THE INNOVATIVE POSTURE OF SMEs DEPENDING ON THE USAGE OF MARKETING TOOLS

Aleksandr Ključnikov\textsuperscript{a}, Mehmet Civelek\textsuperscript{a*} and Soňa Chovanová Supeková\textsuperscript{b}

\textsuperscript{a}Institute of Entrepreneurship and Marketing, University of Entrepreneurship and Law, Michálkovická 1810/181, 710 00 Ostrava-Slezská Ostrava, Czech Republic
\textsuperscript{b}Faculty of Economics and Business, Tematínska 10, 851 05 Bratislava, Slovak Republic

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Abstract

Although SMEs have quick adaptions to new trends, most of them suffer from having lack of financial and human resources. This fact has made those businesses disadvantaged in the usage of traditional marketing tools compared to their larger rivals. Information and communication technologies and the developments in technology-based platforms have also provided less costly but more innovative marketing options for SMEs to compete with their larger counterparts. In this regard, this research purposes of examining the impacts of the usage of traditional and technology-enabled marketing tools by SMEs on their innovativeness. In parallel with this selected purpose, the researchers have gained data from 812 SMEs in Slovakia by employing an online internet-mediated questionnaire. The researchers also apply Binary Logistic Regression Test to analyze the impacts of traditional and technology-enabled marketing tools on the innovativeness of SMEs. The results show that while usage of technology-enabled marketing channels positively affects the innovativeness of firms, the usage of traditional marketing channels by SMEs does not affect their innovativeness. Environmental, resource-related, and personal factors might be the reasons of these results.

Keywords: technology-enabled marketing, SMEs, innovation, traditional marketing, digital marketing, social media

1. INTRODUCTION

SMEs' flexible structures make them adapt to quickly changed market conditions, and the role that SMEs play in value addition is crucial for economies (Tóth & Mura, 2014; Kljucnikov et al., 2019; Zajkowski & Domańska, 2019). For instance, more than 99% of all businesses in the EU are SMEs; they create more than 55% of total value-added and employ more than 65% of the total workforce (European Commission,
However, SMEs encounter fierce competition when competing with their larger-sized rivals (Mura & Kajzar, 2019; Belas et al., 2020). Their innovative capabilities make them stay competitive (Mura, 2020; Du et al., 2021; Kubickova et al., 2021) and economically grow (Kotaskova & Rozsa, 2018).

Especially after the Covid-19 pandemic, the importance of technology-enabled marketing tools has increased because businesses keep social distance and minimize close interactions with their consumers by using those channels. Moreover, since people always move their mobile phones with them and most of them have an internet connection, they are more likely to experience online, technology-based marketing tools of SMEs than traditional tools such as TV marketing or direct marketing (Amirkhanpour et al., 2014). Although technology-enabled marketing tools provide many benefits for its users, there are still some SMEs that use traditional (offline) marketing tools (Ahmed & Hussain, 2014), and they perceive the usage of traditional marketing tools as beneficial for their organizations (Cant & Wiid, 2016).

Similar to other technology-enabled marketing tools, social media also makes businesses apply more sustainable marketing strategies. Innovative and technological abilities and competencies create those strategies compared with traditional marketing tools (Khan et al., 2019). Therefore, the usage of technology-enabled marketing by SMEs might increase their innovativeness. On the other hand, SMEs might also apply new methods, approaches, and marketing strategies using traditional marketing tools that might also influence their innovative activities. In this regard, this paper aims to examine whether the usage of traditional and technology-enabled marketing tools by SMEs influences their innovativeness or not. Thus, this paper purposes the find the answer to the following research question: Does the usage of traditional and technology-enabled marketing tools by SMEs affect their innovative posture? Since this paper includes both categories of marketing tools, traditional (offline) and technology-enabled (online), into the analyses of this research, it is a comprehensive research in the related literature. By having a widen perspective to analyze the marketing activities and innovativeness of SMEs located in one of the European Union member countries, this paper makes significant contributions in entrepreneurship and marketing literature. It fulfills the research gap in those disciplines. Thus, policymakers, academicians, and firms might gain benefits from the results of this paper.

