ANALYTICAL VIEW ON THE USE OF MOBILE PLATFORMS IN PURCHASING PROCESS

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Abstract

The presented study deals with the issue of efficient use of e-commerce tools. In particular, it deals with claims on effective e-marketing mix at a time when factors such as interactivity and mobility are becoming prominent determinants of success. Mobile platforms, however, are used only to a limited extent on the analysed market. The study aims to describe the state of researched issue on the reference markets using analysis of secondary data and then expound on the purchasing behaviour of existing and potential customers, predominantly in the Central European market, through the analysis of primary data. It also aims to specifically identify and describe their preferences in relation to the use of mobile platforms in order to obtain information about products, or even make a purchase. Based on the information in academic literature, the collection of primary data was aimed at the most active group of existing, as well as potential customers - generation Y customers (i.e. born between 1980 and 1995). Habits and preferences of selected customers were identified by data analysis; those were then compared with the selected habits of customers on reference markets. Based on specific findings, recommendations for business entities active on the researched market were formulated in the conclusion of this study.

1. Introduction

The phenomenon of using interactive technology in marketing can be observed for several decades. The rate of modern technology usage within an effective marketing mix shows a growing trend [1]. The phenomenon can be observed in entities active in almost every field related to the development of new products, cost optimization, efficient distribution policy, or communication of messages to the target market. These entities are dominant on the market, but it is not uncommon to see this trend with entities such as non-profit or religious organizations [2]. Mobile marketing is currently considered to be one of the fastest growing forms of marketing communication within the B2C model, i.e. organization-customer model of communication. This is one of the main reasons

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why many organizations try to incorporate mobile platforms into their portfolios of marketing activities and get the most out of them [3].

2. Current state of knowledge of the analysed issue

Platform which we use for communication and interaction are increasingly diverse [4]. Most users currently access the Internet using their mobile phones or tablets [5]. This has contributed to the development of mobile marketing. Mobile marketing is regarded as a form of marketing communication, which is displayed on mobile devices [6]. Kaplan [7] defines mobile marketing as any marketing activity conducted through a ubiquitous network to which consumers are constantly connected using personal mobile devices. Another view on the issue offer Becker and Arnold [8]. They define mobile marketing as the sum of practices that enable organizations to communicate and engage their audience in an interactive and relevant manner through a mobile device or network. Mobile commerce is a concept in which products are sold and purchased via mobile devices [9] and constitutes mobile devices usage within a business operation [10]. Samuelsson and Dholakia [11] further argue that mobile business provides opportunities to reach customers on more locations for the purpose of personalization of services offered in a new way. The rate of growth of mobile commerce on developed markets reached 71% in the last year compared to 2012, when the turnover of 30.5 billion USD [12] was reached. However, it is important to note that one of the most critical factors affecting the success of mobile marketing is how well marketing experts know and understand a wide range of tasks that customers carry out in their personal as well as professional lives [13]. Because consumers - demand side - use mobile devices, pressure is created on the offer side. Organizations under market pressure are forced to adapt their communication channels so as to be able to quickly and efficiently display information on smaller screens of mobile devices [14]. According to Tan [9, p. 75] a mobile optimized website is the one that allows a smooth displaying on a mobile device. For this purpose, a mobile version of a website or responsive design can be created [15]. Mobile version of a website is a simplified website customized for requirements of mobile devices. It is usually located on a separate subdomain [16]. It is simplified because users accessing it are usually only interested in certain parts of it, not its full contents [17]. On the other hand, responsive web design means that content of a website fits the screen size of a used device [18]. Responsive design is usually a better choice as it performs well on all devices and requires less maintenance in the medium term [19]. At present, in addition to optimized websites, mobile applications reflecting content of a website are also used for B2C communication. These applications are designed to meet user requirements addressed to companies that provide these applications [20]. According to Grant and Meadows [21] the use of mobile wallets is, mobile banking and mobile shopping is on the rise. Because many customers buy products online, providing a mobile application can improve their experience with a positive effect on the

