

ONLINE BANKING AND ITS ACCEPTANCE IN EMERGING MARKETS: THE CASE OF BOSNIA AND HERZEGOVINA

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ABSTRACT

Since the market development endeavors for online banking services have shifted to the emerging markets, several authors conducted country-focused studies on technology adoption behavior. We argue, however, that it is most favorable to develop a comprehensive emerging market strategy instead of single market strategies, due to the benefits of aggregation and risk spreading. Therefore we are retesting an extension of the Technology Acceptance Model in a new market, which is Bosnia and Herzegovina, in order to make a valid comparison and establish generalizability of the most influential parameters on online banking adoption behavior in emerging markets. We find the model generalizable, which provides interesting implications for a comprehensive emerging markets strategy.

Keywords: online banking adoption behavior; technology acceptance model; emerging markets strategy; partial least squares; generalizability; technology readiness; e-commerce adoption; Balkan;

INTRODUCTION

As technology is seen as the key driver of internal change in the banking sector, the service diffusion through the internet resulted in a rise of service efficiency. Accordingly, online banking responds to the clients' demand for 24/7 service and time savings in conducting bank transactions (Howard & Worboys, 2003). However, clients often do not react immediately and in the estimated extent to the implementation of technological innovations. In order to prevent the introduction of online banking in a new market from failing, it is crucial to consider the influential impact factors on the clients' technology adoption behavior (Davis, 1986).

Up to this moment, the research endeavors mainly focused on the parameters of technology adoption behavior in advanced markets. There, the diffusion of online banking has already reached a highly advanced level. Consequently, the challenge of examining technology adoption behavior in new and young markets has shifted to emerging economies. In accordance with numerous authors (Bilgin, Sriram & Wuehrer, 2004; Boateng, Molla, & Heeks, 2009; Gurau, 2002; Trkulja, 2010), we argue that emerging markets need to be considered independently in technology adoption behavior research. The foundation for this perspective lies in the concept of the digital divide, which states that there is a considerable discrepancy in internet usage between advanced and emerging countries. The deficient telecommunication infrastructure in emerging markets hampers the spread of information, education, development and the access to digital services such as online banking among many others (Bilgin, Sriram & Wuehrer, 2004; Castells, 2005; Trkulja, 2010).

A respectable number of authors dedicated their research projects to shedding light on the obstacles of the successful introduction of online banking in emerging markets (Gikandi & Bloor, 2010; Gurau, 2002; Ilter, Saatcioglu, & Kuruoglu, 2009). Many of them conducted their research based on the Technology Acceptance Model by Davis (1986), e.g. Grandon & Pearson (2004) and Al Somali, Gholami, & Clegg (2009). By adding diverse extensions, each one of them adapted the original TAM to the requirements of the emerging country of interest and his or her detailed research focus. This has led to a multitude of instruments which measure diverging country-focused insights and create diverse implications.

However, following a country-focused strategy in an emerging market context may expose a company's strategic resilience to a crucial burden. This means that adapting one's business model to the requirements of numerous demanding emerging markets bear the threat of destroying the potential for a prospering expansion which ought to be based on the market aggregation. Referring to Dawar und Chattopadhyay (2002), we propose a comprehensive emerging market strategy instead of a country-focused approach. Similar characteristics among emerging markets allow a unified course of action (Burgess & Steenkamp, 2006).

In this context, we argue that the only precedents of a comprehensive emerging market strategy are generalizable empirical results. In fact, generalizability cannot be established by the significance tests of isolated research studies. Serious evidence of generalizability is only brought up by resistant replication which better reflects the parameter stability instead of the indirect approach through the negation of the null hypothesis (Hubbard & Lindsay, 2002). Actuated by this insight, we decided to make a sustainable contribution to the strategy building process for emerging markets.

In succession of a profound literature review, we chose an existing research model as the foundation for the present study. Besides the impact factor of the publishing journal, the frequency of direct article citations in relation to other articles on this topic, as well as the potential for replicability and accordingly the transparency of the research proceedings made us opt for the model of Al Somali, Gholami and Clegg (2009) who conducted their research study in the emerging market of Saudi Arabia.

