

Social Media Usage as a solution for financial problems of European SMEs: International Comparison of Firms in Iron and Mining Industries

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Abstract

Due to operating in the mining and iron sectors with fierce competition and encountering more financial obstacles compared to larger enterprises, SMEs (small and medium-sized enterprises) become more likely to face business failures, have lower financial performance and have high financial risk. To overcome those financial impediments and become more competitive against their rivals, social media usage might be a solution. This is because even under the conditions of the covid-19 pandemic, social media has also stimulated online purchasing behaviours of customers and has been used as an effective tool by SMEs for marketing purposes. However, SMEs' usage of these channels might differ depending on the countries where they are located, so their impacts on financial obstacles might be different. In this regard, this research examines whether the impacts of social media usage on the financial problems of SMEs differ depending on their location. To achieve this goal, the researchers employ an online survey and direct it to the executives of 1156 Czech, Slovakian and Hungarian SMEs. The researchers apply Ordinal Logistic Regression with the Logit function in SPSS statistical tool for analyzing purposes. The results confirm the fact that while differences do not exist among countries regarding the impact of social media usage on business failures, the effects of social media usage on financial performance and financial risk differ between Hungarian and Czech-Slovakian SMEs. Czech and Slovakian SMEs show similar attitudes in all of the analyzed variables.

Keywords

social media, financial problems, financial performance, financial risk, business failure, bankruptcy, SMEs, Czech Republic, Slovakia, Hungary, iron and mining industries.



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Introduction

Firms in iron and mining industries race neck and neck. Many companies operating in both industries also have high financial power. However, having a lack of capital makes SMEs facing with more financial problems compared with their larger-sized rivals. To compete with their larger rivals, SMEs need to have some competencies that are related to innovativeness (Civelek et al., 2021). These innovative actions also positively affect the performance and incomes of companies (Ključnikov et al., 2021). However, the increases in the performance of companies are not only related to the innovative tools that firms implement in their operations (Metzker et al., 2021a) but also related to how they use these tools to communicate with their customers (Kovanoviene et al., 2021) and with other firms (Bocconcelli et al. 2017). In this regard, SMEs' effective usage of social media might be a vital option for their survival. The ability of SMEs regarding the usage of social media belongs to Resource-based Theory since it is an internal characteristic of SMEs to improve their performance and competitiveness (Oyewobi et al., 2022). Such a competency that belongs to the Resource-based view also enables businesses to survive (Civelek & Krajčík, 2022).

Their financial problems are business failure, low financial performance and high financial risk. Business failure might stem from financial distresses, bankruptcy issues, and termination and change of whole or some activities of businesses (Milošević et al., 2019; Olah et al., 2021). Moreover, SMEs encounter various obstacles when implementing expensive innovative tools for their operations. However, the usage of social media by SMEs provides many opportunities, including less costly solutions, accessing various markets, interacting with consumers from various countries and increasing their sales (Bocconcelli et al., 2017; Bilan et al., 2017). For this reason, SMEs that have financial problems and constraints might apply this tool to overcome financial problems (Gavurova & Kubak, 2021; Gavurova et al., 2018).

Social media also provides interactivity, collaboration and communication among its users by enabling them to discuss, comment, give information about different tasks (Qalati et al., 2022) and share pictures, videos, and interests (Amoah, 2020). Furthermore, social media draws customers' attention and increases their awareness regarding the products and services that companies provide for them (Ključnikov et al., 2020a). SMEs can also use social media platforms to improve their competitiveness and sales (Bocconcelli et al., 2017). Since social media usage does not require many processes and capabilities and is also easy to use, SMEs also apply the usage of social media channels to get closer contact with consumers. The social capital of firms also increases through social media technologies (Ainin et al., 2015). The relationship quality between SMEs and their customers has also increased through social media channels (Qalati et al., 2022). Since smartphones also enable individuals to make online transactions, businesses have more opportunities to contact a higher number of prospective customers (Ključnikov et al., 2020b). Social media tools increase communication quality and reduce the time and costs of communication (Tekin & Turhan, 2020; Rigelsky et al., 2021).

