

HEADING OUT SMEs TO THE E-COMMERCE HIGHWAY: DRIVERS OF THE E-COMMERCE PERCEIVED USEFULNESS AMONG SMEs IN BOSNIA AND HERZEGOVINA

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Abstract

The contemporary business environment, characterized by high levels of dynamism, turbulence, and uncertainty, has forced companies to re-evaluate traditional models of commerce and make a shift towards Internet-based e-commerce models. Since the perception of usefulness determines the firm's willingness to adopt e-commerce, this study strives to explore the contributing factors among SMEs in Bosnia and Herzegovina. A survey of 154 SME managers/owners was conducted, to identify variables that are key drivers of perceived usefulness. The findings revealed that the strategic management benefits, compatibility,

and external pressures are the key predictors of perceived usefulness. This study also shows that the perceived usefulness of e-commerce is higher, if companies belonging to the same industry, or the same business network, have already adopted this business model. These findings strengthen the idea of the enterprise bandwagon effect. Compared to the newer and younger firms, the results also indicate that mature firms tend to have higher perceived usefulness of e-commerce.

Keywords: *e-commerce, SMEs, Bosnia and Herzegovina*

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1. INTRODUCTION

Even though e-commerce is increasing in both size and scale, the two gaps remain. The first gap refers to the so-called digital divide between developed and developing countries. Obstacles faced by developing countries in the process of adopting e-commerce are numerous and include lack of managerial skills, poor Internet connection in terms of price, quality, and the speed of service, weak logistics networks, and the lack of good legislation. Furthermore, the lack of effective branding and trust issues in developing countries are additional reasons why e-commerce is developing faster in developed countries (Alyoubi, 2015). The second gap relates to larger companies that participate more in e-commerce than the small and medium-sized enterprises (SMEs). According to *Evolving* (n.d.), in the OECD countries in 2017, the rate of the participation of SMEs was less than half of that of large companies.

There is no universal definition of SMEs. For example, in the United States (USA), SMEs are defined as firms with less than 500 employees; in the European Union (EU), SMEs include companies with less than 250 employees; while in some countries, SMEs include firms with up to 200 employees (Jameel and Ahmad, 2018). In Bosnia and Herzegovina (B&H), micro-enterprises are those with less than 10 employees, small companies have from 10 to 49, while medium-sized companies have 50 to 249 employees. Hence, we consider SMEs to have less than 250 employees. SMEs are the backbone of the European economy and 99 percent of all companies are SMEs. The situation is similar in Bosnia and Herzegovina. According to the data from the Agency for Statistics of Bosnia and Herzegovina (2019), based upon the number of employees, out of 38,537 registered companies, 98.9 percent are classified

as micro, small and medium enterprises (74.6 percent are micro, 18.3 percent are small and 6 percent are medium enterprises, the Agency for Statistics of Bosnia and Herzegovina, 2019).

All companies, regardless of their size, are interested in e-commerce, since e-commerce could increase sales and decrease costs (Schneider, 2011). At the same time, small companies could benefit the most from the adoption of new technologies because they often have great difficulties in competing with larger companies (Peltier et al., 2012). So, both academics and practitioners show great interest and research the adoption behavior of e-commerce among SMEs in developed, developing, and transition countries.

Several empirical studies of the Technology Acceptance Model (TAM) have shown consistency, by which the perceived usefulness has strongly influenced the intention to use technology (Walker et al., 2016). Starting from the assumption that perception influences behavior (Ajzen and Fishbein, 1980), i.e., that dissimilarities in beliefs/opinions yield to dissimilarities in actions, the primary purpose of this paper is to identify drivers of the perceived usefulness of e-commerce among SMEs. Based on the survey among 154 SMEs in Bosnia and Herzegovina, we evaluated the effect of possible drivers of e-commerce adoption (strategic management benefits, compatibility, and external pressure) on the perceived usefulness of e-commerce. The article is organized as follows: the introduction indicates motivation and the purpose of the research, the second part, titled theoretical background, highlights the prevalent theories that pertain to individual behavior and technology adoption while the third section of the paper deals with recent literature that analyzes the adoption of e-commerce

among SMEs. In the final part of the paper, we present the research method, analysis, and discussion before we conclude.