The next step towards challenging the generalizability of the model comprised the choice of a reference market in the emerging economy context. We selected the Balkan country of Bosnia and Herzegovina on the basis of macroeconomic criteria which relate to the development level of economy, infrastructure and innovativeness. Bosnia and Herzegovina lacks far behind Saudi Arabia in all of the three fields (Schwab, 2011; Worldbank, 2011). Therefore, the comparison of these two emerging countries has potential for being a real challenge to the model and thus making a serious contribution to the research field.

Bosnia and Herzegovina is of dual relevance for the present examination. In addition to its adequacy as a reference country to Saudi Arabia, it plays a major role in the internationalization processes of the Western European banking sector (Schreiner, 2011). The competitive situation within the market triggered the implementation of service innovations such as online banking (Kamel, 2005). However, the clients' response fell short of expectations (GfK Group, 2011). In 2007 for example, the Central Bank of Bosnia and Herzegovina (CBBH, 2008) counted 27 out of 31 commercial banks offering online banking in contrast to only approximately 5.000 individual online banking users nationwide.

This situation serves as an excellent framework for conducting research on the online banking adoption behavior in emerging markets where e-commerce and online banking are still at a developmental stage. To conclude, the research focus comprises the following questions: Which are the parameters of clients' tendency to adopt online banking in Bosnia and Herzegovina? What is the relative importance of these parameters? In order to structure a systematic research model, the study is founded on the Technology Acceptance Model (Davis, 1986) and its extension by Al Somali et. al. (2009).

THEORETICAL BACKGROUND

The Technology Acceptance Model

In order to examine the adoption of information technologies by individuals, the Technology Acceptance Model (TAM) (Davis, 1986) offers a well-tested concept (Boateng et al., 2009; Hsiao & Yang, 2011). This theory describes how customer beliefs and motivational factors impact the factual use of technological means. Due to its universal applicability, the TAM proved to be a useful basis for various other theoretical constructs

The TAM's core elements and primary predictors (King & He, 2006) are perceived usefulness (U) and perceived ease of use (E) (Davis, 1989; Venkatesh, Morris, Davis, & Davis, 2003). While the former is defined by "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, Bagozzi, & Warshaw, 1989), the latter is determined as follows: E is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). Both elements have a direct impact on attitude toward use (AU) and therefore indirectly and directly (U has an effect on BI through and over AU) influence the dependent variable behavioral intention to use (BI) which also shows a close relation to AU (King & He, 2006). A further causal connection is to be found between E and U, which represents the major area of influence of the construct of E (King & He, 2006). However, the impact of E upon U declines parallel to the users' increasing sophistication in technology usage and therefore loses relevance over time (Kamel & Hassan, 2003). In general, E and U are not able to completely reflect the variety of influencing factors on technology adoption behavior, particularly concerning internet applications (Hsiao & Yang, 2011). Therefore Davis (1989) already proposed external variables to the TAM, which impact the model via U and E exclusively. Later on, other model extensions were suggested, showing a direct influence on A or BI as well (King & He, 2006). The discussion of external variables will be continued more profoundly in order to elaborate this study's underlying research model. This leads us to the following hypotheses:

H1: The client's attitude towards the use of online banking has a positive impact on his/her adoption intention.

H2: The client's perceived usefulness has a positive effect on his/her attitude towards the use of online banking.

H3: Perceived ease of use has a positive effect on the client's attitude towards the use of online banking.

H4: The client's perceived ease of use has a positive impact on his/her perceived usefulness of online banking.

H5: The client's perceived usefulness has a positive impact on his/her intention to use online banking.