The rest of the paper is structured as follows. Section 2, Experimental, gives details on how the researchers develop research hypotheses and explain the research data and methods that the researchers apply to analyze the data. Section 3, Results, indicates and reveals the findings from the analyses and interprets the hypotheses' testing. In section 4, the researchers provide some strong arguments to explain prospective reasons for the results of this paper and suggest some policy implications. Lastly, the researchers conclude the study by mentioning the main essential points, limitations of the study, and recommendations for future researches.
2. EXPERIMENTAL (RESEARCH)

2.1. Development of research hypotheses

Compared to technology-enabled marketing tools, traditional marketing tools, provide more costly alternatives (Wardati & Mahendrawathi, 2019) and more difficult usage and adaption for SMEs (Khan et al., 2019). However, some SMEs still use some traditional (offline) marketing tools to draw their customers' attentions (Kallier, 2017). The reason for that might be related to their lack of willingness to look for new marketing channels since they think that existing traditional marketing tools are enough for them (Cant & Wiid, 2016). This fact is a sign of their reluctance regarding innovative solutions and ideas. Moreover, modern methods in marketing activities have been perceived as complicated and time-consuming by some SMEs (Cant & Wiid, 2016). When using traditional marketing tools, firms need to check their advertisements before publishing them via magazines, TVs, and radios (Kallier, 2017). However, those controls are not innovative actions since it just includes the revision of drafts (Nobre & Silva, 2014). On the other hand, most traditional marketing channels are based on one way interaction and businesses cannot receive much feedback from their customers compared to technology-enabled marketing tools (Ahmed & Hussain 2014). This fact also creates barriers for firms to find innovative and creative solutions to fulfill the demands of their customers. For these reasons, SMEs’ usage of traditional marketing tools might reduce their innovative posture and activities. Those arguments mentioned above make this paper set the following hypothesis:

H1: There is a negative relationship between the use of traditional marketing tools by SMEs and their innovativeness.

Regarding the usage of technology-enabled (online) marketing tools and the innovativeness of SMEs, by implementing those new information communication channels to their marketing strategies, enterprises have also increased their ability to exploit innovative ideas that draw consumers' attention to make purchases from those businesses (Ziółkowska, 2021; Khan et al., 2019). Most of those efforts of businesses to satisfy the needs of consumers are based on innovative actions (Khan et al., 2019). Since those platforms also make customers share their feedbacks with businesses, they also become a part of the innovation processes of enterprises (Malesev & Cherry, 2021). For these reasons, these channels increase the innovativeness of enterprises (Pateli & Mikalef, 2017; Khan et al., 2019; Malesev & Cherry, 2021). The arguments mentioned above make this paper set the following hypothesis:

H2: A positive association exists between the usage of technology-enabled marketing tools by SMEs and their innovativeness.

2.2. Methodology

This study aims to analyze the effects of the usage of traditional and technology-enabled marketing tools on the innovativeness of SMEs. To achieve this goal, the researchers created an online internet-mediated questionnaire and collected the data from 812 SMEs in Slovakia by sending e-mails to prospective survey respondents who are owners and managers of these enterprises. Moreover, the researchers performed a random sampling method to generate the sample of this research. The data collection period was completed in January 2021.
To examine the usage of traditional marketing tools by SMEs that is one of the independent variables of the research models, the researchers asked the following survey question to the respondents: "In which communication tool of marketing communication is innovation most evident in your business?". Then, some traditional marketing tools such as PR/Public relations, sales promotion, direct marketing, personal selling/face-to-face communication, sponsoring, exhibitions/trade shows, and advertising in the traditional media (print....) are presented in the questionnaires as options. Finally, the responses of the survey participants for each of these channels were scaled by a five-point Likert scale as follows: 1 - least significant to 5 - most significant. The researchers applied the same approach to assess the usage of technology-enabled marketing tools by SMEs by offering some options that are the channels of technology-enabled marketing tools such as online marketing/internet, advertising social media, content marketing/social media, mobile marketing (SMS, MMS...), viral marketing, WOM, a chatbot (Facebook-MSN).