Facebook, LinkedIn, Instagram, and Twitter are some of the popular social media platforms that SMEs mostly use for their marketing purposes (Belás et al., 2021). For instance, using social media platforms such as Facebook (Kwok & Yu, 2013) and Twitter by SMEs increase the company's sales (Odoom et al., 2017). Similarly, Amoah et al. (2021) declare the fact that Facebook and YouTube make firms hit their financial goals. Other studies also confirm the positive relationship between SMEs' usage of social media and their performance (Odoom et al., 2017; Cuevas-Vargas et al., 2021).

Some researchers have analyzed the impacts of social media usage on management (Kasych et al., 2019), internationalization (Kelemen et al., 2019) and organizational performance (Schniederjans et al., 2013). However, no significant attention has been paid to a unique study on the role of social media usage on the financial concerns of SMEs, including business failure, financial performance and financial risk in the particular context of European firms. In this regard, this paper does not only aim to analyze the impacts of social media usage on business failure and financial performance but also purpose to indicate country differences in the influences of social media on the financial problems of SMEs. Thus, the research question might be as follows: "Do the impacts of social media usage of SMEs on their business failure, financial performance, and financial risk differ depending on their countries?"

The existing studies do not provide a clear picture of the investigated topics' effects, relationships and international differences. Therefore, this paper emphasizes how the social media usage of SMEs located in various countries can enable them to cope with their financial problems. This paper analyzes SMEs from various countries, including the Czech Republic, Slovakia and Hungary. Although these countries have historical and economic similarities (Kolková & Ključnikov, 2021), finding differences among them might be crucial for academic literature.

The rest of the paper is presented in the following sequence: The development of hypotheses, the methodological approaches and research data are clarified in the Material and Methods section. Then, the findings of this paper are highlighted in the Results section. The researchers compare their results with the findings of other researchers and suggest some implementations in the Discussion section. The researchers conclude the crucial

points of the research in the Conclusion and declare the limitations of the research with recommendations for further studies.

Material and Methods

Material

Business failure has always been a threatening factor for the motivation of firms (Dvorský et al., 2020a; Khan et al., 2020) and entrepreneurs (Metzker et al., 2021b). Some of the reasons for business failure might be related to financial risks (Wei et al., 2018), bankruptcy issues (Khan et al., 2020), overconfidence and complacency (Metzker et al., 2021b), poor risk management (Dvorský et al., 2020b), poor marketing strategy (Milošević et al., 2019), lack of business planning (Dvorský et al., 2020c) and lack of effective communication experience that firms have (Dvorský et al., 2020a). In this regard, as an effective marketing communication tool, social media can be a sufficient solution for the failure concerns of SMEs. This is because mobile marketing technologies boost the sales of firms, and it is an effective tool for SMEs to survive (Eze et al., 2019; Bocconcelli et al., 2017). Firms adopting social media also increase their abilities to create and monitor their content. Thus, they also become able to manage their content in different languages and cultures (Niedermeier et al., 2016). By having such competencies, firms access various markets, get contact with new clients abroad and increase their international revenues that reduce their probability of failure (Kim et al., 2013; Bocconcelli et al., 2017). Moreover, Pineiro Sanchez (2020) highlights the importance of using marketing-oriented tools for businesses in their survival. Due to those arguments, the first research hypothesis can be set as presented below:

H1: A negative relationship exists between social media usage and SMEs' perception of business failures.

Social media also provides less costly solutions for SMEs regarding their marketing activities. Since SMEs lack resources, they can use these cost-effective tools to inform their customers about the products and services they produce. In this regard, they can draw their clients' attention and increase their sales and performance (Odoom et al., 2017; Qalati et al., 2022; Kwok & Yu, 2013; Ainin et al., 2015; Eze et al., 2021). Similarly, Qalati et al. (2022) investigate Pakistani SMEs and substantiate the significant impact of social media on the performance of firms. Oyewobi et al. (2022) also analyze SMEs in Nigeria and confirm the fact that a positive association exists between social media adoption and the performance of SMEs. Belás et al. (2021) also mention that social media positively impacts the performance and growth of SMEs in Visegrad countries, including the Czech Republic, Slovakia and Hungary. Social media usage also increases the ability of SMEs to implement innovative strategies and the success of companies (Rodriguez et al., 2012).