To summarize, the TAM comprises three components: the dependent variables actual system use, behavioral intention and attitude towards use, the mediators perceived usefulness and perceived ease of use, as well as X representing a compound of external parameters which has an impact on the system over U and E in the initial TAM. (Davis, 1986; Venkatesh et al., 2003)

The popularity of the TAM supposedly stems from its simple handling and understandability (King & He, 2006). Due to various meta-analyses, it proved to be a relatively reliable construct for the examination of internet-related technology adoption (Boateng et al., 2009). However, there are some limitations that must be considered: Kamel and Hassan (2003) assume a high relevance of TAM at the introduction phase of a new technology system. Concomitant with the increase of direct system experience over time, the explanatory value of the impact of U and E on AU declines (Taylor & Todd, 1995). Furthermore, there is evidence that the influence of culture as the contextual factor cannot be accounted for in the TAM (Kamel & Hassan, 2003).

Extensions of the Technology Acceptance Model

The basic TAM is designed to be widely applicable across different technologies. In order to construct a model which meets the requirements of online banking, we discuss the external variables proposed by Al Somali and her colleagues (2009).

According to the research of Bandura (1982), **self-efficacy** is the "judgments of how well one can execute courses of action required to deal with prospective situations". Davis (1989) already included this parameter into the early TAM, although he assumed it to be equal with perceived ease of use. The relationship between self-efficacy and E has been examined and proven by Davis and Venkatesh (1996) and explained

as the following: “Perceived ease of use measures of different systems taken before hands-on experience will be a function of general computer self-efficacy and hence will not be significantly different from each other” (Davis & Venkatesh, 1996). The authors differentiate this from the effect on E after the users’ direct experience with the system. Then self-efficacy will still be influential, but the result for E will rather be system-specific.

H6: Higher computer self-efficacy has a positive impact on the client’s perceived ease of use.

Social influence is a compound of subjective norm (Fishbein & Ajzen, 1975), voluntariness, and image (Venkatesh & Davis, 2000). Hartwick and Barki (1994) found that subjective norm is only relevant as a parameter in a mandatory system environment. The influence on technology adoption settings, which are perceived as being voluntary by the users, did not prove to be significant. An exception derives from social influence by legitimate expert power, which leads to the potential adopter’s internalization of the expert’s attitude towards a technology (Venkatesh & Davis, 2000). In addition, image is assumed to show influence on the system in both mandatory and voluntary settings. (Venkatesh & Davis, 2000) With the element of experience, Hartwick and Barki (1994) introduced a further moderator of the social influence’s impact on the system. In the study of Venkatesh and Davis (2000), experience had an impact on the role of subjective norm, but not on image. As it is not possible to predict a priori the behavior of the parameter social influence in this research setting, the hypothesis is set to describe a positive impact of social influence on perceived usefulness.

H7: Social influence has a positive impact on the client’s perceived usefulness.

In the context of internet-related business, the parameter **trust** is of particular relevance (Hsiao & Yang, 2011) since in a market with a yet low diffusion level, “the only significant predictor for attitude toward online banking was risk” as shown by Curran and Meutner (2005). An increased risk perception decreases the level of trust and vice versa (Mukherjee & Nath, 2003). Trust in technology is based on “the evaluation of performance expectations” (Johnson, Bardhi, & Dunn, 2008) which refers to the concepts of perceived security and perceived privacy (Yousafzai, Pallister, & Foxall, 2003).

H8: The client’s trust in the online banking website positively affects the customer’s attitude towards using online banking.

The tendency to perpetuate conventional bank transaction methods leads to the clients’ rejection of new technologies and distribution channels (Sathye, 1999). To trigger the adoption process, the technology provider has to lead the client to discover the benefits of using a new technology which are in line with his or her factual needs in order to overcome the **attitude of resistance** (Wallis, 1997). Potential driving forces are e.g. the time savings and the convenience of conducting bank transactions from home (Howard & Worboys, 2003).

H9: Resistance to change has a significant impact on the customer’s attitude towards online banking.

In describing the concept of the technology divide, Castells (2005) explains the correlation of the **quality of the internet connection** with internet usage. Accordingly, people who have access to broad band internet tend to use the internet more frequently and conduct a wider variety of actions than people with analog access. This conjunction is also expandable to the usage of online banking (Al Somali, Gholami, & Clegg, 2009). Going into more detail, Sathye (1999) sums up the two main elements of internet availability: the access to an accurate personal computer and the availability of internet means.