On the other hand, the dependent variable of research models, namely, innovativeness, is evaluated by the following dichotomous question: "Does your company or the company you work for create a new product or improve an existing product?". As this survey question is dichotomous, the answers for this question are binary "Yes" or "No." Firms that answer this question "yes" are called innovative, vice versa. For this reason, the researchers apply Binary Logistic Regression Test to analyze the impacts of independent variables on the binary dependent variable. All analyses that the researchers run for this research have been made in SPSS program version 23.

The researchers select a 5% significance level to support alternative hypotheses. Thus, p values that are lower than the chosen level of significance make researchers support alternative hypotheses presented above. On the other hand, with p-values higher than this significance level, the researcher supports null hypotheses set as the nonexistence of the relationship between traditional and modern technology-enabled marketing tools usage by SMEs and their innovativeness. The research models that are created for the first and second research hypotheses are as follows:

1st and 2nd Binary Logistic regression models, respectively:
\[ Y_1 = (\beta_0 + \beta_1 X_1) \]
\[ Y_2 = (\beta_0 + \beta_1 X_1) \]

where:
- \( X_1 \) – Independent variable (usage of traditional marketing tools for Model 1)
- \( X_2 \) – Independent variable (usage of technology enabled marketing tools for Model 2)
- \( Y_{1,2} \) – Dependent variable (innovativeness of SMEs)
- \( \beta_{1,2} \) – Regression coefficients
- \( \beta_0 \) – Constant or intercept term.

Concerning logistic regression assumptions, this paper does not consider one of the assumptions, namely – multicollinearities between independent variables of research models, because Model-1 and Model-2 only consist of an independent variable.

The researchers consider -2 log-likelihood statistics to indicate whether the research models fit with data or not and how these research models predict the changes in the dependent variable of the models, namely, innovation. The base model has a constant term, while -2 L likelihood has various independent variables, traditional and technology-enabled marketing tools. Having lower volumes from -2 log-
likelihood with predictors than the Base Model's -2 LL statistics indicates a better model fit. Therefore, by including traditional and technology-enabled marketing tools as predictors into the based model, the researchers have made the research models to explain more observations in the research data. In the case of including traditional marketing tools as a predictor in Model 1, there has been a decrease in the Base model's -2 LL statistics by 53.204 as illustrated in the Chi-square column of Table-1.

Similarly, adding technology-enabled marketing tools as predictor, Base model's -2 LL statistics has decreased by 58.005. Thus, adding both of those predictors has caused the research models to express better model fit. On the other hand, since those decreases are significant at a 5% level of significance as illustrated in the Sig. column of the table (both of them are 0.0000), it can be stated that the usage of traditional marketing tools might explain 9.9% of the variability in the innovativeness of SMEs. In comparison, the usage of technology-enabled marketing tools explains the 10.7% variabilities of SMEs' innovativeness.

The researchers also include the results of Durbin Watson test statistics in Table 1 to indicate whether another assumption of Logistic Regression, namely, Independence of Errors, is violated or not. This assumption examines whether a relationship exists between the cases and the data or not and whether the residual term is independent and autocorrelated or not (Field, 2009). The volumes of Durbin Watson test statistics differ between 0 to 4. The volumes that are close enough to 2 express the nonexistence of autocorrelation between residual terms. Since the values of Durbin Watson statistics are indicated as 1.991 and 1.978 in Table 1, this study fulfills the independence of error assumption for logistic regression models.

