Original Article

Factors affecting the adoption of online marketing channels in SMEs: An empirical survey in the north of Vietnam

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Abstract: This study attempts to investigate the awareness of SMEs in some northern provinces of Vietnam about online marketing, to determine the factors encouraging the SMEs to use online marketing channels, and to measure to what extent they influence the adoption. The quantitative method measures the intensity relationship between determinants in the Technology, Organization, and Environment (TOE) based theoretical model. In combination with it, the qualitative method is applied for the first phase of research exploration. Relying on the research model, a questionnaire is designed to survey 234 SMEs in some northern provinces of Vietnam. Multivariate regression is run with the help of software SPSS 22 to test which factors influence the adoption of online marketing. The result indicates that all three factors of the technological, organizational, and environmental context are drivers of online marketing for SMEs in some northern provinces of Vietnam. However, the organizational factor is the most important one. Based on these important results, the study proposes implications for SMEs to improve their marketing activities.

Keywords: Online marketing, small and medium-sized enterprises (SMEs), digitalization, Vietnam.

1. Introduction

In the present era, we witness a shift from traditional marketing, whose focal point is the company's product or service, to modern marketing, characterized by more customer-oriented marketing using a digital platform that can easily adapt to change, understand

customer's insights and reach the targeted market quickly and with good positioning. To get a larger audience and appropriate customers, marketing channels have been innovated and become more complex in recent years with high intensity and speed, especially following the changes spurred by smartphone development. Websites, email, Social Media, Referral Marketing, Content Marketing, Pay-Per-Click Advertising - PPC, Local Search Engine Optimization - SEO, Display Advertising, and Affiliate Marketing have become increasingly popular for customers with more than 26 billion smart devices circulating in the digitalized world (Deloitte report, 12/2019). Since the creation of digital marketing, markets have become more global, competition more intense and borders more open (Gilmore et al., 2007).

E-marketing has brought huge benefits (Qashou & Saleh, 2018). Various convenient channels allow customers to access products or services quickly, regardless of time or place (Sheth & Sharma, 2005). Their specific needs can also be easily met as companies can collect customer data through touch points for analysis. At the same time, companies benefit more when online marketing channels give them timely customer feedback. Brand image is constantly renewed with advertising and promotion activities. This allows companies to tailor their marketing ways to improve their survival, increase customer awareness, enhance their loyalty to companies, and gain a competitive edge among other companies (Ali et al., 2015; Babalola & Babalola, 2015). In addition, online marketing allows companies the opportunity to reduce costs for printing brochures, leaflets, renting billboards, and setting up substantial display spaces. Management tasks are also improved in a direction that is more flexible and more focused on meeting customer needs, using innovative marketing methods.

Along with the emergence of smartphones and the dizzying development of digital technology, researchers also study the behavior of businesses in using online marketing. The benefits gained from online marketing are obvious; so various studies have been conducted on e-marketing acceptance and adoption. Following IDG's 2018 Digital Business research, 89% of organizations plan to adopt a digitally prioritized business strategy, yet only 44% ultimately do adopt it. One of the most successful online marketing strategies is Starbucks, which created a consistent branding campaign on its websites. It even established a unique website named My Starbucks Ideas, allowing users to post new ideas, vote on ideas they liked, and keep track of ideas being presented. In Vietnam, digitalization in firms has been recently analyzed by authorities, the Vietnam Commercial Chamber of Industry (VCCI), professional associations and universities through seminars and conferences. While there is considerable research on digital transformation within SMEs, the drivers of the online marketing of the SMEs have barely been explored, which creates a significant gap in the E-Marketing field. In fact, Small and Medium-sized Enterprises (SMEs) account for about 97% of the 760,000 enterprises in Vietnam (Ministry of Planning and Investment, 2020). They have contributed huge potential and socio-economic significance to economic growth and job creation in the context of the rise of e-commerce and digital retail channels (Deloitte, 2019). The survey conducted in 2017 by Asia Plus Inc. on 155 enterprises to find out the digital marketing picture in Vietnam, reveals that businesses focus most on social activities. 84% of them pour money into advertising on social media. Display advertisements and Search advertisements (Search Engine Marketing - SEM) are also used frequently, with 44% and 46% of businesses spending money on them respectively. Social advertising draws money from businesses regardless of company size with 94% of medium/large businesses (50 employees or more) and 79% of small businesses (fewer than 50 employees) contributing.