H10: The quality of the internet connection has a positive impact on the client’s perceived ease of use of online banking.

At an early stage of technology diffusion, the **awareness** of the benefits of a new service has to be communicated to the potential users. Therefore, the technology provider has to spread information, as the momentum of an adoption process is first released by the awareness of the offer and its advantages (Rogers,

1983). In addition to *H7*, which refers to information and experiences reported by peers, we consider the product information flow between the provider and the client. Going along with Al Somali (2009), we ask for the perceived accurateness of the level of information provided by the bank.

H11: The awareness of online banking services and its benefits has a positive impact on the client's perceived usefulness of online banking.

In addition, it is assumed that demographic variables such as age, gender, income and education have a direct effect on the model. Various studies (Hernández, Jiménez, & Martín, 2011; Trkulja, 2010; Venkatesh & Morris, 2000) have shown that the profile of the early e-commerce user tends to be male, young, well-educated and wealthy. Thereafter we hypothesize the following:

H12: Age has a significant impact on the client's attitude towards using online banking. Young customers are more likely to adopt online banking.

H13: Gender has a significant impact on the client's attitude towards using online banking. Males are more likely to adopt online banking.

H14: Education has a positive impact on the client's attitude towards using online banking. Better educated individuals are more likely to adopt online banking.

H15: Income has a significant impact on clients' attitude towards using online banking. Individuals with a higher income therefore are more likely to adopt online banking.

METHODOLOGY

The Bosnian private sector banks offer online banking services to business and individual clients. This study has a focus on both adopters and non-adopters of online banking. The standardized questionnaires were delivered directly. However, the background of the sample is the urban regions of the Bosnian entity Republika Srpska, so the analysis of the rural-urban divide was excluded a priori from this study. Referring to the sample size in TAM research, King and He (2006) state that the requirements regarding the quantity of participants are comparatively low. Nevertheless, the sample of this study comprises of 250 interviewees and a return of 204 questionnaires.

Exhaustively we adopted well established scale measurements which were profoundly tested in former studies (Al Somali et al., 2009). Each item was linked to a five-point Likert scale, which comprised of evaluation statements such as from "I strongly agree" to "I strongly disagree". A pretest with fifteen persons was conducted in order to optimize the wording and the understandability of the questionnaire.

DATA ANALYSIS

For testing the measurement and the structural model, we applied structural equation modeling with **Partial Least Square (PLS) path** modeling using the software SmartPLS 2.0 (Ringle, Wende, & Will, 2005). This technique shows some virtues which outperform the LISREL technique in the context of this study. First, PLS produces results with smaller samples (Lohmoller, 1989). Among others, Chin and Newsted (1999) conducted a Monte Carlo simulation which proved that a sample of 20 individuals already enables accurate PLS estimations and testing. Second, models tested by PLS may contain a high level of complexity. PLS path modeling works well with constructs embracing many latent and manifest variables for one reason: When complexity increases, the focus moves from single parameters to parameter compounds. Therefore, PLS analysis is of special value for explaining endogenous variables and for assessing exploratory models. (Henseler, Ringle, & Sinkovics, 2009).