Corresponding to the Linearity assumption, the results are presented below in Table 2. The researchers consider the "interaction term between the predictor and

<table>
<thead>
<tr>
<th>Models</th>
<th>Base model's -2 LL statistics</th>
<th>-2 LL likelihood with predictors</th>
<th>Chi-Square df</th>
<th>Sig</th>
<th>Cox-Snell R^2</th>
<th>Nagelkerke R^2</th>
<th>Durbin Watson Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 traditional</td>
<td>835.463</td>
<td>782.259</td>
<td>53.204</td>
<td>1</td>
<td>0.0000</td>
<td>0.063</td>
<td>0.099</td>
</tr>
<tr>
<td>Model 2 technology-enabled</td>
<td>835.463</td>
<td>777.458</td>
<td>58.005</td>
<td>1</td>
<td>0.0000</td>
<td>0.069</td>
<td>0.107</td>
</tr>
</tbody>
</table>

Source: own calculations

Table 1. Assessing model fit and Independence of Errors Assumption of Logistic Regression Models
its log transformation" (Field, 2009) to evaluate whether the research fulfills this assumption or not. To do not violate the Linearity assumption, P-values for interaction terms need to be higher than the 5% level of significance. As illustrated in Table 2, p values (Sig.) are for interaction terms are 0.138 and 0.092, respectively, and they are higher than the 5% significance level. These volumes make this paper fulfill the linearity assumption for logistic regression models too.

To examine whether the sample size is adequate to perform logistic regression analyses, the researchers consider Cochran's formula (1963) that is presented as follows: $n_o = \frac{Z^2pq}{e^2}$

$n = \text{sample size, } Z = \text{confidence level at 95% (is 1.96 in statistical tables that include field below the normal curve), } e = \text{Sampling error (e= 0.05), } p = \text{maximum variability (p=0.5), } q = 1-p.$

$$n_o = 1.96^2 (0.5) (0.5) / 0.05^2 = 384$$

Since this paper analyzes 812 SMEs that are higher than 384, the required sample size the sample is adequate to perform logistic regression tests. Furthermore, the research sample does not include repeated and matched data. The details about the research sample are also presented below in Table 3, Sample Profile.

### Table 2. Linearity Assumption for the Logistic Regression Models

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOGISTIC REGRESSION MODEL-1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lintra by traditional</td>
<td>0.242</td>
<td>0.163</td>
<td>2.203</td>
<td>1</td>
<td><strong>0.138</strong></td>
<td>1.274</td>
</tr>
<tr>
<td><strong>LOGISTIC REGRESSION MODEL-2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lintech by techenabled</td>
<td>0.263</td>
<td>0.156</td>
<td>2.845</td>
<td>1</td>
<td><strong>0.092</strong></td>
<td>1.301</td>
</tr>
</tbody>
</table>

Source: own calculations

3. RESULTS

Table 4 illustrates the results of Binary Logistic Regression analyses regarding Model-1. As already mentioned in the Methodology section, SMEs' usage of traditional marketing tools is an independent variable, while innovativeness is the dependent variable. This research includes Wald statistic into the analyses since it indicates whether the independent variable significantly predicts the dependent variable and makes significant contributions on the dependent variable or not (Field, 2009).

According to Table 4, the p-value for the usage of traditional marketing tools is not statistically significant; thus, it is not a significant predictor. This is because it is higher than the selected significance level ($\beta = 0.195$, Wald $\chi^2 = 3.020$, $p = 0.082 > 0.05$) and the $\beta$ coefficients, for independent variable does not significantly differ from 0. This fact expresses the fact that the usage of traditional marketing tools by SMEs does not significantly contribute to their innovativeness; thus, the innovativeness of SMEs does not differ depending on their traditional marketing activities. Therefore, there is no positive relationship between the usage of traditional marketing tools and the innovativeness of SMEs. In this regard, this research fails to support the H1 hypothesis.