Social media has also been perceived as a tool that might affect SMEs' financial conditions since it enables companies to manage their relationship with their customers. Customers having some troubles with the companies can reduce their concerns about these issues by interacting with firms. Thus, firms can increase their financial performance (Kuchciak, 2013; Belás et al., 2021). Furthermore, the increases in posting activities and awareness of SMEs regarding the benefits of social media channels have also enabled them to achieve greater financial performance. Moreover, the positive impacts of social media on sales, marketing, innovation, and customer relationship have also caused SMEs to have better financial conditions (Bianchi, & Andrews, 2015; Wang et al., 2022; Škare et al., 2022). Thus, social media usage positively affects SMEs' financial performance (Odoom et al., 2017; Werdani & Djoko, 2018). Moreover, Ainin et al. (2015) have examined the impacts of the usage of Facebook by SMEs in Malaysia on SMEs' financial performance and confirmed the positive effects. By analyzing firms in Ghana, Amoah et al. (2021) also vindicate the positive association between social media and the financial performance of SMEs. The results of these empirical studies enable this paper to create the second hypothesis as follows:

H2: A positive relationship exists between social media usage and the financial performance of SMEs.

Financial risk is one of the most crucial risks affecting SMEs' performance. It includes different risks such as credit, liquidity and investment risks. Although it is impossible to minimize financial risk 100%, SMEs with effective management strategies can reduce it (Khan et al., 2020). Since most SMEs are resource-constrained, social media usage by SMEs might provide them with some opportunities to minimize their financial obstacles. This is because social media usage is not costly compared with traditional marketing channels (Werdani & Djoko, 2018; Ainin et al., 2015; Oyewobi et al., 2022; Qalati et al., 2022; Odoom et al., 2017; Amoah et al., 2021). Therefore, SMEs do not need to spend astronomical budgeting for their marketing activities. Promotions and advertising activities do not require heavy expenditures as it is in traditional marketing methods and firms communicate with their international customers by having cost-saving solutions via social media platforms (Odoom et al., 2017; Oyewobi et al., 2022; Qalati et al., 2022; Vlachvei & Notta, 2015; Belás et al., 2021; Ainin et al., 2015; Amoah, 2020). On the other hand, firms using social media channels share more information about themselves, making them more transparent, and increasing their liquidity (Amoah et al., 2021). Social media platforms also enable their participants to gain reports that indicate the number of followers, time spent on the site and previous purchases, number of monthly transactions, etc. SMEs might also gain benefits from these reports that make them have better predictions for the future purchasing patterns of their clients (Kim & Ko, 2011; Dahnil et al., 2014). Such an option can also reduce SMEs' concerns regarding financial issues (Pan et al., 2022; Qin et al., 2022). Since

the usage of social media also increases sales (Ainin et al., 2015; Vlachvei & Notta, 2015; Amoah, 2020; Dahnil et al., 2014), profits (Belás et al., 2021) and incomes of SMEs (Oyewobi et al., 2022) firms can fulfil their financial expectations, achieve their financial targets (Amoah et al., 2021). For instance, firms achieving their financial targets can pay back their credit instalments, thus, reducing their credit risks. In this regard, another hypothesis might be generated, as presented below:

H3: A negative relationship exists between social media usage and SMEs' more intensive perception of financial risk.

Methods

The objective of this paper is to examine the differences in the effects of social media usage on the financial concerns of SMEs from different countries. Thus, this paper examines 454 Czech, 303 Slovak and 399 Hungarian SMEs. The researchers separately created the research samples from the Cribis database by performing the random sampling method. Then, the researchers directed the link of online questionnaires to the randomly selected survey participants by e-mail. Although the questionnaires were created in various languages, the survey questions were all the same for the respondents, who were company executives such as managers and owners of SMEs.

