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Mobile social commerce solutions – An exploratory study about consumer behavior in a Hungarian context

In the digital economy, the development of e-commerce is continuous, with additional opportunities offered by mobile commerce (m-commerce). The aim of this study is to analyze, in the frame of an online survey, the relevance of different m-commerce solutions in Hungary (as compared with China), and the possible intentions to use m-commerce applications. Moreover, the effect of word-of-mouth on mobile social media platforms on consumers' intention to purchase and post-purchase behavior are analyzed. Based on the results, before the launch of social m-commerce applications, consumers' education and training seem to be very important, before potential users can adopt these new solutions.

1. Mobile Social Commerce and Consumer Behavior

Recent achievements in the development of global information and communication technologies led to the formation of a global electronic environment for economic activity that, in turn, opened new opportunities for organizational and institutional design in business and other spheres of social and economic activities. The general factor of production has become information and communication technologies (ICT). One of the processes of formation of a digital economy is the shift of various types of social and economic activity – through the use of ICT – into the digital environment (cf. e-commerce). The economy which functions based on electronic goods and services, launching electronic businesses and electronic commerce, and using electronic money, carries the name of electronic or digital economy. To this definition such directions of e-economy as e-government, e-media, and e-learning may be added (Berdykulova et al., 2014; Péter et al., 2017).

One of the most effective marketing activities is turning experiences into a brand. Effective marketing tools may include a suitable website, PR, search engine optimization, leaflets, brochures, online advertisements, souvenirs and other branded products, but the major factor is the satisfied guest, which requires an appropriate organizational structure (Péter et al., 2017).

E-commerce uses a website to transact or facilitate the sale of products and services online. Online retail sales have exploded in recent years. Online retailers can predictably provide convenient, informative, and personalized experiences for vastly different types of consumers and businesses. By saving the cost of retail floor space, staff, and inventory,

online retailers can also profitably sell low-volume products to niche markets. Online retailers compete in three key aspects of a transaction: customer interaction with the website, delivery, and ability to address problems when they occur. Although business-to-consumer (B2C) websites have attracted much attention in the media, even more activity is being conducted on business-to-business (B2B) sites, which are changing the supplier–customer relationship in profound ways (Kotler – Keller, 2012).

Mobile commerce is defined as the buying and selling of goods and services through mobile devices via wireless networks. M-commerce has some advantages over its predecessor, since users may conduct transactions on the Internet at any time, from anywhere. Also, it offers completely new possibilities, like location-based services. Consumers' intention to use mobile commerce applications are important: Liébana-Cabanillas et al. (2017) examined six potential predictors of behavioral intention, like usefulness, ease of use, trust, mobility, customization and customer involvement, and they conclude to emphasize the importance of customization, customer involvement and trust for creating behavioral intentions to use mobile commerce applications. Raphaeli et al. (2017) highlighted the different consumer behavior in case of PC and mobile devices during online purchase, and they found that consumers on mobile devices tend to focus more on task-oriented goals, so their needs require to be satisfied by more pragmatic, focused applications and options from the aspect of e-commerce solutions. Especially the aspect of trust is very important, especially when it comes to the use of new services or services that require high financial value (Liébana-Cabanillas et al., 2017). Cozzarin and Dimitrov (2016) analyzed the effect of perceived risk on consumers' online purchase decisions, and they found that this risk is connected to purchase decisions, therefore risk connected to trust in mobile devices affects actual consumer behavior.

Social media can be defined as the new media technologies facilitating interactivity and co-creation that allow for the development and sharing of user generated content among and between organizations and individuals. Social media consists of internet-based applications and core concepts that build on (but are not exclusive to) web 2.0 and allow online interaction among users to communicate with each other to create, transform, and share content, opinions, perspectives, insights, media, relationships, and connections. Social media is a pool of various two-way communication platforms that enables the free flow of ideas, information, and values on the internet (Csordás et al., 2014).

But the importance of this media comes from the fact that people increasingly look at social media applications as an important part of their daily life and more likely to move their interactions to the virtual platforms. Social media applications have been observed as one of the most efficient and influential implications that have been progressively engaged in most aspects of people's lives including social life, commercial life, and business life. From an economic point of view, social media could strategically enhance a two-way communication between firms and customers, and as such, attaching customers to a greater extent to the organizations' brands. Social media are increasingly considered by modern businesses as promising platforms to conduct the promotional

activities as to effectively communicate with the targeted customers (Alalwan et al., 2017). So social media is an important place where individual users can share their views with each other, but also an important communication channel of the companies, and therefore social media can acquire advertising revenues from the business organizations.