purchasing behaviour [22, 23]. Amazon, for example, provides a purchasing application for its customers [24]. Speaking of mobile applications, it is important to note that for advertisers they represent a new place for their advertising [25]. Advertising in a mobile application is a form of interactive promotion, which is displayed in a mobile application in various forms [26]. Based on the information in academic literature [27-31], as well as business practices we can say that mobile marketing is a certain degree of mobile commerce. However, in spite of the growing number of academic research, the overall summary on mobile marketing is not as consistent and somewhat fragmented. In geographical conditions of the Central European market this is a relatively new phenomenon. Available data come largely from research conducted in Anglo-Saxon countries. The Salesforce survey [Salesforce, *2014 Mobile Behavior Report: Combining mobile device tracking and consumer survey data to build a powerful mobile strategy,* http://www.exacttarget.com/ sites/exacttarget/files/deliverables/etmc-2014mobilebehaviorreport.pdf] was carried out on a sample of 470 users, of which 265 used smartphones only, and the remaining 205 used smartphones and tablets. The data were collected between 15 December 2013 and 15 January 2014. 85% of respondents of this survey replied that mobile devices are a central part of their daily lives. It is up to 90% within the age group 18-24. 76% of smartphone users search for information using a mobile web browser. The survey found that 80% of mobile users subscribe to a newsletter in order to get coupons. 63% of respondents can get such coupons following company profiles on social networks.

In January 2014 Inmar Organization [Inmar, *2014 Coupon Trends Report*, 2014, http://go.inmar.com/rs/inmar/images/Inmar_2014_Coupon_Trends_ Report.pdf] conducted a survey of 1,091 respondents aged 18 to 69 years. According to the survey 66% of users, who expressed an interest in digital coupon, use smartphones. 44% of respondents would like to be able to submit a coupon when buying using a mobile phone. 39% of respondents would like to receive coupons for goods which they purchase regularly, directly on their mobile phones. The Ashraf and Kamal [32] survey was conducted on a sample of 164 respondents from universities in Islamabad and Karachi. The data were collected between December 2009 and January 2010. The results of this survey say that innovativeness of consumers positively influences their attitude toward mobile marketing. Mobile devices are therefore accepted as a promotional medium.

Google Shopper Marketing Council [Google shopper marketing council, *Mobile In-Store Research: How in-store shoppers are using mobile devices*, 2013, http://www.marcresearch.com/pdf/Mobile_InStore_Research_Study.pdf] conducted a survey between October and December 2012 on a sample of 1,507 smartphone owners. 62% of standard customers using smartphones indicated that they use their smartphones as an assistant when buying at least once a month. 17% of customers using smartphones indicated that they use their smartphones for purchasing at least once a week, while agree that use their smartphones for products research. 90% of respondents said they used their

mobile phones for pre-purchase activities. The survey further claims that comparing prices during purchase is the most common activity across all categories.

3. Objectives and methods

The study aims to describe the state of researched issue on the reference markets using analysis of secondary data and then expound on the purchasing behaviour of existing and potential customers, predominantly in the Central European market, through the analysis of primary data. It also aims to specifically identify and describe customer preferences in relation to mobile platforms usage in order to obtain information about products, or even make a purchase. By decomposing the primary objective, the following partial objectives were formulate: Firstly, the aim was to ascertain the ratio between the use of mobile platforms (represented by devices such as smartphones or tablets) and the use of classical electronic platforms (represented desktop computers or laptops) within a selected customer group on the selected market while making the actual purchase decisions in any of the steps of the shopping process (the purchase might not have been made and a mobile phone or tablet could only serve as a source of information about a purchased product). Further, to determine whether there is a statistically significant correlation between the ratio of platforms usage (classical electronic platforms as opposed to mobile platforms) and purchasing products using mobile platforms. Finally, the objective was to identify, what product categories respondents purchase using mobile platforms on the selected market. A questionnaire survey was carried out in order to collect empirical material. The questionnaire was designed using Google's online platform and included a total of 9 questions, seven of which were closed questions, one was an open and one a semi-open question. Distribution of the questionnaire was conducted via Facebook. The basic group consisted of all Internet users on the researched market. The sample was extracted from the core set nonrandomly. Based on the information in academic literature [33], the collection of primary data was aimed at the most active group of potential customers - generation Y customers (i.e. born between 1980 and 1995). For purposes of the analysis the sample consisted of full-time and part-time students of the Faculty of Management of the University of Prešov, Faculty of Economics and Faculty of Electrical Engineering and Computer Science of the Technical University in Košice who by the time of the survey owned a Facebook profile, and at the same time were members of at least one of several dozens of visible groups connected with a given faculty on Facebook. The participants formed a selected sample of potential, as well as existing customers actively using the Internet and social networks, localized on the target market. For further processing, the chosen respondents were classified, based on their age, as being part of the Generation Y group (i.e. born between 1980 and 1995). The selection of respondents was a prerequisite for accurate unification of subsequent recommendations with the respect to a specific customer group. The