2. THEORETICAL BACKGROUND

The two basic approaches are used in the method of modeling and measuring e-commerce. The first approach is based on socio-psychological measurements of individual behavior, which include the theory of reasoned action and the theory of planned behavior. The second approach starts from theoretical models and concepts developed to understand the factors that determine the adoption of new technologies. This approach includes a technology acceptance model, innovation diffusion theory, and a technological, organizational, and external framework. Based on a premise of the rationality of individuals and their evaluation of the information provided before they embark on the decision-making process, Ajzen and Fishbein (1980) developed the Theory of Reasoned Action (TRA). Hence, the basic assumption of the TRA is that the behavior of an individual, i.e., the intention to perform a certain behavior is under the influence of attitude towards action and subjective norms. In the studies regarding user behavior in acceptance and identification of critical factors in reaping the full benefits of the ICT, ICT researchers use TRA theory most excessively (Oni et al., 2017). The Theory of Planned Behavior (TPB) shows that an individual's particular behavior is shaped by his/her intention to engage in that behavior, which is affected by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1985). The basic difference between the TRA and the TBP is that the TPB contains perceived control of behavior. Perceived behavior control is added as a variable that is considered to have a direct

impact on behavior in addition to indirect behavior. At the same time, an individual's behavior largely depends on self-confidence in the ability to implement a certain behavior (Ochola, 2013).

Furthermore, it is considered that individuals are willing to accept the technology that they consider will help them in their business activities, and if not, they simply do not accept it. This model is known as the Technology Acceptance Model (TAM, Davis, 1989). Hence, the two determinants that influence the intention to accept the technology are: Perceived usefulness (PU) and perceived ease-of-use (PEOU). PU is defined as the user's subjective perception of the ability of technology to increase business efficiency (Davis, 1989, p. 320). Thus, PU is the user's perception of whether an innovation provides an opportunity to conduct business with the application of technology in a more efficient manner. PEOU refers to a person's subjective attitude about the ease of use of a particular technology that has an impact on the acceptance of such technology, or the degree of effort required to use the new technology (Davis, 1989, p. 320).

Walker et al. (2016) find several important interconnections between PEOU and PU. Firstly, according to TAM, the easier the system is, the more useful it ought to be, indicating that PU is influenced by PEOU. And secondly, there is a positive impact of PEOU on PU due to the intention link of PEOU on PU. However, TAM does not provide information on how these perceptions are formed or how they can be manipulated to increase the use of modern technology (Yousafzai et al., 2010). The model also does not consider several important factors coming from inside and outside the organization such as the organization size, the organizational culture, costs, and external

pressure. Due to the innate limitations of the model, Venkatesh et al. (2003) expanded the model and developed an extended model of technology acceptance and use of technology that includes four key factors: Expected work performance, expected duration of effort, social impact, and mitigating circumstances. The theory of diffusion of innovation (DOI) developed by Rogers (1995) starts from the assumption that decision-making is a mental process that an individual or decision-making organization goes through from the first knowledge of innovation to the decision to adopt an innovation. This theory explains the process of adopting innovations over time. Rogers (1995) lists the following stages of the decision-making process for accepting innovation: Knowledge stage - the awareness of the existence of innovation, procedures (knowledge of how to use innovation), principles (information related to the principles of innovation); Persuasion stage – the formation of positive or negative attitudes towards innovation by the decision-maker; Implementation stage and validation stage. According to Rogers, five attributes of innovation that play a key role in an individual's attitudes towards innovation are:

a relative advantage over the idea it replaces; compatibility or perceived level of harmonization of innovation with existing values; past experiences and needs of potential adopters; complexity or perceived level of difficulty of understanding and use, and rehearsal and visibility, i.e., the level to which innovations are visible to others (p. 206).

Previous studies, grounded in the DOI theory, suggest that innovations diffuse among all members of society. Furthermore, the adoption of innovation ought to be accelerated and not renewed or rejected. However, with the individualist

approach that does not consider the effects of other environmental and organizational factors, or its failure regarding the full implementation process of the IT (Hameed et al., 2012), DOI theory has several stated limitations. In the works of Tornatzky et al. (1990), it is considered that individuals decide on technological innovation relying on the technological, organizational, and external environment, the so-called TOE. Previous technological adoption by the company and its likelihood of the shift to e-commerce and adoption of new technologies are described as key technological factors. Technological factors are related to compatibility (Innovation Diffusion Theory) and perceived benefits (Technology Acceptance Model). The greater the compatibility between enterprise policy and technological innovation, the greater the likelihood of adopting e-commerce and vice versa (Saffu et al., 2012).