Social commerce is the use of social media for commercial transactions and activities that are driven primarily by social interactions and user contributions, and it also could be viewed as a subcategory of e-commerce in some case. Wang and Zhang (2012: 113) examined the different dimensions where social commerce changes that this new phenomenon causes from the aspect of people, management, technology and information. In addition to social media platforms, social commerce is accomplished through diverse toolsets, such as ratings and reviews, recommendations, and forums. The “mobile social commerce” phase previously was defined as the set of e-commerce activities performed in a mobile environment and enhanced by user-generated content (Hew et al., 2016).

Therefore, social commerce is a combination of shopping and social networking activities that support social interaction activities in the buying and selling of products and services in online settings. Stephen and Toubia (2010) analyzed the way how value is created in the social commerce marketplace. They found that making the marketplace more accessible to consumers makes the most value in the network. Wang and Yu (2017) studied the importance of the social influence in purchase intentions in case of social commerce, and they found that positive valence WOM had a strong positive effect on a consumer’s purchasing intentions, WOM content also had a positive influence, but on the other hand, negative valence WOM had a strong negative effect on intention to purchase. They also found that more customer purchasing intention led to higher actual purchase behavior, and intention was indeed a predictor of post-purchase behavior (Wang – Yu, 2017). So social influence and social media features really influence the e-commerce feature of social commerce, as social influence affect the transactional intention. These platforms and consumer attitudes towards them can differ according to cultural differences, so marketing strategies should be adapted to them (Malota, 2011, 2015; Rašković et al., 2016).

2. Methodology and Sample Characteristics

The data collection was made by online survey, deemed adequate as the topic is asked online consumer behavior of Hungarian users. The survey was conducted between April 24 and May 15, 2018. After the refinement of the answers, the further model analyses could be based on data from 844 respondents. An arbitrary sampling technique was used: the respondents were university students from Corvinus University of Budapest and Károli Gáspár University of the Reformed Church of Hungary. As such, the results cannot be interpreted as representative. However, the authors believe that the findings point out relevant tendencies worthy of further analysis.

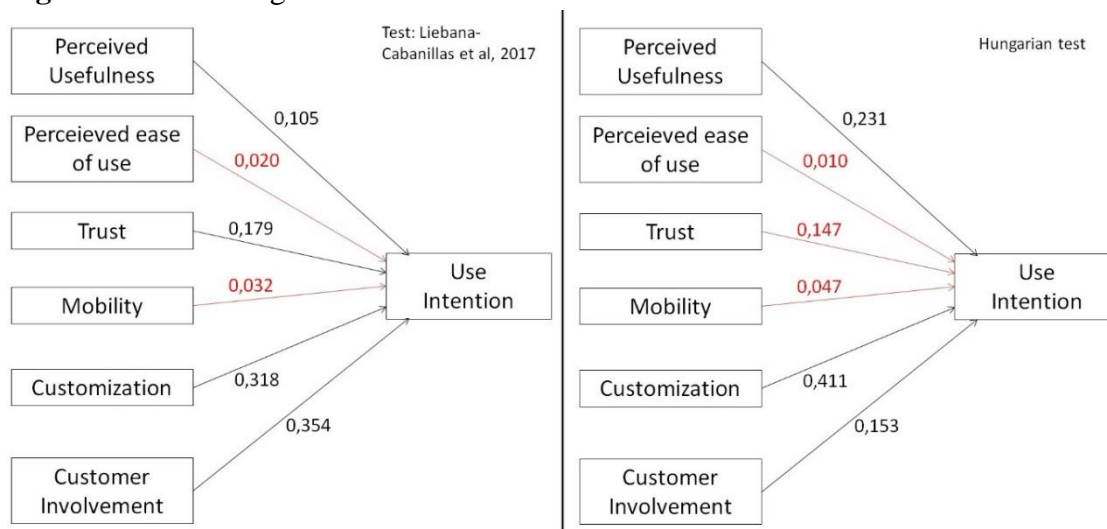
3. Empirical Analysis: Model Tests

To let the users better understand the subject of the research, a brief introduction of social mobile commerce was provided in the online survey to describe the integrated mobile applications with the functions of mobile commerce, mobile payment and social media in one single application. Some images about the functions of the Chinese WeChat application were also shown in the introduction to provide some visual information on how it works.

The results were measured by SmartPLS 2.0 (Ringle et al., 2005). The model was tested with 300 iterations to measure the correlations between the latent variables. The significance test was based on bootstrapping to test the connections between the model components, so 200 subsamples were generated, which tend to provide reasonable standard error estimates (Chin, 2001). PLS was used to analyze the theoretical framework, which was constructed based on the literature review.