This paper investigates the financial concerns of business failures, financial performance and financial risk. While business failure is the dependent variable of the first research model, financial performance is the second dependent variable, and financial risk is the dependent variable of the third research model. To measure these variables following survey questions are considered by the researchers: "We consider the active use of social media to be the most crucial factor in reducing the likelihood of business failure", "I consider financial risk as part of the everyday business" and "I evaluate the financial performance of our (my) company positively". On the other hand, social media usage that is the independent variable of all research models is evaluated by the following statements: "Thanks to social media, our business can respond more flexibly to market developments", "Social media helps our business quickly share information with customers and partners", "Our business has a clear strategy on how to use social media".

A five-point Likert scale ("1 – completely disagree", "2 – disagree", "3 – neither agree nor disagree", "4 – agree", and "5 – completely agree") is employed by the researchers when scaling the replies of survey respondents regarding the survey questions that are mentioned above. A five-point Likert scale has four cut-offs ("1 represents the cut-off value between the answers of completely disagree to disagree"; "2 indicates the cut-off value between the replies of "disagree" to "neither agree nor disagree"; "3 illustrates the cut-off value between the responses of neither agree nor disagree to agree and "4 declares the cut-off value between the responses of agreeing to completely agree"). This is why this paper represents the cut-off values for all the independent and dependent variables in the Result section.

On the other hand, when the respondents replied to the questionnaires about business failure and financial performance with higher volumes, their concerns about business failure and financial performance were reduced. However, in the case of replying to the financial risk with higher volumes, their concerns for financial risk became more intense. Since the independent and the dependent variables of this research consist of categorical and ranked data, the researchers consider Ordinal Logistic Regression and apply the Logit function in SPSS statistical tool to analyze the effect of social media usage on the specified financial concerns of SMEs. Moreover, this paper uses a 5% level of significance when making assumptions and hypotheses tests. In this regard, p -values that are lower than this significance level make the researchers support the research hypotheses.

The created research models that are based on Ordinal Logit Regression are as follows:

$$1^{\text{st}} \text{ Research Model: } \text{Logit}(P(Y \leq j)) = \beta j_0 + \beta j_1 X_1 \quad (1)$$

$Y_1 =$ Dependent variable (business failure)

$$2^{\text{nd}} \text{ Research Model: } \text{Logit}(P(Y \leq j)) = \beta j_0 + \beta j_1 X_1 \quad (2)$$

$Y_2 =$ financial performance

$$3^{\text{rd}} \text{ Research Model: } \text{Logit}(P(Y \leq j)) = \beta j_0 + \beta j_1 X_1 \quad (3)$$

$Y_3 =$ financial risk management

$J =$ categories

$X_1 =$ Independent variable (X_1 : social media usage in the 1st, 2nd and 3rd research models)

$B_1 =$ Regression coefficients

$\beta_0 =$ Constant or intercept term.

$P =$ predictor

To test assumptions of Ordinal Logistic Regression models, this paper includes the findings from Model Fitting, Pseudo R-square, and the test of parallel lines. Concerning the values from Model fitting, significance for all models are lower than 5% level of significance (Model 1: Czech = $\chi^2(12) = 324.991$, $p < 0.05$; Slovak = $\chi^2(12) = 172.677$, $p < 0.05$; Hungary = $\chi^2(12) = 302.134$, $p < 0.05$; Model 2: Czech = $\chi^2(12) = 43.624$, $p < 0.05$; Slovak = $\chi^2(12) = 38.161$, $p < 0.05$; Hungary = $\chi^2(12) = 37.693$, $p < 0.05$; Model 3: Czech = $\chi^2(12) = 20.868$, $p < 0.05$; Slovak = $\chi^2(12) = 26.577$, $p < 0.05$; Hungary = $\chi^2(12) = 36.889$, $p < 0.05$). Therefore, the research models are suitable for the data.