Organizational factors relate to the characteristics of the company that may influence the decision to adopt e-commerce. Organizational factors include formal and informal connections, communication processes, and company size. Enterprise size has been identified as one of the deciding factors of the acceptance of e-commerce (Rahayu and Day, 2015). External factors include the area in which the company operates, such as the characteristics of the industry in which the company operates, market structure, infrastructure-technology support, government regulations, and customer/supplier pressure. Competitive pressure is one of the factors that have a significant impact on the adoption of e-commerce (Klaiber et al., 2015; Yeh et al., 2015).

3. LITERATURE REVIEW

Although it is a frequently used term, there is still no single definition of e-commerce. Most definitions contain two common elements. The first element implies that e-commerce includes business activities that are performed electronically, while the second element implies information technology tools that enable e-commerce. Thus, e-commerce implies the sale or purchase of goods or services conducted over computer networks by methods specifically designed to receive or place orders (Evolving, n.d.). Five identified clusters by Holsapple and Singh (2000) - the activity view, the trading view, the effects view, the value chain view, and the information exchange view, served as a basis for the integrated e-commerce definition. According to these authors, e-commerce is an approach bringing several benefits: by using the information exchange technology in operational activities in and across value chains, it can help businesses achieve their goals and, it can support the decision-making process within the companies. Other benefits of e-commerce stated in the works of Kartiwi et al. (2018) argue that an online environment implemented through e-commerce brings operational and financial benefits (ease of use and savings) to companies in terms of doing business in a customer-friendly environment. Kabanda and Brown (2017) give a much broader definition of e-commerce where the focus is not solely on the electronic interaction between users, but also on several functionalities that e-commerce brings. These relate to communication benefits, the automation of the business transactions, a decrease in service costs and an increase in the quality of goods and the speed of service delivery, and the benefits of buying and selling goods and information in the online environment. Based on the relationship between the e-commerce

participants, there are several models of e-commerce and business processes that support buying and selling activities (B2C, B2B, etc.).

A decent number of papers deal with the analysis of e-commerce in SMEs and we examine and present the results of several of those papers (discussed below). The papers use models or combinations of models presented in the previous chapter to analyze the adoption of e-commerce by SMEs in developed, developing, or transition countries. Most papers perceive the usefulness or advantage of use shown as an important determining factor of the use of e-commerce in SMEs. For example, the results of research conducted in Chile revealed some basic factors that determine the adoption of e-commerce in SMEs (Grandon and Pearson, 2004). These are the perceived usefulness, decision aids, organizational readiness, external pressure, compatibility, and managerial productivity. Based on the analysis of SMEs in the Midwest region of the USA, the same authors concluded that the companies with financial and technological resources perceive e-commerce as beneficial for their companies. Pearson and Grandon (2005) also find that companies will integrate e-commerce into their organization since they are under external pressure to do so. The research in Korea (Jeon et al., 2006) finds several factors affecting the adoption of e-commerce by SMEs. The North Korean factor, the CEO's adoption of IT/e-commerce, possible government support, benefits of e-commerce, and possible globalization strategy are considered important factors. In the works of several other authors, the research indicates the following factors and driving forces: perceived relative advantage, CEO's innovation, buyer/supplier pressure, competition, perceived compatibility, information intensity, and support from technology vendors

(Ghobakhloo et al., 2011). perceived direct benefit, top management support, external pressure, trust, and the adoption of the e-market in the example of the Australian SMEs (Duan et al., 2012); perceived benefits, owners' IT experience, ability and innovativeness, and technology readiness in the example of Indonesian SMEs (Rahayu and Day, 2015); external pressure, compatibility, organizational readiness, decision, and operational aids in the Slovakian SMEs (Walker et al., 2016).

The benefits that SMEs can have from the adoption of e-commerce can be tangible or intangible. One of the most frequently mentioned benefits is cost reduction. Adopting new technologies can help small businesses through enterprise resource planning, customer relationship management, and internet-based capabilities that help develop effective business strategies and tactics (Peltier et al., 2012). According to Rahay and Day (2015), the B2B model is the most important form of e-commerce which provides organizations with the ability to save money, increase revenue, reorganize inefficient business flows, and increase manager control overall customer contact processes. Agwu and Murray (2014) state that the reasons for adopting e-commerce are: access to extensive online information; price comparison; time savings; online delivery and convenience and accessibility. The reduction of paperwork and, hence, adoption of integrity mechanism, indicate several organizational benefits such as reduction of data-processing errors, improvements in distribution and internal efficiency of the company (Kartiwi et al., 2018). Nwosu (2017) states that the adoption of e-commerce in SMEs could

bring double efficiency benefits in terms of higher sales performance and lower transaction costs. Barroso et al. (2019) agree with previous findings and highlight again several benefits of the adoption of e-commerce by SMEs. These are, on one side, several savings in terms of reduction of operational, transaction, delivery, and promotion costs and transportation obstacles, whereas on the other, the benefits of reaching new markets and enhancements in coordination and communication with companies' stakeholders.