In our research we were aiming to adapt two recent research models to Hungarian mobile users to understand their attitudes about the so called mobile social commerce platforms. The first model that was tested was about mobile commerce acceptance. To do so, Liebana-Cabanillas et al.'s (2017) model was retested. Especially because that research was done in the previous year in Serbia, a country near to Hungary, so we could expect that the model could fit to understand the motivations of Hungarians to accept or not mobile commerce platforms with additional payment and social media functions. So, the questions were adapted and slightly modified from mobile commerce to mobile social commerce in our research (Figure 1).

Figure 1: Influencing factors of use intention

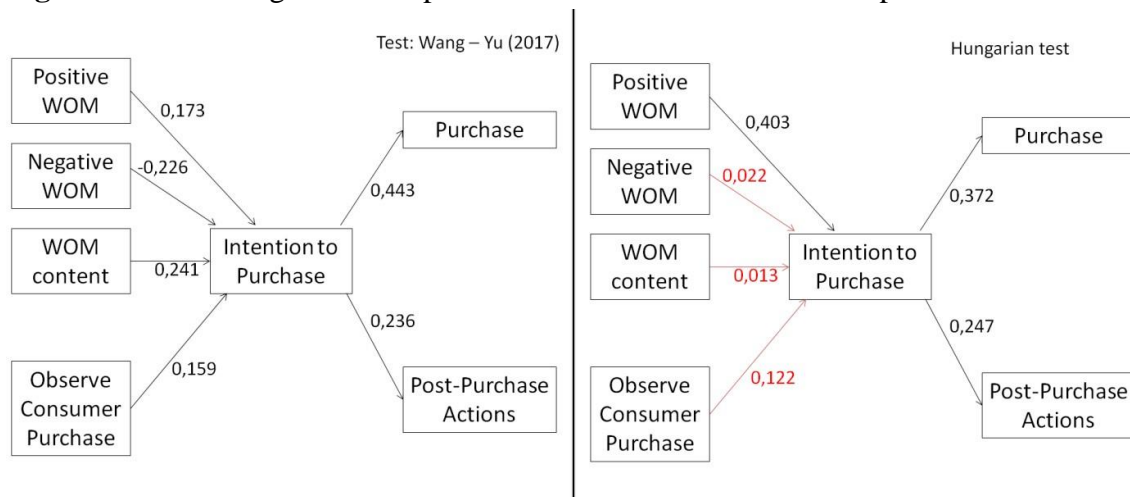


Source: own elaboration, based on Liebana-Cabanillas et al. (2017)

The results show some similarities with the Serbian results. The perceived ease of use and mobility were not significant in the repeated test as well as in the original one. However, we should emphasize that trust was another variable in our test that became insignificant in the case of mobile social commerce. So probably Hungarian mobile internet users in our sample could not really trust in an application with which they have no prior personal experience. Perceived usefulness, customization and customer involvement were, too, significant variables in our empirical research. Therefore, we suggest that the people in our research would use these integrated application if they perceived them as useful and they could customize them into their habits.

The second model tested in our empirical research was adapted from the field of social commerce, and therefore had results about the role of social influence in purchase behavior. The model of Wang and Yu (2017) was tested in our research, and we selected this article because the original research was made in Taiwan, i.e. in a Chinese cultural background, where the so-called social mobile commerce has already achieved substantial popularity. However, in this case we also modified the original question slightly, from social commerce to mobile social commerce in order to fit our research purpose (Figure 2).