Construct	Indicators	Loading	t-Value	Composite Reliability	Average Variance extracted
Behavioral Intention				0.9205	0.7945
	BI 1	0.8883	43.5897		
	BI 2	0.9254	70.0735		
	BI 3	0.8591	33.6261		
Attitude towards Use				0.8481	0.5925
	AU 1	0.8296	29.1647		
	AU 2	0.8510	38.9824		
	AU 4	0.8476	31.8687		
Perceived Usefulness				0.9013	0.6960
	U 1	0.8401	27.9521		
	U 2	0.8723	33.1400		
	U 3	0.7688	17.6862		
	U 4	0.8522	30.9891		
Perceived Ease of Use				0.9276	0.7199
	E 1	0.8489	31.8516		
	E 2	0.8555	35.5322		
	E 3	0.8846	49.3379		
	E 4	0.8905	51.7212		
	E 5	0.7561	20.3240		
Self-Efficacy				0.8017	0.6715
	SE 1	0.9010	46.2834		
	SE 2	0.7288	11.2603		
Social Influence				0.6946	0.5576
	SI 1	0.4760	2.5746		
	SI 2	0.9427	18.4162		
Trust				0.9009	0.6454
	TR 1	0.8175	27.7085		
	TR 2	0.8305	34.2424		
	TR 3	0.8165	22.7721		
	TR 4	0.7739	16.4172		
	TR 5	0.7767	18.7460		
Resistance to Change				0.8934	0.7368
	RC 1	0.8609	33.7229		
	RC 2	0.8123	22.4933		
	RC 3	0.8996	56.7296		
Quality of Internet Connection				0.8958	0.6361
	QI 1	0.7688	19.5705		
	QI 2	0.8667	36.3360		
	QI 3	0.9046	50.7451		
	QI 4	0.8041	20.0960		
	QI 5	0.6112	9.8345		
Awareness of Services				0.9569	0.881
	AW 1	0.9172	52.1812		
	AW 2	0.9557	109.8163		
	AW 3	0.9427	76.4319		

TABLE 1: MEASUREMENT MODEL

For the evaluation of the **measurement model** we applied the following instruments: indicator reliability, composite reliability, average variance extracted (AVE) and the Fornell-Larcker criterion. The indicator reliability, which is expressed by the factor loading, gives an insight on the accuracy of the items to test the proposed model. Factor loadings shall obtain a minimum value of 0.7 (Sichtmann, Selasinsky, & Diamantopoulos, 2011). In the table above, this is widely given. Two items which undercut this limit were removed from the model. The composite reliability measures the internal consistency of constructs. The minimum value for this instrument is 0.6 (Sichtmann et al., 2011).

In the table above, the reader may only find constructs which comply with this prerequisite. The AVE is an instrument to measure convergent validity. A minimum value of 0.5 confirms the explanatory power of latent variables referring to their indicators. All variables show appropriate values, though social influence hardly exceeds the minimum. In order to assess the discriminant validity of the construct, we applied Fornell and Larcker's criterion (Fornell & Larcker, 1981). The AVE values are bigger than the square roots of the constructs' correlation with the other constructs (Sichtmann et al., 2011). Therefore construct validities are fully given.

The assessment of the structural model leads to a statement on its predictive power. In Table 2, the reader may find the results for the analysis of the path coefficient and R^2 . The indicator R^2 describes the coefficient of determination which is linked to endogenous latent variables. Chin (1998) classifies the R^2 values as follows: 0.67 is a substantial value, 0.33 and circumjacent are moderate and 0.19 and lower are to be seen as weak values. However, the author remarks that moderate values are acceptable when the endogenous variable is described by only a few exogenous variables. In reference to that, Table 2 shows accurate values and proves the predictive power of the model.

H#	Hypothesis Path	Path Coefficient	t-Value	p-Value	Support
H1	AU - BI	0.5894	9.0955	0.0001*	Yes
H2	U - AU	0.1722	21.451	0.050**	Yes
H3	E - AU	0.3226	4.3497	0,0001*	Yes
H4	E - U	0.5661	8.0878	0,0001*	Yes
H5	U - BI	0.2483	3.8513	0.0001*	Yes
H6	SE - E	0.3166	6.2568	0.0001*	Yes
H7	SI - U	0.0423	1.0110	n.s.	No
H8	TR - AU	0.2218	3.1138	0,0001*	Yes
H9	RC - AU	0.2607	4.0719	0,0001*	Yes
H10	QI - E	0.5399	10.9157	0.0001*	Yes
H11	AS - U	0.1160	1.6812	0.050**	Yes
H12	Age - AU	0.073	15.967	n.s.	No
H13	Gender - AU	-0.135	0.9939	n.s.	No
H14	Education - AU	-0.080	0.0003	n.s.	No
H15	Income - AU	0.065	15.895	n.s.	No
Variance Explained		R^2			
BI		0.5976			
AU		0.6662			
U		0.4215			
E		0.5721			