4. RESEARCH METHODOLOGY

The study population includes SMEs in Bosnia and Herzegovina. We used convenience and purposive sampling techniques to select respondents, i.e., owner-managers and managers of SMEs in different sectors. We opted for the online survey, and the questionnaire included the pre-tested scales from previous studies (Grandon and Pearson, 2004; Pearson and Grandon, 2005; Walker et al., 2016; Sanchez-Torres and Juarez-Acosta, 2019). A 5-point Likert scale measured the observed variables (items), ranging from 1 "totally disagree" to 5 "totally agree". The sample was composed of 242 SMEs, located in Bosnia and Herzegovina. However, we received only 154 valid responses, since 88 respondents stated that they do not use e-commerce and do not plan to adopt e-commerce in the next two years. Thereby, we performed the analysis on the sample of 154 SMEs, aligned with one of the following criteria: (1) they have already adopted e-commerce, or (2) they plan to adopt e-commerce in the next two years. The description of the sample of firms is given in Table 1.

Table 1. Description of the sample of firms

Characteristic	N	%	Characteristics	N	%
<i>Industry</i>			<i>Ownership</i>		
Wholesale and retail trade; repair of motor vehicles and motorcycles	27	17.5	Public firm	1	0.6
Water supply; sewerage; waste management and remediation activities	22	14.3	Private foreign firm	6	3.9
Arts, entertainment, and recreation	16	10.4	Private domestic firm	147	95.5
Transporting and storage	15	9.7	<i>Market coverage</i>		
Accommodation and food service activities	15	9.7	Domestic market	111	72.1
Manufacturing	15	9.7	Foreign market	2	1.3
Construction	10	6.5	Domestic and foreign market	41	26.6
Real estate activities	6	3.9	<i>Firm's annual turnover, last year (in BAM)</i>		
Professional, scientific, and technical activities	6	3.9	Less than 50 000	15	9.7
Financial and insurance activities	5	3.2	50.001 – 100.000	17	11.0
Other industries	17	11.2	100.001. – 250.000	21	13.6
<i>Firm's size</i>			250.001 - 500.000	16	10.4
Micro firms (up to 9 employees)	61	39.6	500.001 – 750.000	24	15.6
Small and medium firms (10-249 employees)	59	38.3	750.000 – 1.000.000	9	5.8
Large firms (>250 employees)	34	22.2	More than 1.000.000	52	33.8

Source: Authors.

Two-thirds of the firms in our sample are small and medium-sized enterprises, while 40 percent are micro-enterprises. The distribution of firms across industries indicates that the most effective response was among firms from wholesale and trade, (17.5%), water supply (14.3%), and arts, entertainment, and recreation (10.4%). More than two-thirds of the firms in our sample (72.1%) are operating only in the domestic market; almost one-third of firms (26.6%) are directed towards both domestic and foreign markets, while 1.3% of firms are oriented only towards foreign markets. Looking at the ownership structure, most firms in our sample (99.4%) are privately-owned firms, while the remaining are state-owned firms (0.6%).

We employed partial least squares (PLS) structural equation modeling to estimate

the proposed research model. The estimation of the proposed model was carried out in two steps - estimation of the reflective measurement model and assessment of structural paths between constructs, as suggested by Henseler et al. (2009). First, we assessed the measurement model with reflective indicators (outer model) and established the reliability and validity of constructs of interest. In the next step, we evaluated the structural model (inner model) using multiple criteria such as coefficient of determination (R^2), the effect size (f^2), and the size, sign, and significance of path coefficients (Henseler et al., 2009). To evaluate the significance of path coefficients, we relied on the PLS-SEM bootstrapping technique with 5,000 bootstrap runs, as recommended by Hair et al. (2016). Statistical analysis of data collected from the survey

was performed by IBM SPSS software (version 22) and SmartPLS software (version 3.3.3.). The statistical package IBM SPSS was used to perform descriptive statistics. In contrast, the statistical package Smart PLS was applied to explore relationships between observed (manifest) variables of each latent variable (construct) among latent variables (constructs).