Table 5 is presented below to demonstrate the results of Binary Logistic Regression
analyses regarding Model-2. This model includes an independent variable, namely, the usage of technology-enabled marketing tools by SMEs, and a dependent variable, the innovativeness of SMEs. According to Table 5, the usage of technology-enabled marketing tools by SMEs is a statistically significant predictor ($\beta = 0.476$, Wald $\chi^2 = 54.799$, $p = 0.000 < 0.05$) because p-value is lower than 5%
significance level. Thus, the $\beta$ coefficient is significantly different from 0, and the independent variable makes positive contributions to the dependent variable. The coefficient for the usage of technology-enabled marketing tools is 0.476, and it propounds that innovative SMEs have higher tendencies to apply the technology-enabled marketing tools. Higher values of the usage of technology-enabled marketing tools are associated with greater possibilities of being innovative. In other words, if a firm increases its technology-enabled marketing tools score by a unit, its odds of being innovative would increase by 0.476. When the usage of technology-enabled marketing tools is high in SMEs, the innovativeness of these enterprises becomes higher. All these facts make this paper support the H2 hypothesis that assumes the positive relationship between usage of technology-enabled marketing tools and the innovativeness of SMEs.

Concerning the Odds ratio (OR), it is an indicator of the strength of association between the independent and dependent variable and shows the changes in odds of occurrence for the dependent variable in case of a one-unit change in the independent variable. Moreover, the odds ratio that is higher 1 expresses that as the value of technology-enabled marketing tools increases, the odds of innovativeness are more likely to occur. Hence, an increase in the usage of technology-enabled marketing tools by a unit, 1.609 times higher the odds of innovativeness with a 95% confidence interval (CI) between 1.419 and 1.825. In other words, the innovativeness of SMEs 1.609 times more likely to occur for SMEs that apply technology-enabled marketing tools in their operations more than SMEs that have a lower willingness to use these tools.

4. DISCUSSION

As already confirmed by the analyses, this paper does not find any relationship between the usage of traditional marketing tools by SMEs and the innovativeness of SMEs. For this reasons, this result of the paper is not consistent with the findings of Cant and Wiid (2016) and Nobre and Silva (2014), since those researchers state the fact that SMEs use traditional marketing channels because of their lack of innovative efforts and the unwillingness of performing innovative actions. The reason why this paper does not find any relationship between the usage of traditional marketing tools and firm innovativeness might be related to the lack of financial power and sources of SMEs.

On the other hand, this paper finds positive impacts of the usage of technology-enabled marketing tools by SMEs on businesses' innovativeness. One of the reasons why technology-enabled marketing tools increase SMEs' innovativeness might be related to the characteristic of firms' owners and executives. For instance, the age of executives might be one of those characteristics since it has negative impacts on the usage of social media (Fosso-Wamba & Carter, 2014). In this regard, according to Table 3, 67.36% of all respondents are less than 30 years old. Since there are more younger respondents, those executives might have stimulated the usage of technology-enabled marketing tools that increase their innovativeness.

Moreover, competitiveness in environments where SMEs are located (Taiminen & Karjaluoto, 2015; Kallier, 2017) in metropolitan cities' location affects businesses' innovative marketing strategies and become more interested in using technology-enabled tools such as social
Concerning the research data, the majority of firms are located in Bratislava. Moreover, according to the EU regional competitiveness index (2019), the Bratislava region's competitiveness has increased compared with 2016. This fierce competition in the market where most analyzed SMEs are located might make those businesses apply more innovative marketing tools. Therefore, this fact might be another reason to explain the positive relationship between the usage of technology-enabled marketing tools and the innovativeness of firms.