Another study by Ngoc et al. (2019) that investigates factors that influence the decision to apply social media in business in Vietnam pointed out that the decision of Vietnamese

individual and household retailers' choice of social media is made mainly because of extrinsic factors rather than their intrinsic motivation. Moreover, the more self-efficient, innovative, and IT-experienced Vietnamese retailers are, the more willing they are to apply social networks to business. The other marketing activities are mainly for medium and large companies. For instance, 35% of medium and large enterprises use influencer marketing while the number is only 11% for small enterprises, which can be explained by the high cost. This research viewed social media and household retailers using the Diffusion on Innovation theory (DOI) and the Technological-Organizational-Environmental (TOE) framework. Within the Vietnamese SME context, there is a shortage of research on factors influencing the adoption of digital marketing communication channels. Therefore, this paper aims to answer two questions: (1) What factors influence the adoption of online marketing channels of SMEs in Vietnam? (2) To what extent these factors put an impact on their marketing channel adoption?

2. Literature review

2.1. E-marketing/Online marketing

Information and communication technology (ICT) play a crucial role in pushing businesses to adjust their operation. As an important function in businesses, marketing has been influenced by the change that led to the rise of so-called e-marketing or electronic marketing or online marketing (Eid & El-Gohary, 2013; Tan et al., 2013; Babalola & Babalola, 2015; Qashou & Saleh, 2018). E-marketing is described as "a process through which the firm uses the internet and other reactive technologies to interact with its customers" (Brodie et al., 2007) or as "the use of electronic data and applications for planning and executing the conception, distribution, and pricing of ideas, goods, and services to create exchanges that satisfy individual and organizational goals" (Strauss & Frost, 2001). Ali et al. (2015) and Dehkordi et al. (2012)

include e-marketing in e-commerce, which is an integral part of e-business.

Kotler and Keller (2012) stated that it is more challenging for firms to select effective channels to deliver a marketing message because communication channels between firms, customers, and audiences are fragmented by technological growth (Silva et al., 2015). The digital period brings out more marketing options through websites, e-mail, mobile SMSs, search engine optimization (SEO), display ads and search ads, and social media… (Kotler & Armstrong, 2012). With an abundance of channels, it is generally quite easy to collect data and accurately track the performance of marketing campaigns. For instance, website traffic is tracked by daily visitors, bounce rate, new and return visitors, page views, and conversion rates. The effectiveness of social marketing performance is measured by engagement, the number of followers and brand mentions. Search engine performance is evaluated via organic traffic, keyword tracking and visits via branded search terms. The data can be analyzed to ameliorate the marketing strategies in the future.

2.2. Factors affecting the adoption of online marketing channels in SMEs

The application of new technology has been studied by scholars around the world for many years. Some authors have developed theoretical models for the application and adoption of new technologies, which are: a prominent theory of reasoned action (TRA), the theory of planned behavior (TPB), the technology acceptance model (TAM), the diffusion of innovation theory (DOI), the technology-organization-environment model (TOE), resource-based theory and institutional theory. These models provide tools to explore specific aspects of technology acquisition and decision-making. The internal environment, the outside and the technological aspects are carefully researched. Among them, the TAM, DOI and TOE frameworks have been most adjusted in different contexts and have helped researchers draw

valuable conclusions for corporate executives as well as for governments.

Technology Acceptance Model (TAM)

The TAM is regarded as the prominent upgraded version of Ajzen and Fishbein's theory of reasoned action (TRA). The TAM was initially designed to study computer-based technologies (Yang, 2005), then was applied to do research on a bunch of Internet technologies, such as the World Wide Web (Lederer et al., 2000), mobile commerce (Yang, 2005), the intranet (Alam, 2009; Alam & Noor, 2009), electronic commerce adoption (Alam et al., 2011; Lee et al., 2001; Olson & Boyer, 2003), some other software (Venkatesh & Davis, 2000) and personal computing (Agarwal & Prasad 1999). The TAM is used as a basis for discovering external variables and investigating their impacts on technology adoption decisions.