5. RESEARCH RESULTS

5.1. The measurement model

We carried out the confirmatory factor analysis (CFA) to evaluate the reliability and validity of used measures i.e., statistical relationships between observed variables (measurement items) and their respective construct. The validity of constructs was judged by Cronbach's Alpha (α), Dijkstra-Henseler's rho (ρ_A), and the

composite reliability (CR). As shown in Table 2, Cronbach's coefficient Alpha and reliability coefficient ρ_A of each measurement construct is above 0.7 (Henseler et al., 2009). Also, CR values were satisfactory, ranging from 0.853 to 0.947 (Hair et al., 2016).

We assessed the convergent validity of constructs using two statistical criteria, namely factor item loadings and average variance extracted (AVE). Factor items loadings were higher than the suggested value of 0.5 or 0.7 (Hair et al., 2010) and the values of average variance extracted (AVE) were greater than 0.5. The findings revealed that the convergent validity was achieved and that all items (manifest variables) were linked to their respective latent variable (construct) well. The significance of factor loading items was calculated through bootstrapping technique with 5,000 bootstrap runs. All the factor item loadings were significant at the 1% level.

Table 2. Results of initial measurement model (six latent constructs)

Construct	Code	Item	Convergent validity		Internal consistency reliability		
			Factor loading	AVE	Cronbach's α	ρ_A	CR
Organizational support (OS)		E-commerce...		0.621	0.907	0.909	0.907
	OS1	decreases the cost of business.	0.702				
	OS2	improves customer service.	0.786				
	OS3	improves distribution channels.	0.791				
	OS4	reaps operational benefits.	0.834				
	OS5	provides an effective support role to operations.	0.831				
	OS6	Increases ability to compete.	0.775				

Managerial productivity (MP)		E-commerce ...		0.817	0.930	0.931	0.931
	MP1	provides managers with better access to information.	0.889				
	MP2	provides managers access to methods and models in making functional area decisions.	0.932				
	MP3	Improves the productivity of managers.	0.891				
Decision aids (DA)		E-commerce ...		0.660	0.848	0.857	0.853
	DA1	provides information for strategic decisions.	0.813				
	DA2	helps make decisions for managers.	0.874				
	DA3	Supports cooperative partnerships in the industry.	0.744				
Compatibility (C)		E-commerce...		0.855	0.947	0.947	0.947
	C1	is compatible with organizational culture.	0.922				
	C2	is compatible with organization values.	0.910				
	C3	Is compatible with preferred work practices.	0.943				
External pressures (EP)				0.704	0.879	0.886	0.876
	EP1	Competition is a factor in our decision to adopt e-commerce.	0.943				
	EP2	We depend on other firms that are already using e-commerce.	0.774				
	EP3	Our industry is pressuring us to adopt e-commerce.	0.791				

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Perceived usefulness (PU)				0.744	0.935	0.940	0.935
	PU1	Using e-commerce would enable my company to accomplish specific tasks more quickly.	0.820				
	PU2	Using e-commerce would improve my job performance.	0.744				
	PU3	Using e-commerce in my job would increase my productivity.	0.903				
	PU4	I would find e-commerce useful in my company.	0.924				
	PU5	I would find it impossible to carry out the business in the future without e-commerce.	0.908				

Note: As noted in the Research methodology section, and the questionnaire included the statements from previous studies: Grandon and Pearson (2004), Pearson and Grandon (2005) and Walker et al. (2016), and Sanchez-Torres and Juarez-Acosta (2019).

Reliability and validity tests by using SmartPLS® 3.3.3.

Source: Authors.

Discriminant validity was evaluated using two statistical criteria, including the Fornell-Larcker criterion, and the Heterotrait-monotrait (HTMT) ratio of correlations criterion (Henseler et al., 2015). Table 3 identifies two cases where there is insufficient discriminant validity. Specifically, the AVE for decision aids is less than the correlation coefficient between decision aids and organizational support. Also, the AVE for decision aids is less than the correlation coefficient between decision aids and managerial productivity. These

results indicate that construct organizational aid describes to the greater extent the variation in manifest variables MP1, MP2, MP3 than does the managerial productivity latent variable, even though MP1, MP2, and MP3 are supposed to be measures of managerial productivity. A similar situation was identified in the case of latent variable organizational support, indicating that it is not clear whether observed variables OS1- OS6 are good measures of latent variable organizational support or latent variable decision aids.