Although the usage of most of the technology-enabled marketing tools by SMEs is cheaper than traditional (offline) marketing tools, it does not mean that SMEs do not face any expenses when performing marketing activities via technology-enabled marketing tools. For instance, publishing advertisements via YouTube videos might be costly for SMEs (Malesev & Cherry, 2021). Since SMEs face more financial issues and do not have enough resources, financial support by policy makers and having enough funds are prerequisites for their presence in those digital channels widely used by their prospective and existing customers. According to Statista (2021), the volume of expenses for digital advertising in Slovakia is expected to reach 270 US$, while the spending for the social media advertising market is predicted to be around US$94m in 2021. But comparing to those volumes of Slovakia with other advanced countries such as the US (the volume for digital advertising in the US is US$157.640m in 2021), Slovakian companies and individuals spend a meager amount for those activities. In this regard, policymakers and other essential financing institutions of the EU might provide some incentives and subsidies for SMEs to stimulate and motivate technology-enabled marketing tools. Since businesses have also applied more e-commerce activities to sell and purchase their products or services from other businesses under the circumstances of Covid-19, this kind of support might also help SMEs overcome the negative economic consequences of the pandemic.

5. CONCLUSIONS

The developments in information technologies have changed SMEs' marketing strategies and tools to draw their customers' attention. For this reason, many SMEs have shifted the usage of traditional (offline) marketing tools to technology-enabled marketing (online) marketing tools. However, some SMEs still use traditional methods for their marketing communication and promotion strategies. By the improvements in technologies, both technology-enabled and traditional marketing channels provide innovative solutions for those marketing activities of SMEs. In this regard, this paper aspires to investigate the impacts of the usage of technology-enabled (online) and traditional (offline) tools by SMEs on their innovativeness.

To achieve this target, the researchers directed online internet-mediated questionnaires by e-mails to the randomly selected owners and managers of 812 SMEs in Slovakia. Moreover, the researchers employ Binary Logistic Regression Test to examine whether traditional and technology-enabled marketing tools influence the innovative posture of SMEs.

According to the results, this paper does not find any significant effects of the usage
of traditional marketing tools and the innovativeness of SMEs. On the other hand, this research confirms that the usage of technology-enabled (online) marketing tools by SMEs increases their innovativeness.

Although this paper makes significant contributions to the academic literature by analyzing marketing channels from a broad perspective and their impacts on the innovative posture of SMEs, there are some limitations in this research. The research is only limited to SMEs in Slovakia, and the characteristics of SMEs and executives are not included in the analyzes. For this reason, further studies can consider all those facts and include SMEs and larger-sized enterprises from more countries and might compare the usage of marketing tools and innovativeness of businesses depending on firms and executives' characteristics.

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References

ИЗВОД

Иако се МСП брзо прилагођавају новим трендовима, већина њих пати од недостатка финансијских и људских ресурса. Ова чињеница је ставила те компаније у неповољнији положај у погледу коришћења традиционалних маркетингских алатака у поређењу са њиховим већим ривалима. Информационе и комуникационе технологије и развој платформи заснованих на технологији такође су обезбедиле јефтиније, али иновативније маркетингске опције за МСП да се такмиче са својим већим колегама. С тим у вези, ово истраживање има за циљ испитивање утицаја употребе традиционалних и технолошки могућих маркетингских алата од стране МСП на њихову иновативност. Паралелно са овом одабраном сврхом, истраживачи су добили податке од 812 малких и средњих предузећа у Словачкој користећи онлајн упитник посредован путем интернета. Истраживачи такође примењују тест бинарне логистичке регресије да анализирају утицаје традиционалних и технолошких могућих маркетингских алатака на иновативност МСП. Резултати показују да, док употреба технолошко могућих маркетингских алатака позитивно утиче на иновативност предузећа, употреба традиционалних маркетингских канала од стране МСП не утиче на њихову иновативност. Фактори животне средине, ресурси и лични фактори могу бити разлози ових резултата.

Кључне речи: маркетинг уз помоћ технологије, мала и средња предузећа, иновације, традиционални маркетинг, дигитални маркетинг, друштвени медији

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