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How consumers can understand the role and relevance of social mobile e-commerce

The following paper analyses users' attitudes and the behavioural aspects of e-commerce solutions in a Hungarian context combined with social media elements in a mobile environment. Although e-commerce penetration is still in its infancy in Hungary, users' smartphone penetration is increasing due to the rapidly changing technological environment. Therefore, different aspects of consumer behaviour can be understood through purposeful research. The aim of the present study is to understand how the Hungarian mobile e-commerce market could develop. Results show how mobile social commerce affects different outcome variables such as satisfaction and brand loyalty, considering the influencing factors that affect attitudes towards and actual use of social mobile e-commerce (e.g. perceived usefulness, privacy concerns).

The role and relevance of social mobile e-commerce

As this study tests the model of Hew et al. (2016), it is important to accept and adopt the same term – mobile social commerce – as was used in the original paper. The term is defined as the set of e-commerce activities performed in a mobile environment and enhanced by user-generated content (Kucukcay – Benyoucef, 2014).

The penetration and market share of smart phones has become substantial in recent years. In 2016, those owning smart phones in Hungary became the majority (52%). Penetration is rapidly increasing: 63% by 2017 compared to 23% in 2012, reflecting how the mobile environment changed in those five years. However, internet use on smart phones still lagged with 43% of Hungarians accessing the mobile internet via smart phones in 2017. The use of mobile internet is very high among 14-29-year-olds: 74%. The use of social media from mobile devices is very high: 73% of Hungarians older than 14 years (NMHH, 2018b). In 2017, users accessing the internet via their phones more than their computers became the majority: 57%. Hungarian internet users are quite active on social media platforms: 87% use Facebook and 79% use YouTube at least once a week (NMHH, 2018a).

To provide a framework to the present study, a number of key terms involved need to be defined. **E-commerce** uses a website to transact or facilitate the sale of products and services online. Online retail sales have exploded in recent years both globally and more specifically in Hungary. Online retailers compete in three key aspects of a transaction: customer interaction with the website, delivery, and the ability to address problems when they occur (Cihan et al., 2017; Kotler – Keller, 2012).

Mobile commerce (*m-commerce*) can be defined as purchasing and selling goods and services with the aid of mobile devices on online networks (Eastin et al., 2016). With the spread of the internet and the expansion of various commercial networks, large spatial relations can be included in a single system unit (Zsarnoczky, 2017). The technology used in sales is a major asset, especially in communication, as content transmitted via email and other web interfaces has enabled salespeople to communicate more effectively with their customers, thereby improving sales practices (Keller – Péter, 2015). A main advantage of m-commerce is that users can carry out transactions without time and location restrictions. Other important factors of m-commerce include users being identified based on location and context, and the whole purchasing process becoming more transparent. The efficiency of m-commerce is improved by the offline antecedents of online purchases as this information is used to improve marketing communication and sales orientation. It is important to note that online consumer behaviour and the registration of a mobile phone's physical location is not enough; it is also necessary to study some other classic factors of consumer behaviour, such as user perceptions (Ghose et al., 2016). The fundamental features and functions of mobile applications have not changed, but thanks to the development of technology and the widespread availability of mobile devices, these applications are available to many more users (Balasubramanian et al., 2002: 355). Different applications are often used to access m-commerce platforms, enabling a more personalised and specialised access to e-commerce services. Altogether, the examination of consumer perceptions could provide a better understanding of m-commerce practices and outcome factors, such as satisfaction or brand loyalty (Hew et al., 2016; Narang – Shankar, 2016).

Social media is a collection of many forms of two-way communication platforms that enable the free flow of ideas, information, and values through the internet (Csordás et al., 2014; Varga et al., 2016). Social media is brought about by new media technologies that make interactivity and common value creation easier. These technologies enable the development and sharing of user-generated content among organisations and between organisations and individuals (Filo et al., 2015). Social media contains internet-based applications and fundamental terms, which are mostly based on Web 2.0. They enable online interactions among users and let them communicate to create, change, and share content, opinions, views, media, and relationships.