Table 3. Correlations and average variance extracted (six latent constructs)

Constructs	OS	MP	DA	C	EP	PU
Organizational support (OS)	0.788					
Managerial productivity (MP)	0.779	0.904				
Decision aids (DA)	0.847	0.978	0.812			
Compatibility (C)	0.683	0.568	0.643	0.925		
External pressure (EP)	0.727	0.664	0.685	0.738	0.839	
Perceived usefulness (PU)	0.764	0.657	0.746	0.789		0.862

Note: The square root of the average variance extracted (AVE) of each construct are values in diagonal; below the diagonal line are the values of the correlations.

Source: Authors.

Due to the lack of sufficient discriminant validity, following the recommendation of Farrell (2010), we combined three constructs - (OS, MP, and DA, into one overall measure - strategic management benefits (SMBs). It should be noted that the content validity of three constructs implies that observed variables are theoretically related and, thereby, it does make theoretical

sense to combine them into one overall construct. After combining three constructs – OS, MP, and DA into one overall construct – SMBs, we evaluated both the convergent and discriminant validity of all constructs of interest. The factor items loadings exceeded the acceptable threshold of 0.7 or 0.5, and all values of AVE were higher than 0.5 (Table 4).

Table 4. Results of measurement model (four latent constructs)

Construct	Initial Code	New code	Factor loading
Strategic management benefits (SMBs)	DA1	SMBs1	0.814
	DA2	SMBs2	0.773
	DA3	SMBs3	0.766
	MP1	SMBs4	0.723
	MP2	SMBs5	0.797
	MP3	SMBs6	0.784
	OS1	SMBs7	0.692
	OS2	SMBs8	0.826
	OS3	SMBs9	0.735
	OS4	SMBs10	0.798
	OS5	SMBs11	0.786
	OS6	SMBs12	0.817
Compatibility (C)	C1		0.886
	C2		0.927
	C3		0.961

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External pressure (EP)	EP1		0.923
	EP2		0.762
	EP3		0.826
Perceived usefulness (PU)	PU1		0.867
	PU2		0.798
	PU3		0.892
	PU4		0.908
	PU5		0.845

Source: Authors.

Table 5 shows that the square root of the AVE of each construct was higher than correlations between constructs (Fornell and Larcker, 1981) for all constructs. Besides, the Heterotrait-Monotrait Ratio (HTMT), another test for discriminant validity, was

carried out. The HTMT ratio values ranged from 0.680 to 0.787, which are lower than the threshold value of 0.9 (Hair et al., 2019; Henseler et al., 2015). Also, we used a complete bootstrapping procedure to evaluate the distribution of HTMT statistics.

Table 5. Correlations and average variance extracted, four latent constructs

Constructs	AVE	CR	SMBs	C	EP	PU
Strategic management benefits (SMBs)	0.603	0.948	0.777			
Compatibility (C)	0.855	0.947	0.679	0.925		
External pressure (EP)	0.704	0.876	0.679	0.738	0.839	
Perceived usefulness (PU)	0.744	0.935	0.775	0.789	0.729	0.863

Note: The AVE values of each construct are in diagonal; correlation values are below the diagonal line.

Source: Authors.

As shown in Table 6, the confidence interval calculated from 5,000 bootstrap samples confirms that neither lower nor upper

95% percentile confidence interval (CI) includes a value of 1. Thereby, we established the discriminant validity of our study.

Table 6. Discriminant validity by Heterotrait-monotrait (HTMT) criterion (four latent constructs)

	SMBs	C	EP	PU
Strategic management benefits (SMBs)	-			
Compatibility (C)	0.679 CI 95 (0.559 – 0.786)	-		
External pressure (EP)	0.680 CI 95 (0.573 – 0.783)	0.733 CI 95 (0.619 – 0.818)	-	
Perceived usefulness (PU)	0.774 CI 95 (0.681 – 0.854)	0.787 CI 95 (0.688 – 0.863)	0.727 CI 95 (0.617– 0.854)	-

Source: Authors.