survey was conducted during January 2015. Microsoft Excel 2010, and StatSoft STATISTICA 12 were used for processing and evaluation of the questionnaire survey.

4. Results and discussion

Total of 413 respondents participated on the survey, and 331 respondents were selected for further processing (members of the Generation Y group based on age). 214 women and 117 men took part. The age of respondents ranged between 20 and 28 years, while the average age was 23.21 years. The median was at 23 years and the resulting standard deviation was 1.96.

4.1. Share of device usage

As shown in Figure 1, only 1.81% of respondents used exclusively desktop or mobile devices/platforms during the actual purchase decisions in any of the steps of the purchasing process. On the other hand, mobile and desktop devices use up to 54.69% of the respondents. Based on Figure 3 it is clear that, regardless of the share of usage, 98.19% of respondents use mobile devices.
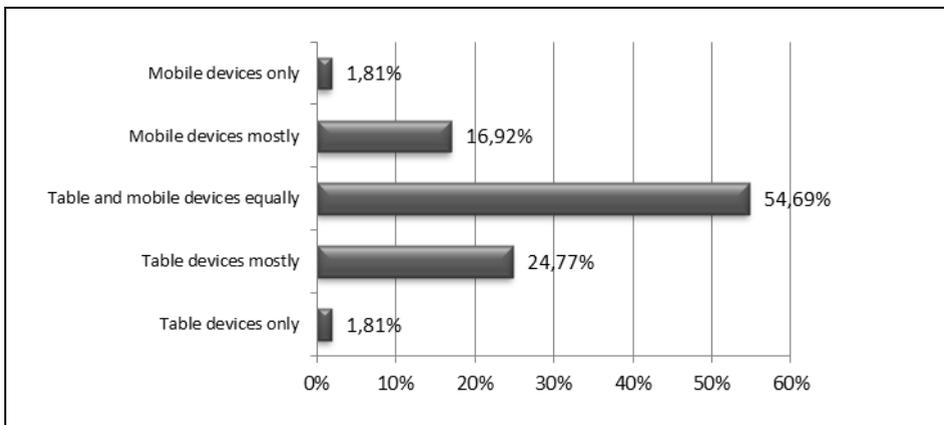

Figure 1. Share of usage of desktop and mobile devices among the respondents.

In practice, this means that if a target group of business entities corresponds with the identified research sample, those business entities, when conducting online marketing and business activities, should provide an equal experience for customers (existing or potential) using desktop computers and customers using mobile devices. This finding is, moreover, supports the fact that following customers' purchase paths using digital analysis is more difficult due to the fact that customers often accesses a website on different devices.

4.2. Purchasing products using mobile platforms

This partial objective aimed to determine whether there is a statistically significant correlation between the ratio of platforms usage (classical electronic platforms as opposed to mobile platforms) and purchasing products using mobile platforms. Is, thus, the increased usage of mobile phones/tablets a prerequisite for customers making purchases using their mobile phones? In order to verify this the following hypothesis was tested on the level of $\alpha = 0.05$: H1: There is a statistically significant correlation between the ratio of platforms usage (classical electronic platforms as opposed to mobile platforms) and purchasing products using mobile platforms.

As shown in Table 1, based on Kendall-tau coefficient that we calculated, the H1 hypothesis will be rejected at the significance level of $\alpha = 0.05$. There is no statistically significant correlation on the chosen level of significance between the ratio of platforms usage (classical electronic platforms as opposed to mobile platforms) and purchasing products using mobile platforms. It is possible to follow certain dependence among the variables tested. This dependence is, however, relatively small.