Diffusion of Innovation (DOI) theory

DOI theory at a firm level was created by Rogers (1995) to investigate how positively organizational innovativeness is affected by the characteristics of the organization including internal organizational structural characteristics and external organizational characteristics and individual characteristics. Individual characteristics, with a bevy of individual personality traits are defined as the leader's attitude toward change. Internal characteristics of organizational structure describe a complex system with a set of procedures and norms, where power is centralized in the hands of a relatively few individuals while plenty of the organization's members are relatively high in knowledge and expertise. Internal organizational characteristics are composed of innovation-system fit, assessment of implications and tension for change that often takes place among its individual members. The External characteristics of the organization, that is also called system openness, is also included in DOI theory. Industry, community, or the economy in a wider environment put pressure on organizations to adopt technology. The DOI theory has been adapted in some other research

that created a new technology, organization, and environment context (TOE) framework.

Technology, organization, and environment context (TOE) framework

Created by Tornatzky and Fleischer (1990), the TOE has been applied by various authors to describe how technological innovations are introduced into organizations in the technological, organizational and environmental context. (a) The internal and external technologies that are relevant to the firm create a technological context. (b) Organizational context refers to the characteristics and resources of the firm (size, degree of centralization, degree of formalization, formal and informal structures, human resources, slack, and internal networking. (c) The Environmental context is composed of government regulation, market structure, technology support infrastructure and the industry characteristics (Tornatzky & Fleischer, 1990).

The TOE framework is consistent with DOI theory when characteristics of the organization and individual characteristics coincide with the technology and organization context of the TOE framework. A new component of the environment context added to the TOE framework refers to both opportunities and risks for technological innovation, including e-marketing. The TOE framework makes Rogers' DOI able to clarify innovation diffusion at firm level (Hsu et al., 2006).

The TOE framework was adapted for a comprehensive approach, including all technological, organizational and environmental aspects in firms' ICT adoption. Although specific factors identified in the three contexts may differ in studies, the TOE framework is developed on a solid theoretical basis and is supported by consistent empirical investigation. So it is the potent both being applied to ICT innovation domains. In studies examining IT adoption from an organizational level, Alatawi et al. (2013) suggested that the TOE framework could be used as a successful choice.

In the research on e-marketing adoption by SMEs, Iddris and Ibrahim (2015) used the TOE model to determine these internal and external E-

readiness factors. Ramdani et al. (2013), included various internal and external factors in the TOE framework. Qashou and Saleh (2018) used a sixteen-factor conceptual model derived from the TOE framework to identify internal and external drivers for adopting E-marketing tools in small and medium-sized restaurants (SMRs) in Palestine and their influences on marketing performance. The research results collected and revealed that all individual hypothesized factors from three contexts (technological, organizational and environmental) have positive significant impact on E-marketing implementation. Maduku et al. (2016) also used a multi-perspective framework rooted in the TOE framework to discover incentives for mobile marketing implementation intention by 205 SMEs in South Africa. The results identified that enterprises are pushed by important determinants of intention, including top management support, perceived cost, perceived relative advantage, customer pressure and staff IT competency to accept and apply mobile marketing. Among them, perceived top management support plays the strongest role. Lin (2014)'s TOE research model was developed to explore the drivers of electronic supply chain management system (e-SCM) acceptance across non-adopters and adopters in a sample of 283 IS managers in large Taiwanese firms. The results reveal that perceived benefits, perceived costs, top management support, absorptive capacity and competitive pressure are the main factors influencing e-SCM adoption.

2.3. Model and hypothesis development

Research model

The theoretical background of this study is anchored in the TAM, DOI, and TOE models. Based on the literature review, this study proposes a model of a combination of the above three models to have the best explanation of the factors affecting online marketing acceptance and implementation in SMEs in some northern provinces of Vietnam. Consequently, in accordance with these three models, for conducting this study, the factors of accepting and implementing online marketing in SMEs are classified into three contexts, including the technological context, organizational context, and environmental context.