The importance of social media for this study is based on the tendency of people to increasingly look at social media applications as important parts of their everyday lives. Part of their interactions (private and business) is moving to virtual platforms. Social media applications can be perceived as one of the most effective and influential tools

affecting people's lives, including the social, commercial, and business aspects of life. From an economic perspective, social media can improve two-way communication between companies and end consumers. Related to that, it can connect consumers with companies' brands. It is a promising platform for business actors to communicate efficiently with target groups (Alalwan et al., 2017). And it also has the means to enforce and/or facilitate discussion about brands, thus functioning as a channel for sociocultural processes, which shape the brand's cognitive image (Kovács, 2016; Kovács, 2019).

Social commerce can be defined as the use of social media in the context of commercial transactions and activities that are primarily driven by social interactions and user contributions (Yan et al., 2016). In some cases, social commerce can be perceived as a sub-category of e-commerce. It can be characterised by various toolsets besides social media platforms (user reviews and views, references, forums). By definition, **mobile social commerce** is a series of e-commerce activities carried out in a mobile environment, its quality enhanced by user-generated content (Hew et al., 2016).

From the social media aspect, another important issue is the group of concerns related to consumer privacy. For this study, it is relevant to note that companies are not able to control information on social media; they can only affect it in a limited way. In parallel, from the perspective of users and consumers, the question is how users/consumers can control everything they share on social media with each other? With the spread of the internet, concerns about data protection had already appeared in the 1990s, because data uploaded on the World Wide Web without enough precautions moved easily into unauthorised hands. Users had limited control over these negative processes as they only had basic technical knowledge about how to protect their private data.

The nature of privacy-related consumer behaviour in the context of social networks is a crucial issue from the aspect of analysing users/consumers. It must consider the type of information they share happily with each other, i.e. how their privacy is broadened or narrowed by social media. This type of consumer behaviour is also country- (culture-) specific (Malota, 2012, 2015).

In the past few decades, academic research has been increasingly focusing on privacy protection. This phenomenon became more important in parallel with the spread of information technologies. Analysis of consumer behaviour in the context of the internet was gathered mostly around users who seek information and create connections (Dinev – Hart, 2004). Thus, it is worth analysing what types of groups can be identified among social media users from the aspect of their attitudes towards privacy protection. It would also be worthwhile examining how this concern is present in mobile social commerce.

An important direction of research on social networks is to understand how users trust the given social network. Studies approach the question from two directions: an analysis of social network ad technology, and as an organization or a quasi-person (Lankton – McKnight, 2011: 33).

In the present study, from the aspect of mobile social media commerce, privacy-related concerns – mostly attitude-type variables – are present. It is important to understand how they are connected to the behavioural factors of social media use.

Another interesting question raised in this study is the effect of the aforementioned variables on outcome factors such as satisfaction and brand loyalty. The significance of these variables has appeared already in earlier studies (Hew et al., 2016; Narang – Shankar, 2016; Varga – Kemény, 2016).

Methodology and sample characteristics

A comparative study was conducted with an online survey methodology. Sample selection was based on arbitrary sampling, mostly including students from Corvinus University of Budapest, with some students from Károli Gáspár University of the Reformed Church in Hungary. Data was collected between 27 April and 12 May 2018 (15 days) to minimise possible biases due to timing issues. After data cleaning, the final sample size was 594.