Table 1. Correlation matrix, Kendall-tau coefficient.

	Purchasing using mobile platforms	Ratio of platforms usage
Purchasing using mobile platforms	1.000000	0.222068
Ratio of platforms usage	0.222068	1.000000

4.3. Purchasing using a mobile platform

The analysis showed that in the past more than 65% of respondents made a purchase using mobile platforms. As shown in Figure 2, respondents most often purchased tickets or plane tickets using their mobile phones. 31.42% of respondents marked this option. The second item most frequently purchased using mobile platforms was clothing, shoes and accessories that 29.61% of respondents purchased.

Businesses intermediating transport services and entities predominantly oriented on sale of clothing should, due to the preferences of their customers, consider spending additional resources in order to achieve continuous improvement of optimizing their websites for mobile devices. The third most commonly purchased item were books. 16.92% of respondents purchased books using this method. Respondents purchased financial products (5.44% of respondents), gift certificates (4.23% of respondents) and furniture and home decorations (2.42% of respondents) least frequently using mobile platforms. For a better understanding of the researched market, the measured data were divided based on the gender of respondents. They are graphically presented in a spider chart. As Figure 3 indicates, substantial differences between the sexes with

respect to their shopping preferences occur only in the categories of cosmetics and electronics. Purchasing preferences between the sexes exhibit a rather homogeneous nature.
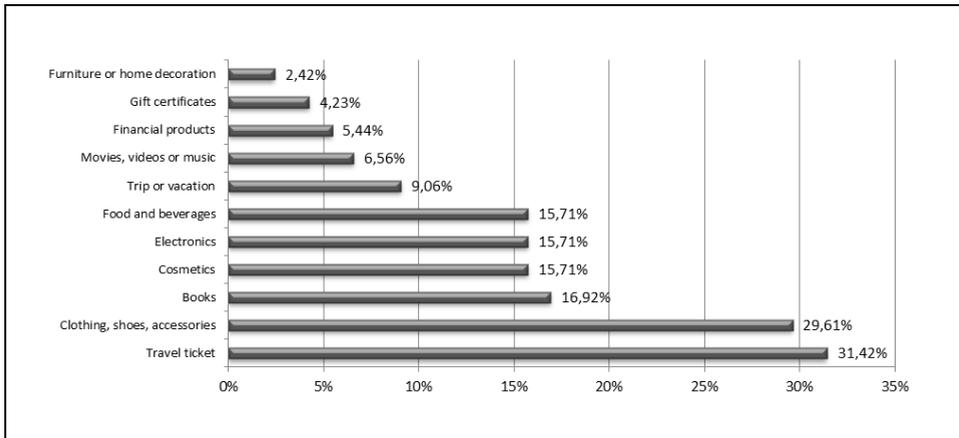

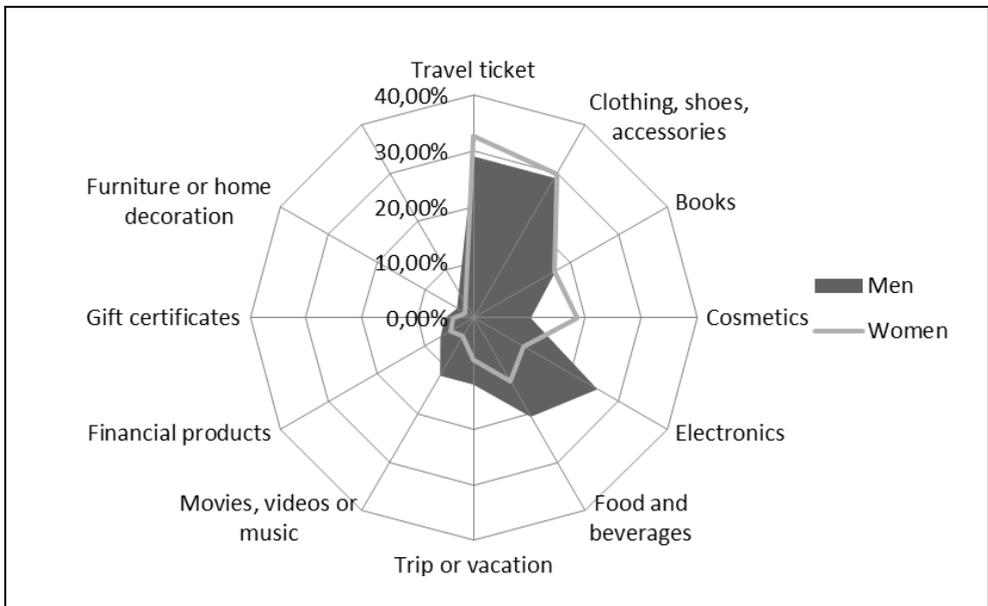**Figure 2.** Categories of products purchased using mobile platforms.