The technological context includes 2 factors, which are: (1) Perceived benefits (PB); (2) Compatibility (CF). The organizational context consists of 4 factors, which are: (1) Technology readiness (TR); (2) Firm owners/managers' support (FS); (3) Firm's IT knowledge and experience (KE); (4) Firm's culture environment (FE). The environmental context includes 2 factors, which are: (1) Customers and competitors' pressure (CC); (2) Trust in the electronic business platform (TBP). These factors and their variables are introduced in Table 1. The dependent variable of the decision to adopt online marketing channels and independent variables are all measured by a five-point Likert scale corresponding to 1- totally disagree to 5 - totally agree.

Table 1: Independent and dependent variables

Dimensions	Factors	Items	Sources
Technological context	1. Perceived benefits (PB)	5 items	Yang (2005), Alam et al. (2009), Agarwal and Prasad (1999), Qashou et al. (2018)
	2. Compatibility (CF)	4 items	
Organizational context	3. Technology readiness (TR)	3 items	Rogers (1995), Tornatzky and Fleischer (1990), Qashou et al. (2018), Lin (2014)
	4.Firm owners/managers' support (FS)	2 items	
	5. Firm's IT knowledge and experience (KE)	3 items	
	6. Firm's culture environment (FE)	3 items	
Environmental context	7. Customers and competitors' pressure (CC)	5 items	Tornatzky and Fleischer (1990), Ramdani et al. (2013), Qashou and Saleh (2018), Maduku et al. (2016)
	8. Trust in the electronic business platform (TBP)	3 items	

Dependent variable		Sources
Adoption of online marketing channels (AOM)	AOM1. Website	Kotler and Amstrong, (2012), Alam and Noor (2009), Lee et al. (2001), Olson and Boyer (2003), Agarwal and Prasad (1999)
	AOM2. Email marketing	
	AOM3. Forum, blog...	
	AOM4. SMS Marketing	
	AOM5. Social network: Google+, Pinterest, Instagram, YouTube, Zalo, Facebook…	
	AOM6. Online Advertisement (Google AdWords, Facebook…)	
	AOM7. Search engine optimization (SEO)	
	AOM8. PR, banner	
	AOM9. Affiliate marketing	

Source: Authors.

The proposed hypotheses are as below:

H1: Technological context, including Perceived benefits and Compatibility, influence positively online marketing adoption among SMEs.

H2: Organizational context, including Technology readiness, Firm owner/manager support, Firm's IT knowledge and experience and Firm's open environment, impact positively online marketing adoption among SMEs.

H3: Environmental context, including Customers and Competitors' pressure and trust in the digital business platform, has positive impact on online marketing adoption among SMEs.

3. Methodology and data

Methodology

We use a quantitative method by using SPSS 22 software in order to bring out the objectives of this research as in the following steps:

Testing the reliability of each component of the scale, considering the reliability of the Cronbach's Alpha coefficient reliability observable variables, thereby eliminating unexplained observational variables (unreliable).

Using the EFA through SPSS 22 processing software, to restructure the remaining observable variables into appropriate factors (measurement components), to be the basis for research

modification and the development of research hypotheses, the contents of the study and subsequent test steps.

Using the multiple linear regression model to determine the relationship between the level of online marketing adoption among SMEs with independent variables.

Sample and data collection

The paper was concerned about SMEs in some northern provinces of Vietnam, including Hanoi, Quang Ninh and Hung Yen provinces, focusing on these two groups of businesses: B2B (business to business) and B2C (business to customer). The aim is to give them meaningful practical and managerial implications. The convenient sampling method was adopted to collect data from marketing staff, managers and owners of SMEs and the interviewees were randomly chosen from the research team members' network. They were invited to complete a questionnaire in face-to-face meetings or through digital platforms (email, Zalo, Viber and Facebook Messenger). These initial respondents were also encouraged to send the survey link on Google form to others in their network. After four weeks in June and July 2022, 234 respondents completed the questionnaires and all of them were accepted for data analysis. The questionnaire is in Vietnamese, so the data collected was translated to English before the process of data analyzing.

4. Results and discussion

4.1. Reliability and validity of data

To determine the reliability of the data, Cronbach's Alpha has been calculated for the main constructs in the questionnaire, where all reported Cronbach's Alpha values were greater than 0.7, and so the data were acceptably displayed with great internal consistency. Content is proved valid through selecting and modifying items in the questionnaire's design. Because all the items used to measure the variables have been adjusted from previous studies and have been modified to suit the circumstances of this study, the validity of the content has been considered achievable.