Note: * significant at $p < 0.001$, ** significant at $p < 0.05$,
n.s. = non-significant

TABLE 2: THE STRUCTURAL MODEL

Path coefficient values above 0.20 are accurate. Scores below 0.20 are to be further tested through the bootstrapping procedure. By this assessment, the path between social influence and perceived usefulness (H7) turns out to be not supported. By assessing the t-value and the p-value, the evidence for H11's significance is given.

Apart from H7 and the demographic variables, all hypotheses of the model are supported. Age, gender, education and income do not have an impact on the attitude towards use. By majority, the hypotheses spanning the constructs of the basic TAM show accurate path coefficients. Only the path of H2 does not appear univocal due to the path coefficient value of 0.1722. However, after conducting the p-value assessment H2 results to be significant. The paths between five external variables and the core TAM were supported. They all feature accurate path coefficients with the exception of H11. Similar to H2, the following p-value assessment proved the influence of the awareness of the service to be supported.

DISCUSSION OF FINDINGS

Findings on the model

The present study has been designed to assess influential parameters on online banking adoption behavior and the parameters' relative importance in the emerging market context. We argue that it is necessary to dedicate differentiated research activities to emerging economies as commonly used presumptions from advanced markets do not apply here. This may be exemplified by the absence or lack of accessibility of a

#	Hypotheses	Support	
		Present study	Al Somali et al. (2009)
H1	The client's attitude towards the use of online banking has a positive impact on his/her adoption intention.	Yes	Yes
H2	The client's perceived usefulness has a positive effect on his/her attitude towards the use of online banking.	Yes	Yes
H3	Perceived ease of use has a positive effect on the client's attitude towards the use of online banking.	Yes	Yes
H4	The client's perceived ease of use has a positive impact on his/her perceived usefulness of online banking.	Yes	Yes
H5	The client's perceived usefulness has a positive impact on his/her intention to use online banking.	Yes	Yes
H6	Higher computer self-efficacy has a positive impact on the client's perceived ease of use.	Yes	Yes
H7	Social influence has a positive impact on the client's perceived usefulness.	No	Yes
H8	The clients' trust in the online banking website positively affects his/her attitude towards using online banking.	Yes	Yes
H9	Resistance to change has a significant impact on the client's attitude towards online banking.	Yes	Yes
H10	The quality of the internet connection positively impacts perceived ease of use of online banking.	Yes	Yes
H11	The awareness of online banking services and their benefits has a positive impact on the client's perceived usefulness.	Yes	Yes
H12	Age has a significant impact on the client's attitude towards using online banking. Young clients are more likely to adopt online banking.	No	No
H13	Gender has a significant impact on client's attitude towards using online banking. Males are more likely to adopt online banking.	No	No
H14	Education has a positive impact on the client's attitude towards using online banking.	No	Yes
H15	Income has a significant impact on the client's attitude towards using online banking.	No	No

TABLE 3: COMPARISON OF HYPOTHESIS SUPPORT

high-performance telecommunication infrastructure or a relatively low level of computer diffusion and literacy. Up to now, the majority of the emerging market research in the field of technology adoption behavior has been country-focused. This means that the use and attitude towards e-commerce applications was measured by distinct instruments in distinct emerging market countries. As this impedes direct comparison and the deduction of universally valid results, the present study is filling this gap by providing generalizable results which are based on a more profound validation than the simple negation of the null hypothesis. Applied and tested replicability proofs the factual yield of the extended TAM model.

Table 3 displays the direct comparison of the supported variables in the study of Al Somali et. al. and in the present study. The two columns on the right demonstrate the predominant compliance of the variables and give evidence for the generalizability of the model. However, two variables do not match. In our research, the path between social influence and perceived usefulness turned out to be non-significant. Al Somali et. al. achieved a low, but still significant path coefficient of 0.298. A similar difference can be found in the results of the demographic variable of education. Both the results of Al Somali and the present study negate the relevance of the demographic variables age, gender and income. Education however, turns out to be significant in the paper of Al Somali and her colleagues, though it displays a path coefficient of 0.156 and a p-value of 0.02, which are both rather weak.