5.2. Assessment of the structural model

In the second stage of our analysis, we estimated the relationship between independent variables (SMBs, C, and EP) and the outcome variable - perceived usefulness of e-commerce (PU). We controlled the outcome variable – PU for specific variables to determine the robustness of the model. In the present study, firms’ size, firm’s age, and firm’s sector were used as variables to control firm and sector-specific effects. For the operation purpose, the number of

employees was used to measure the firm’s size, the number of years operating in the business indicated the firm’s age. The firm’s sector was coded as a dichotomous variable, representing one if the firm operates in service sectors and zero otherwise. Table 7 offers insight into the results of the structural model. Figure 1 depicts our estimated research models, including t- statistics for factor item loadings and paths.

Table 7. Structural model results

	Path	Path coefficient	t-value	f ² effect size
Relationships	SMBs→ PU	0.401***	4.218	0.303
	C → PU	0.360***	3.589	0.193
	EP→ PU	0.186**	2.044	0.055
Control	Firm size → PU	-0.059 ^{ns}	1.249	0.008
	Firm age → PU	0.130**	2.387	0.044
	D_Service → PU	0.057 ^{ns}	1.123	0.012

Note:***p<0.01; **p<0.05.

Source: Authors.

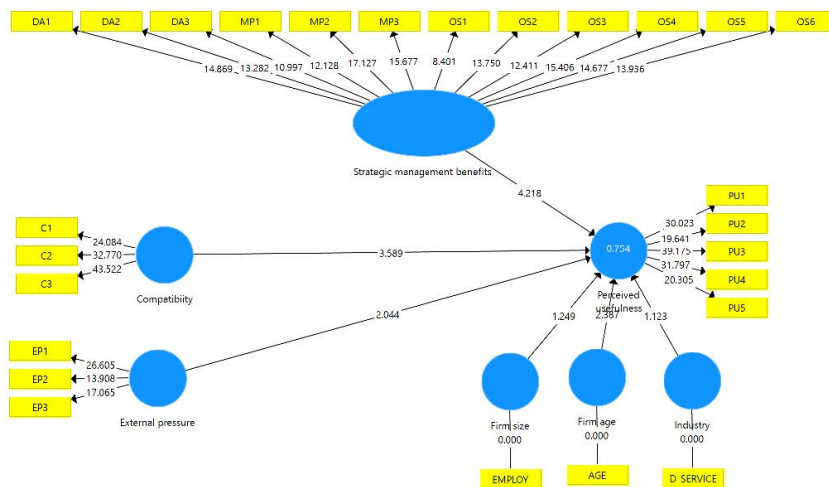


Figure 1. Research model

Source: Authors.

As suggested by Hair et al. (2016), the coefficients of determination (R^2) and effect size (f^2) predict relationships between the constructs. In our model, the adjusted R^2 , for PU of e-commerce was 0.744, which indicated that perceived strategic management benefits of e-commerce, compatibility of organizational culture with e-commerce, and external pressures towards adopting e-commerce explained 74.4% of the e-commerce PU. In terms of effect size, Hair et al. (2016) recommend that the f^2 values above 0.35 indicate a strong effect, between 0.15 and 0.34 a moderate effect, and between 0.02 and 0.14 a weak effect. In our model, the positive relationship between perceived strategic management benefits (SMBs) and the e-commerce PU was statistically significant ($\beta = 0.401$; $p < 0.01$), but the effect size ($f^2 = 0.303$) indicated a moderate effect. Also, we found the effect of compatibility between the organizational culture and the e-commerce (C) to the e-commerce PU to be statistically significant and positive ($\beta = 0.360$; $p < 0.01$), although with moderate intensity ($f^2 = 0.193$). Findings indicate that the perceived external pressure to adopt the e-commerce (EP) is significantly related to the e-commerce PU ($\beta = 0.186$; $p < 0.05$), but the impact was small ($f^2 = 0.55$). In terms of control variables, firm size and firm sector were not significant predictors of the e-commerce PU. Hence, the model is robust, regardless of the firm's size and firm's sector.

Nevertheless, the firm's age is positively related to the e-commerce PU at the significance level of 5%. Thus, our results suggest that mature firms are more likely to have higher perceived usefulness of e-commerce than new and young firms. We also looked at the standardized root mean square residual (SRMR) as one of the model fit criteria. The SRMR value for our model was 0.058, which is below the threshold value of 0.08

recommended by Henseler et al. (2015). Thereby, there is an adequate fit of the model to the data.