4.2. Descriptive statistics

The descriptive statistics of the sampled SMEs presents the general information of online marketing adoption as reported by leaders, marketing managers and marketing staff of the sampled SMEs. There are more than a half of the firms (59%) that have used a website as a marketing channel to approach the audience and customers. Social media (Facebook) and email are also popular channels for online marketing, respectively 9.8% and 8.1%. This result is not surprising as Vietnamese people, especially the young generation, spend hours surfing the Internet and most of them are familiar with applications on smartphones. In fact, the Social Media Stats reported that in July 2022, Vietnam had 72.98% of the population using Facebook, 15.51% using YouTube, and 2.97% using Pinterest. The number of social media users in Vietnam will continue to increase in the coming years (Social Media Stat Vietnam, 2022). It is an opportunity for SMEs to promote marketing. Besides, the adoption of online marketing channels is easily perceived and measured by the number of views and the prompt responsiveness of customers. Hence, 100% of respondents reported that their firms have chosen at least one online marketing tool. However, the percentage of budget spent on online channels is fairly low with almost 50% of SMEs putting less than 10% of their total budget on marketing.

Based on the conceptual framework, variables are presented in Table 1. The average and the standard deviation of all factors corresponding to questions in the questionnaire were calculated. Table 2 gives a summary of all independent variables including technological, organizational and environmental context factors and the dependent variable of adoption of online marketing channels.

Table 2: Summary of independent and dependent variables

Variables	N. of items	Mean	Std deviation	Cronbach's Alpha
Independent variables				
Technological context				
1. Perceived benefits (PB)	5	3.93	1.06	0.84
2. Compatibility (CF)	4	3.69	1.07	0.72
Organizational context				
3. Technology readiness (TR)	3	3.74	1.11	0.77
4. Firm owners/managers' support (FS)	2	3.77	1.06	0.71
5. Firm's IT knowledge and experience (KE)	3	3.74	1.12	0.83
6. Firm's open culture environment (FE)	3	3.97	1.05	0.87
Environmental context				
7. Customers and competitors' pressure (CC)	5	3.75	1.08	0.86
8. Trust in the electronic business platform (TBP)	3	3.5	1.05	0.87
Dependent variable				
Adoption of online marketing channels (AOM)	9	3.62	1	0.89

Source: Authors.

4.3. Reliability of statistics

The theoretical framework of online marketing acceptance is aimed at exploring the influencing factors on the adoption of online marketing channels and to what extent their impact is on affecting SMEs to decide to adopt online marketing channels. The study uses data from the survey to check the reliability of the scale using Cronbach's Alpha coefficient by using the software SPSS 26.0. The measurement of reliability provides consistency in the measurement of variables. According to De Vaus (2002), a variable is considered to be reliable if the correlation of the variable with the total variation is greater than 0.3, and Cronbach's Alpha has the minimum satisfactory value of 0.63.

Results show that the independent variables generate a Cronbach's Alpha value of 0.73, so it means that the scales are satisfactory according to the criteria stated in the theory. When each group of factors is studied in depth, the results show that the Corrected Item-Total Correlation is less than 0.3 and the variable has a Cronbach's Alpha less than the Cronbach's Alpha of the entire scale, meaning that all scales are satisfactory. The value of alpha obtained for those independent variables as shown in Table 2 indicates that scale is reliable for use in this study. Thus, the remaining 28 observed variables performing three factors of Technological Context, Organizational Context and Environmental Context, are put into the next steps of analysis.

For the dependent variable "Adoption of Online Marketing channels", after three times performing Cronbach's Alpha, three unsatisfactory observed variables were removed, six good observed variables remained with a Cronbach's Alpha coefficient of 0.894, highlighting a good measurement scale.

4.4. Exploratory factor analysis (EFA)

This study focuses on testing construct validity and investigating relationships among key survey internal scaled questions regarding intent to adopt online marketing in SMEs by using exploratory factor analysis, EFA. Construct validity represents the extent to which the items in a scale measure the same construct. The Principal axis was chosen, followed by varimax rotation with Kaiser Normalization. The Kaiser-Mayer Olkin measure of sampling adequacy (KMO) was first computed to determine the suitability of using factor analysis.