Figure 2: Influencing factors of purchase intention and its effect on purchase



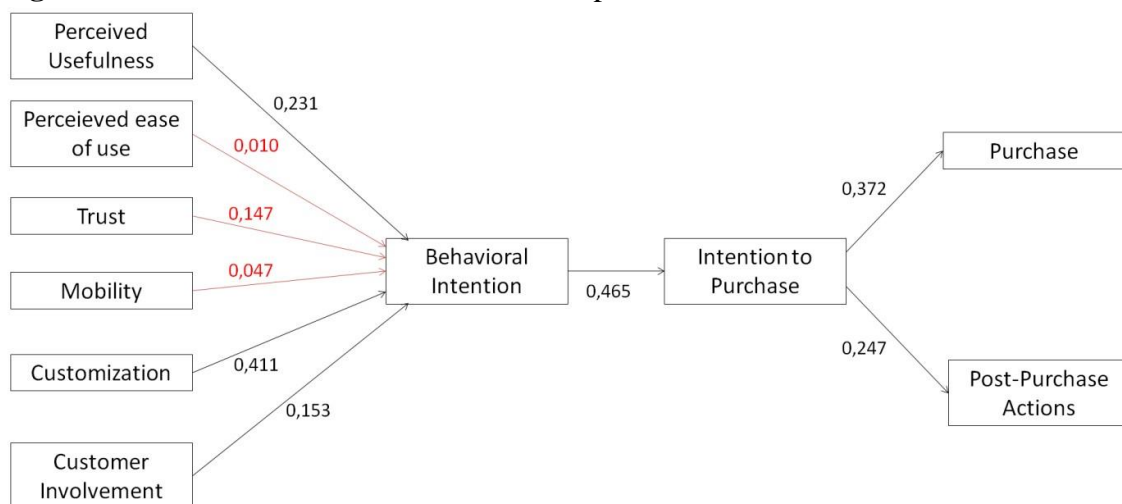
Source: own elaboration, based on Wang and Yu (2017)

Our data suggest some significant differences from the original model that we could expect. Among Hungarian users in our research the only significant indicator of purchase intention was the positive social influence, i.e. word-of-mouth. So, recommendations could foster the use of social mobile commerce applications, but negative influence, or even the content of the social influence remain insignificant in our research. Because

these applications do not exist and as such are hardly used in Hungary, so the insignificance of observed consumer purchase could have been expected. The results of the other part in the model was similar to the results of Wang and Yu (2017). The intention to purchase has higher impact on purchase and a bit lower impact on post-purchase actions, and both impacts are significant.

In the third part, we aimed to build a combined model from the variables of the previous two model in order to achieve a model that would better fit to understand the motivations and attitudes in case of social mobile commerce as an integrated application of commerce, payment and social media attributes. Several iterations were used in Smart PLS to find the most significant connection among the variables and the directions of possible impacts (Figure 3).

Figure 3: Combined model of behavioral and purchase intention



Source: own elaboration, based on Liebana-Cabanillas et al. (2017) and Wang and Yu (2017)

One of these iterated models suggests a relatively good prediction model from motivations to actions, if we consider that behavioral actions can contribute into purchase intentions. According to the significant connections in this model, the perceived usefulness, customization and involvement could foster the behavioral intentions to use social mobile commerce applications, and in the end of the process, purchase and make post-purchase actions via the available applications. So, companies aiming to operate in Hungary should consider how to convince the mobile users that they get personal benefits from the application, involve them to use it, and emphasize the customization possibilities.

The combination of the two models resulted in trust becoming a significant indicator of purchase intention instead of an insignificant indicator of behavioral intention. But WOM could not be involved into the model as a significant indicator. A potential reason for this result can be that the users in our sample do not have prior experience to this kind of application, and they were not really able to imagine social interactions in the context of the topic. Despite the inherent social media function of these mobile internet solutions, the users in our sample seem to have limited imagination on how it could influence their purchase intentions in one single application. Therefore, the results suggest that users should be educated first in the topic, otherwise the adaption and especially purchase via social mobile commerce application will likely face challenges.

4. Conclusions, Limitations, and Future Research Directions

The results could be useful to any organization which may use the opportunity to enter the mobile commerce market in Hungary and wish to use social commerce features in the same platform. Especially if any Chinese internet giant wished to enter this market according to their global expansion plans, or other global or local e-commerce company would like to develop a new platform, where social media, mobile commerce and mobile payment could be used in one single application following the digital trends of China, which can be considered one of the most innovative and the biggest e-commerce worldwide.

Our data suggest that Hungarian mobile users are in the initial phase of mobile commerce acceptance, therefore the education of potential users should remain to happen first, before social mobile commerce can be a real option. Because this technology is already widely used in China as of today, and probably it is a possible future opportunity in Hungary, so companies, which may consider using these innovations to adopt this technology in Hungary should consciously prepare the launch of this type of mobile solution.

The study, however, faces some limitations. Our sample cannot be considered representative, so the generalization of our findings is restricted. Our findings have the potential to describe some general trends, but further confirmatory tests are suggested with a representative sample. International comparisons reflect some differences between Hungary and the original models, therefore differences in social and cultural backgrounds and their impacts may also deserve further research in the future. But one of the main limitations of this study is coming from the technology itself. Innovations in mobile technology, e-commerce and m-commerce or social media could reshape the landscape of the potential social mobile commerce market, therefore all these innovative methods could become obsolete in a short period of time. So future studies may focus on other newer mobile solutions, probably involve other research techniques too.

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