5.3. Discussion

The present study explored the drivers of the perceived usefulness of e-commerce among SMEs in B&H. Based on the survey among 154 SMEs in B&H, our study revealed that the perceived usefulness of e-commerce – PU is driven primarily by the strategic management benefits of e-commerce. Besides, internal factors, such as compatibility between the organizational culture and e-commerce are found to be a good predictor of the perceived usefulness of e-commerce among SMEs in B&H. Specifically, firms in which e-commerce is more aligned with the organizational culture, values, and work practices have a higher perception of e-commerce usefulness. Also, the present study highlights the importance of external forces in shaping the perceived usefulness of e-commerce. More precisely, findings indicate that the perceived usefulness of e-commerce is shaped by the e-commerce adoption behavior of other firms belonging to the same industry and/or those in the same network of commercial activities. Thereby, it seems that the bandwagon effect drives the perceived usefulness of e-commerce. The firm's perception of the e-commerce usefulness and, consequently, the firm's willingness to adopt e-commerce are related to the fact that other firms have already adopted e-commerce. Thus, our findings reinforced the idea of the enterprise bandwagon effect, arguing that the expression "keeping up with the Joneses" can also be applied to the context of the e-commerce adoption behavior. Our study proved the importance of three factors influencing the perceived usefulness of e-commerce (strategic management benefits, compatibility, and external pressures)

irrespective of the firm size and firm sector. In terms of firm age, the results indicate that mature firms have higher perceived usefulness of e-commerce than new and younger firms. Given that firms at the early stage of development face limited resources, they often hesitate to implement a variety of e-commerce solutions.

6. CONCLUSION

An important practical implication of our research relates to government intervention in fostering the diffusion application of e-commerce among SMEs. Namely, having in mind the benefits that the adoption of e-commerce among SMEs brings, and the overall economic picture of B&H, and the importance of SMEs in it, it is clear that SMEs are necessary institutional assistance in terms of influence and regulation. Regardless of the type of intervention (knowledge deployment, financial support, tax deductions, business regulation, etc.), it should be primarily aimed at more mature companies that show greater perceived usefulness of e-commerce and, consequently, have greater willingness to adopt e-commerce. The adoption of e-commerce by these companies through the action of external pressure factors can lead to further diffusion of the perception of utility and thus the wider application of e-commerce among SMEs in B&H.

The current study has several limitations that need to be highlighted. First, we used convenience and purposive sampling techniques. Thus, future studies with probability sampling techniques are welcomed since they would increase the possibility of generalization. Second, the present study focuses on firms that have adopted or intend to embrace e-commerce in the incoming years. Since we did not include the opinions

of owners-managers and managers of SMEs who are unwilling to adopt e-commerce, future studies should consider the beliefs of the e-commerce non-adopters. Third, our study explored drivers of the perceived usefulness of e-commerce. It would be interesting to explore real benefits realized from e-commerce adoption by comparing firm performance among early and late e-commerce adopters and/or e-commerce adopters and non-adopters.

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USMJERAVANJE MALIH I SREDNJIH PODUZEĆA (MSP) PREMA ELEKTRONIČKOJ TRGOVINI: POKRETAČI PERCIPIRANE KORISNOSTI ELEKTRONIČKE TRGOVINE MEĐU MSP-ima U BOSNI I HERCEGOVINI

Sažetak

Suvremeno poslovno okruženje, za koje su karakteristične visoka razina dinamike, turbulencije i neizvjesnosti, prisiljava poduzeća na propitivanje tradicionalnih modela trgovine i prihvaćanje modela internetske e-trgovine. S obzirom da percepcija korisnosti determinira spremnost poduzeća za prihvaćanje e-trgovine, u ovom se radu istražuju utjecajni čimbenici među MSP-ima u Bosni i Hercegovini. Provedena je anketa 154 menadžera i vlasnika MSP-a, kako bi se utvrdile varijable, koje predstavljaju ključne pokretače percipirane korisnosti. Rezultati pokazuju da su koristi za strateški

menadžment, kompatibilnost i vanjski pritisci ključni prediktori percipirane korisnosti. U ovom se radu također pokazuje da je percipirana korisnost veća, ukoliko su poduzeća u istoj industriji ili poslovnoj mreži već prihvatila navedeni poslovni model. Navedeni rezultati pružaju potporu postojanju efekta sljedbeništva. U usporedbi s novim i mlađim poduzećima, pokazuje se i da zrela poduzeća u većoj mjeri percipiraju korisnost e-trgovine.

Ključne riječi: e-trgovina, MSP, Bosna i Hercegovina