When research results show weak significances and turn out to be ambiguous, replication is a favorable instrument to proof the relevance of a model and its variables (Easley, Madden, & Dunn, 2000; Hubbard & Lindsay, 2002). In the present replication study, we learn that two out of fifteen variables of the extended TAM concept presented first by Al Somali et. al. need to be reconsidered. Both social influence and education should undergo further examinations and be excluded from the observed model.

Managerial Implications

The quality of internet connection does not play a role in online banking adoption behavior in advanced markets (Pikkarainen, Pikkarainen, Karjaluoto, & Pahnla, 2004). According to the literature review on emerging markets, as well as the Bosnian infrastructure market insights from the Worldbank (2011) and the World Economic Forum (Schwab, 2011), we a priori deducted a strong influence of the internet quality in Bosnia, analogical to Saudi Arabia. Consistent with our expectations, the path coefficient scored 0.5399.

These findings reveal implications for businesses inside and outside the banking sector which are interested in patterns of customer online behavior and technology adoption behavior. First and foremost, the major driver of the diffusion of online applications in emerging markets is not the customers' will to adopt a means of e-commerce. The most important restrictive factor and equally the key driver is the improvement of the telecommunication network in quantity and quality. This refers to all three following factors: The installation of internet access in remote areas, the upgrade from analog to broadband internet connections, as well as the affordability of computers or other forms of access to computers.

The influence of the variable self-efficacy shows solid statistical values and proved to be relevant by the replication study. In practice, the potential user's self-efficacy in terms of computer literacy decides about the probability of adoption and the velocity of the adoption process (Bandura, 1982; Davis et al., 1989; Davis & Venkatesh, 1996). When introducing online banking into a new market, the bank has to adapt the provided information material to the average population's level of internet usage sophistication. This insight is also indirectly supported by the high significance of the variable awareness of services which relates to the clients' perception of the bank's endeavor to communicate and promote the innovative services. Therefore, the desired usage behavior is stimulated by the diffusion of content-focused, repetitive and comprehensible information on the benefits, risks and the correct use of the online banking service. In turn, this may impact the development of trust towards the online banking website and reduce the resistance to change concerning the form of interaction with the bank.

When projecting the comprehensive marketing program for the market entries of online banking services to emerging economies, socio-demographic attributes can be disregarded. They might have an impact on individuals' behavior but they do not play a role on an aggregate level. Furthermore, the variable social influence is of minor relevance in the case of online banking behavior in new markets. Attention should rather be paid to content-focused information delivered by the bank, which is adapted to the general level of computer literacy. This will build the essential leverage for the successful launch of online banking services in emerging markets.

LIMITATIONS AND FURTHER RESEARCH

The objective of the present study is to establish generalizability across emerging markets in the research field of online banking behavior. The way to generalizability starts with challenging an original model in a new context. We have conducted the study in the emerging market of Bosnia and Herzegovina - keeping the other research circumstances *ceteris paribus* - and made a contribution to the state of the art in science and business practice. However, the more tests a model endures, the better is the evidence for its validity and generalizability (Burman, Reed, & Alm, 2010; Easley et al., 2000; Hubbard & Lindsay, 2002). Therefore, conducting further examinations of Al Somali's extended TAM model in other regional clusters would provide a better understanding of the research in online banking behavior in emerging markets, as well as the validity of the extended TAM model.

The present comparison uncovered an ambiguity in the relevance of social influence for the online banking adoption behavior. Our recommendation is to eliminate the variable from the model due to the lack of generalizability. Nevertheless, the roots of this discrepancy provide an interesting research gap as it is not clear whether this derived from conceptual or cultural aspects. Similarly, the role of education and its impact on the TAM should undergo further examinations.

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