Figure 3. Categories of products purchased using mobile platforms based on gender.

5. Conclusions

In this paper was analyzed the usage of mobile platforms (particularly mobile phones and tablets) by Generation Y consumers. The basic theoretical starting points at the beginning of work described electronic marketing and e-commerce with the focus on mobile platforms. Based on the theoretical

background questionnaire survey was conducted with the aim to identify consumer behaviour and consumer preferences of the selected sample of respondents. Geographical location of the conducted survey contributes to the shift of the knowledge level of the given issue especially in the view of the continuity of analysis of surveys already conducted, such as: Inmar [http://go.inmar.com/rs/inmar/images/Inmar_2014_Coupon_Trends_Report.pdf] Salesforce [http://www.exacttarget.com/sites/exacttarget/files/deliverables/etmc-2014mobilebehaviorreport.pdf] and Google Shopper Marketing Council [http://www.marcresearch.com/pdf/Mobile_InStore_Research_Study.pdf]. The researchers found that up to 98.19% of respondents use mobile devices. Based on this finding, the authors appeal to organizations that target customers aged 20 to 35 to consistently optimize their online content for mobile devices. It was found that 66.47% of the respondents made a purchase using their mobile phone. Compared with the results of Google Shopper Marketing Council the value found by our research is higher by almost 250%. Using mobile phones respondents most frequently purchased tickets and flight tickets (31.42%), clothing, shoes, accessories (29.61%) and books (16.92%). Based on the statistical testing it was shown that there is no statistically significant correlation between the ratio of platforms usage (classical electronic platforms as opposed to mobile platforms) and purchasing products using mobile platforms. The analysis indicates that during the process of evaluating websites performance digital analyses, when considering mobile devices performance, cyber marketers should have not made decisions solely on the basis of operations conducted by mobile devices. Even though users use their mobile phones / tablets intensely, during the actual purchase using this device/platform might ultimately not feel comfortable. Instead, they can make the purchase using a desktop computer or physically in a store. The conducted questionnaire survey also has its limitations: particularly, location and sampling of respondents. Close geographic targeting of the questionnaire survey in combination with the chosen age structure of respondents could have resulted in differences in the preferences of the sample when compared with the data recorded for the reference markets through Google Shopper Marketing Council surveys. Due to the geographic location of our analysis, however, the established connections are more so relevant, especially for local businesses and organizations operating predominantly in the Central European market.

Acknowledgement

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Self-service platforms use AI to improve interactions with customers, make sense of customer journeys, yield more relevant information and ease the transition to human agents when required, explained Chris Bauserman, vice president of segment and product marketing at CX platform maker Nice inContact. Voice and text chat interfaces promise to increase the use of self-service channels on mobile devices and help resolve customer issues faster. On the other end of the process, AI-enabled self-service tools can improve the agent experience as well. "When a customer interaction needs to be leveled up past the point where self-service tools can address it," Bauserman said, "the platform should enable a seamless transfer to an agent-assisted experience." Microsoft is the only platform out there currently which allows you to distribute you application through the Windows Store and yet allow developers to process their own payments directly inside of the application. Check out the MSFT App Developer Agreement Clause 4e) - In-App Commerce. You may elect to support purchasing options from within your app. You are not required to use Microsoft's commerce engine to support those purchases. Hence as a consumer you are allowed to build and process your own, or use someone like Lotaris http://www.lotaris.com/windows8- which specializes in licensing