The results of testing the appropriateness of the EFA model for 28 observed variables belonging to "Technological Context", "Organizational Context", "Environmental Context" shows that the KMO coefficient is 0.932, satisfying the condition of $0.5 < KMO < 1$ for sample Adequacy. Thus, factor analysis is consistent with the actual data. Moreover, the Sig. of Bartlett test result is $0.00 < 0.05$, rejecting the hypothesis H_0, meaning that the observed variables are linearly correlated with the representative component.

Evaluating the total variance value shows that the value of the Total Variance Explained is 64.9%, which is greater than 50%. Three factors are, therefore, identified, which meet the required level.

For independent variables, the EFA analysis is run with 28 observed variables three times. The results of the rotated component matrix show there are three extracted factors, representing 18 observed variables, sorted by importance level respectively: (1) Organizational context; (2) Technological context; (3) Environmental context. As such, 10 other variables have been removed.

For the dependent variable Adoption of Online Marketing, the result of EFA analysis shows that the KMO coefficient 0.891 is greater than 0.5, meeting the requirement. The Bartlett test has Sig. value of 0.00 that is less than 0.05. It is satisfactory. The value of the total variance explained is 51.621 (> 50%).

4.5. Correlation analysis

The correlation analysis results show that the correlations are statistically significant at 1%, rejecting H_0. The result also shows that the

correlation coefficient R of all variables is greater than 0.5, meaning that the independent variables have strong correlation with the dependent variable, in which "Organizational Context" (FAC1_1) has the strongest correlation

(r = 0.623). This is followed by the variable "Environmental Context" (FAC1_3) with r = 0.569. The weakest correlation with the dependent variable is the "Technological Context" (FAC1_2) with r = 0.537 (Table 7).

Table 3: Pearson correlation coefficient testing result

		FAC1_4	FAC1_1	FAC1_2	FAC1_3
FAC1_4	Pearson Correlation	1	0.623**	0.537**	0.569**
	Sig. (2-tailed)		0.000	0.000	0.000
	N	234	234	234	234
FAC1_1	Pearson Correlation	0.623**	1	0.598**	0.713**
	Sig. (2-tailed)	0.000		0.000	0.000
	N	234	234	234	234
FAC1_2	Pearson Correlation	0.537**	0.598**	1	0.556**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	234	234	234	234
FAC1_3	Pearson Correlation	0.569**	0.713**	0.556**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	234	234	234	234

**Correlation is significant at the 0.01 level (2-tailed).

Source: Authors.

4.6. Multivariate regression analysis

The data were analyzed by using multiple linear regression analysis following the guidelines established by Hair et al. (1998). The aim of regression analysis is to relate a dependent variable to a set of independent variables and find out the ability of each independent variable to explain the dependent variable. Multiple regression analysis is an appropriate analytical technique to determine the relationship between a set of impact factors such as Technological context, Organizational context, Environmental context (Independent variables) and Adoption of online marketing (Dependent variable).

The results of multivariate regression show that the dependent factor, the adoption of online marketing, is explained by 54.8% of the independent factors ($R^2 = 0.548$). All three independent variables: Organizational factor,

Technological factor and Environmental factor are statistically significant at 1% and their coefficients are positive. It means hypothesis H_0 is rejected. Thus, three factors above, including the Organizational, Technological and Environmental Context, impact positively on the Adoption of Online Marketing, in which the organizational context is the most crucial factor affecting the adoption of online marketing from SMEs in some northern provinces in Vietnam. The second factor with a coefficient of 0.216 is the technology context. The environmental factor has the smallest influence on the adoption of online marketing.

The autocorrelation is tested by Durbin-Watson and its result (2.115) reflects no autocorrelation in this sample. The multicollinearity is also tested with the VIF value in the model smaller than 10. Hence, the possibility of multicollinearity among the independent variables is negative in this model.