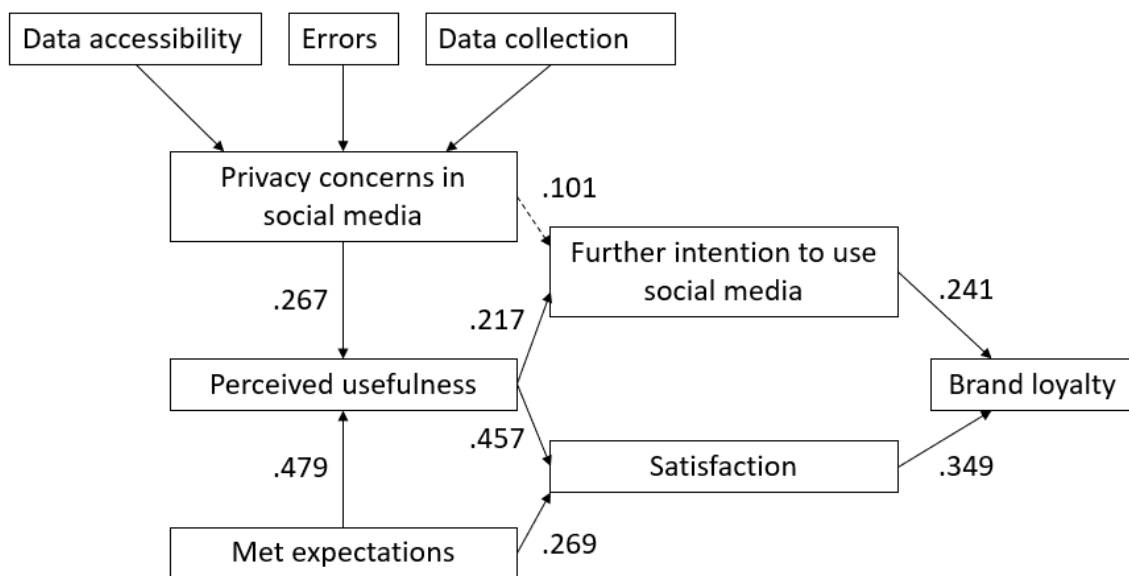
The applied questionnaire was based on the adaptation of the research study done by Hew et al. (2016). The original study was conducted in Malaysia, so cultural factors can influence the main differences, not only the technical skills of both societies. Two independent translations were made of the scales. Both versions were compared, and a final Hungarian version of the questionnaire was derived. Because mobile social commerce is not as widely used in Hungary as in Malaysia, a textual explanation illustrated with pictures was placed behind the questionnaire to make the topic more understandable for Hungarian respondents. Questions were measured on a 7-point Likert scale, as in the original questionnaire.

Smart PLS 2.0 (Ringle et al., 2005) was applied for structural equation modelling, which conformed to the original analysis method giving comparable results. To maintain the connections and hypotheses of the original study used to describe the relationships among the different latent variables, correlation coefficients were calculated with 300 iterations based on the literature. To test the significance of certain relationships, the so-called bootstrapping procedure was applied, where in case of certain model variables, 200 randomly generated subsamples were used to calculate the margins of error (Chin, 2001).

Results

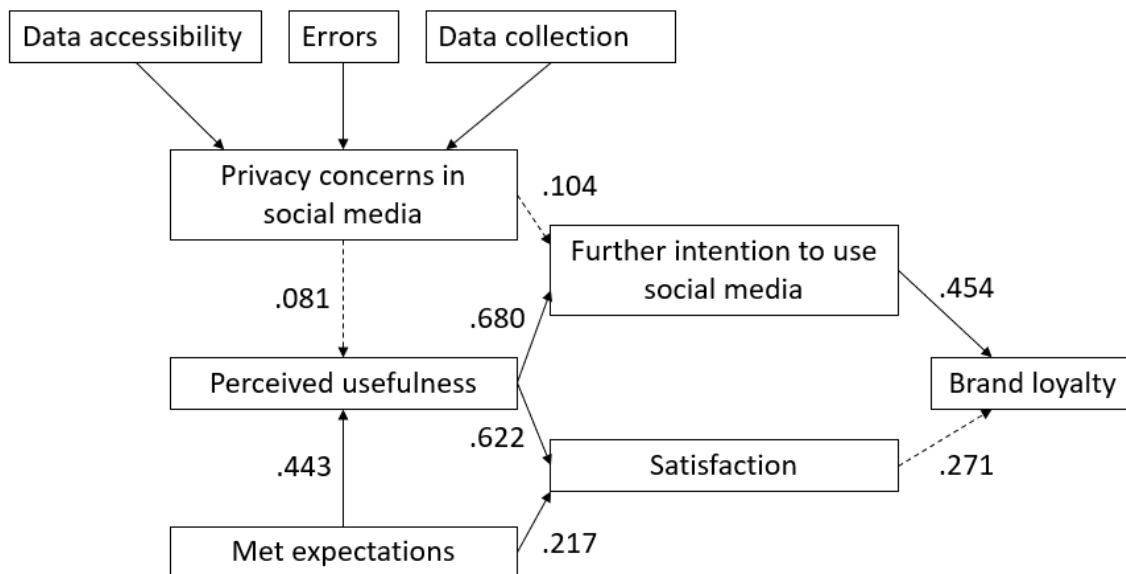
This study focused mainly on how privacy-related attitudes – manifested in the form of concerns related to privacy-related data on social media – influence brand loyalty. These attitudes affected perceived usefulness in the original research, not the further intent of the use of mobile social media. Because past results showed that perceived risks and the danger of data leakage greatly affected information share, the fear of data abuse is stronger than the positive expectations that stem from the advantages of data provision (Simay – Gáti, 2017).

