliefs and motivational factors of mobile marketing when talking about students ( $\alpha=0.751$ ).

### 3.3 Regression analysis of the tested hypothetical model

Regression analysis is a statistical tool for investigation of relationship between variables [34], [26].

With regards to the regression analysis, parts of the hypothetical model were considered separately as follows:

- the correlation of subjective norms and normative beliefs and motivational factors on perceived usefulness
- the correlation of perceived usefulness and perceived risk on the intention to use mobile marketing.

Regression analysis was carried out on gross results of measurement scales. The two sub-models with their regression analysis,  $R^2$  and standard beta coefficients are shown in Figure 6 and Figure 7.

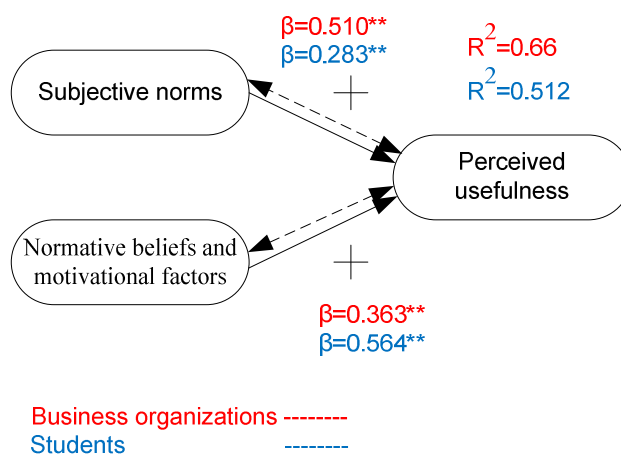


Fig. 6 Standard beta coefficients and  $R^2$  for regression analysis of the first sub-model

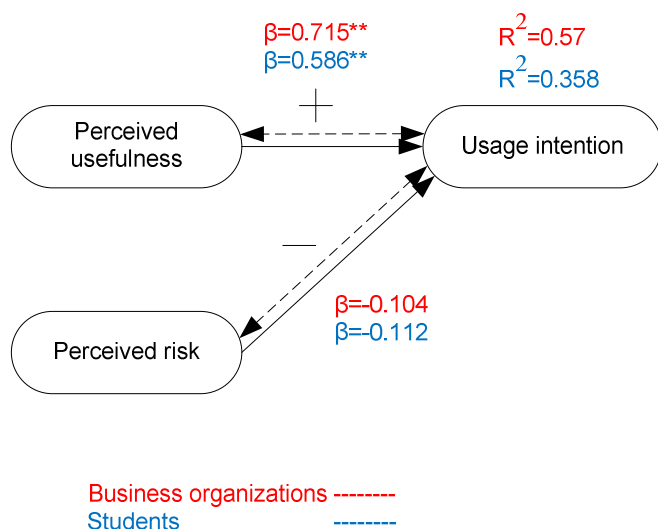


Fig. 7 Standard beta coefficients and  $R^2$  for regression analysis of the second sub-model

R-square or coefficient of multiple determination represents the dependent variable variance share explained by the models.  $\beta$  denotes regression coefficient showing the average change in dependent variable when the correspondent independent variable is increased by 1. Group test of the regression models' significance (p-value of the empiric F-ratio in the ANOVA table) was 0.000, which means that the regression models are statistically significant.

## 4 Conclusion

As can be seen from the statistical analysis in the previous sections, positive correlation of the following hypotheses as suggested by the hypothetical model were demonstrated:

H1: Normative beliefs and motivational factors of mobile marketing are positively correlated ( $\beta=0.363$  and  $\beta=0.564$ ) to perceived usefulness of mobile marketing.

H2: Subjective norms of mobile marketing are positively correlated ( $\beta=0.510$  and  $\beta=0.283$ ) to perceived usefulness of mobile marketing.

H3: Perceived usefulness of mobile marketing is positively correlated ( $\beta=0.715$  and  $\beta=0.586$ ) to the intention to use mobile marketing.

However, negative correlation of the last hypothesis was not found statistically significant:

H4: Perceived risk of mobile marketing is negatively correlated to the intention to use mobile marketing.

Comparison of the results obtained from the literature on the basis of which the questionnaire was composed with the results of this paper is very

difficult since it still is not the same model, questions were adapted for the purpose of this research, and additional questions were added. However, it is interesting to point out that Bauer and his colleagues [6] demonstrated that all the hypotheses that can be compared with the hypotheses from this study, including hypothesis H4 about the negative correlation of perceived risk to the intention to use mobile marketing services were found statistically significant. This was though not the case in this study when talking about the last hypothesis.

However, when discussing findings of other available studies, the situation is somewhat different. Chuang [8] failed to prove the positive correlation of subjective norms to the intention to use mobile marketing services, while in this paper such hypothesis was indirectly proven. What's more, they have proved all the other hypotheses that are comparable with the hypotheses from this paper, but have not tested the impact of perceived risk on the intention to use mobile marketing services by any means.

Our research found that subjective norms, normative beliefs and motivational factors, all have positive relation with the perceived usefulness of mobile marketing services. It is therefore clear that friends and experts (i.e. business partners and experts depending on whether we consider consumers or business organizations researched) play perhaps the most crucial role in the implementation of mobile marketing services. In this case, they represent a form of a social impact.

Faced with the new technology, individuals and business organizations must first consult the opinion makers, i.e. their business partners, relatives and experts (depending whether we are considering business organizations or consumers), and their perception becomes crucial in forming the opinion about mobile marketing services. This indicates that a consumer or a business organization usually goes along with and keeps track about their opinions and advices, and absorbs them. Moreover, there are simply too many new technologies on the market nowadays, making it quite logical that individuals and business organizations need the help of experts when making decisions about implementation.

In addition, this research proved that the perceived usefulness of mobile marketing services has a significant positive correlation to the intention of using the services of mobile marketing. As a consumer or business organization is deemed to benefit more from the application of mobile marketing services, it is also a greater chance that they would implement those services.



Although the negative correlation between perceived risk and the intended use of mobile marketing services has not been empirically proven, increased perceived risk still can negatively affect the intended use of mobile marketing services. It is assumed that the correlation is indirect and therefore it was not proven in this model. This is why it is considered that more time should be devoted studying the perceived risk of mobile marketing in future.

According to similar research the all-dominant questions concerning mobile marketing in future will be [35]:

- how can marketers convince customers to divulge personal information, in particular their preferences, and
- how must a mobile marketing campaign be developed, so that consumers pass messages on to other people.

The marketing potential of mobile devices is still not a fully explored area, and it was not possible to analyze all of the aspects in this paper. However, the presented research and facts clearly show the future trends and frameworks for the expansion of mobile marketing.

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