Table 4: Multiple regression results

Variables	Unstandardized coefficients	Standardized coefficients	t-value	Sig.	Tolerance	VIF
Constant	1.263		0.000	0.000		
Organizational Context	0.353	0.353	4.750	0.000	0.433	2.307
Technological Context	0.216	0.216	4.443	0.001	0.608	1.644
Environmental Context	0.197	0.197	2.743	0.007	0.466	2.147
R Square			0.548			
Durbin-Watson			2.115			
Sig. F			0.000			

Source: Authors.

The regression analysis results revealed that support from top management plays a crucial role in adopting and implementing online marketing. This finding coincides with Wang et al. (2010) and Qashou et al. (2018) but does not match with Maduku et al. (2016). Technology readiness is also a factor pushing SMEs to use online marketing channels. This finding does not match with Abeer Qashou et al. (2018) and Wang et al. (2010), while it coincides with the study of Rahayu and Day (2015). Firms' IT knowledge and experience significantly impact the adoption of online marketing, which contradicts the research results of Qashou et al. (2018). Again contradicting the results of this latter research, this model shows that organizational open culture with young employees is significant in online marketing adoption. This result is consistent with the research by El-Gohary (2010).

The regression analysis has shown that in terms of technological context, the more advantage SMEs perceive, the more they tend to apply online marketing. This agrees with Maduku et al. (2016) and Qashou et al. (2018). Compatibility is proved affecting decision of using online marketing, which is not consistent with Rahayu and Day (2015) and Qashou et al. (2018).

Regarding competitor and customer's pressure, the analysis also showed a significant and positive effect of it on the adoption of online marketing. This finding does not match with the research results of Rahayu and Day (2015) and Qashou et al. (2018). It may be understood that SMEs in some northern provinces of Vietnam are influenced by competitors and customers good at digital marketing technology.

5. Conclusion and recommendations

This study aims to explore the factors affecting the adoption of online marketing in SMEs in some northern provinces in Vietnam. A quantitative method of research has been used to conduct this study. A convenient sample of 234 SMEs, mainly situated in Hanoi, Quang Ninh and Hung Yen provinces, was investigated through a self-report questionnaire survey of top managers, marketing managers and marketing staff. The statistical analyses of the collected data revealed that most of the sampled firms have adopted online marketing. Websites, social media and email are the favorite marketing channels for them. However, only a limited proportion of budget is used (less than 10% of marketing budget spent by more than a half of the sampled SMEs). In assessing the most important factors that influence the adoption of online marketing channels, the research found that organizational context is the most significant, followed by technological and environmental ones. Also, the relationship

between online marketing channel implementation and marketing performance has been reported positively and significantly.

The findings of the research suggest some conclusions. Firstly, this paper proposes a theoretical model of a combination of the three above models in order to have the best explanation of the factors affecting online marketing acceptance and implementation in SMEs in some northern provinces of Vietnam. Secondly although top managers are interested in online marketing, SMEs still lack a comprehensive and clear strategy to adopt and implement marketing, based on a digital platform. Some new and effective tools, such as affiliate marketing and SEO, haven't attracted enough attention of SMEs. Thirdly, in a consequence of the lack of strategical interest in marketing, financial resources allocated for the implementation of online marketing are still limited. So, the potential effectiveness of online marketing has not been realized. Fourthly, Vietnamese SMEs operate in a dynamic, volatile environment with competitors and customers who love technology. Therefore, accessing and using online marketing will help businesses gain new customers, enhance loyalty and can minimize the risk of being left behind by their competitors. Finally, the awareness of business leaders and the open cultural environment of the business are very important in promoting the use of online marketing. Knowledge and experience in ICT are also crucial factors in the enterprise's decision process.

Based on these conclusions, SMEs in some northern provinces of Vietnam are highly encouraged to exert more effort to take advantage of online marketing. More specifically, SMEs should build a marketing strategy in which online marketing channels should be highly emphasized. Also, the authorities could reinforce their management role by raising the awareness of SME leaders, creating a good environment for online marketing implementation. Although this research adapts a comprehensive conceptual framework of TOE to explore the main factors

effecting decision of using online marketing in SMEs in Vietnam, it has some limitations including the narrow geographical region studied, leading to the lack of data for comparison. Another limitation is that the research method used in this research is only quantitative. So, it would make more sense if further studies could be conducted with a qualitative and quantitative mixed method. The insights of SMEs will then be better understood.

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