Figure 1: Original results of the retested model



Source: Hew et al. (2016)

The results of this research confirmed that the sources of privacy-related concerns on social media among respondents are in fact access to data, data collection by companies, and possible errors. These variables all contributed significantly to concerns, and all questions on the questionnaire had a significant effect on the specific topics. Therefore, measurement related to privacy protection functioned well, although – in contrast to the Malaysian results – it did not have any significant effect on perceived usefulness, or on further intention to use social media. So indirect effect is not revealed regarding loyalty.

Figure 2: Hungarian results related to mobile social commerce

Source: own elaboration

The fulfilling of preliminary expectations showed very similar results with the original research, affecting both perceived usefulness and satisfaction significantly. The effect on perceived usefulness was average, while the effect on satisfaction was rather weak. In sum, the strength of correlation effects was less by only some hundredths compared to the results of Hew et al. (2016). Based on these results, it can be conditioned that preliminary expectations play a similar role in the adaptation of mobile social commerce among Hungarian respondents, too.

However, perceived usefulness showed a stronger relationship to possible further use and satisfaction, although it was presumed – based on earlier results – that possible concerns may play a more significant role. For the Hungarian respondents, the effect of perceived usefulness and advantages was more than average on both intention to use (.68) and satisfaction (.62). In the original research study, perceived usefulness influenced intention to use weakly (.21) and satisfaction (.45) averagely.

Based on the results of the present study, the further intention to use mobile social media affects loyalty more (.454) than in the original study (.241). The relationship was average rather than weak. As opposed to previous expectations, the effect of satisfaction among sample respondents not only showed a weaker correlation with loyalty, but it was not significant at all. Based on the multiple run of the bootstrapping procedure, the effect of satisfaction was around the 5% significance threshold, but the relevance of the relationship could not be shown to be significant.

The results show that preliminary expectations influence perceived usefulness, which in turn affects possible further intention to use, and finally, loyalty. This relationship can be explained by the conditional nature of opportunistic advantages (e.g. cheaper prices, etc.).

Users will create their usage patterns based on such opportunistic advantages they get through using these applications, and this will create intention to use and finally loyalty in brands present in mobile social commerce. Satisfaction and the role of privacy concerns can be relevant after use in user behaviour samples, when the role of mobile social commerce in Hungary will not be fiction but reality.

Conclusions

The results can be useful for companies that apply e-commerce solutions through social media on mobile phones. Hungarian consumers are still in the initial phase of acceptance of m-commerce. From their perspective, education and training are basic requirements before implementing any sophisticated technology. Results suggest that education of potential users would be indispensable before launch, because application, and especially purchase with the help of social mobile commercial applications, would face serious challenges. First, it is necessary to remove limitations that exist in the heads of consumers stemming from missing information and limited awareness of opportunities and then convince them to install and use applications for their personal advantage (opportunistic aspect). Companies entering the Hungarian market should pay attention to the often-unspoken expectations of their consumers related to data: access-related privacy, company data collection, and errors.

One of the limitations of this research is that the applied sample is not representative. Results can only be generalised under limitations, but this is not the aim of this study. The results explored general peculiarities. Analysis of the connection between the international sample and the Hungarian sample suggests that some other differences could have been shown, which is partly a limitation and partly an opportunity for the future. Innovations in technology, m-commerce, and social media can make research results obsolete, even in 1-2 years' time. Results from research phases in 2017/2018 may no longer be relevant in 2019. The appearance of new platforms can change the delineated market conditions, even those viewed as valid now. Basic market rules and characteristics can be overwritten by the turbulent market conditions in a short time.

One possible future research direction is to analyse the effect of usage and purchase variables and their influencing factors, and the change in the influencing factors of concerns related to privacy in the form of multiple cross-section analyses.

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