Tab. 1. The analyses for the assumptions of Ordinal Logistic Regression

Assumptions		Model fitting				Goodness of fit Pseudo R-square		Test of parallel lines			
Country	Models	-2 Log likelihood	Chi-Square	df	P value Sig.	Cox & Snell	Nagelkerke	-2 Log likelihood	Chi-Square	df	P value Sig.
Czech	Model 1	500.494	324.991	12	0.000	0.511	0.534	175.503	42.651	36	0.207
Slovakia	Model 1	364.868	172.677	12	0.000	0.434	0.458	164.213	35.333	36	0.500
Hungary	Model 1	458.996	302.134	12	0.000	0.531	0.560	167.017	46.480	36	0.113
Czech	Model 2	164.575	43.624	12	0.000	0.029	0.031	135.507	48.068	36	0.086
Slovakia	Model 2	146.851	38.161	12	0.000	0.026	0.028	92.334	39.316	36	0.324
Hungary	Model 2	154.008	37.693	12	0.000	0.090	0.099	181.277	43.723	36	0.176
Czech	Model 3	180.972	20.868	12	0.042	0.045	0.049	146.213	49.303	36	0.069
Slovakia	Model 3	132.523	26.577	12	0.009	0.084	0.093	127.987	41.238	36	0.252
Hungary	Model 3	162.410	36.889	12	0.000	0.088	0.097	152.782	40.231	24	0.288

Source: own processing. Note: Sig.: Significance

The addition of social media as an independent variable in all of the research models has increased the models' capabilities when predicting the dependent variable. The indicators of Pseudo R-square, namely, Cox&Snell and Nagelkerke introduce the variations that social media usage cause on the dependent variables. For instance, incorporating social media usage into the first research model explains 53.4%, 45.8% and 56% changes in business failure for Czech, Slovak and Hungarian samples, respectively. Corresponding to the Test of Parallel Lines, the results are also presented in Table 1. Since all p -values (indicated under the Test of Parallel Lines column in the table) are greater than a 5% significance level, slope cut-offs' slope coefficients are not similar. Therefore, this paper does ensure the fulfilment of the assumptions of Ordinal Logistic Regression.

Regarding sample profile, the percentages of Czech, Slovakian and Hungarian microenterprises in the Czech, Slovak and Hungarian samples are 63.88% (290 firms), 56.44% (171 firms) and 67.17% (268 firms), respectively. While the percentage of small Czech firms in the Czech sample is 23.57% (107 firms), this percentage for small Slovakian firms and small Hungarian firms is 29.70% (90 firms) and 28.29% (73 firms), respectively. Moreover, 57 Czech firms (12.55% of the Czech sample) are categorized under medium-sized firms, while the volumes for Slovakian and Hungarian medium-sized firms are 42 (13.86% of the Slovakian sample) and 58 (14.54% of the Hungarian sample), respectively. Corresponding to the length of business, the majority of SMEs have been operating for more than ten years. For instance, 335 Czech (73.79% of the Czech sample), 216 Slovakian SMEs (71.29% of the Slovakian sample) and 252 Hungarian SMEs (63.16% of the Hungarian sample) have more than ten years of operating experience, while other SMEs' operating experiences are up to ten years (119 Czech, 87 Slovak and 137 Hungarian SMEs).

Results

The results of this research regarding the impact of social media usage on business failure (The first research model) are presented below in Tab. 2. Since all p -values for the cut-offs of social media usage are significant at a 5% significance level for all research samples, it can be stated that social media usage is a significant predictor of business failure. Concerning the values of the coefficients (called "Estimate" in the tables), they are all negative in all research samples. For this reason, while firms indicating lower volumes in social media usage agree more with the fact that social media is the most crucial factor in reducing the likelihood of business failure, firms having greater values in social media usage do not. In other words, SMEs that use social media channels more, more intensively perceive business failure. Therefore, a positive association exists between those variables and is confirmed by the analyses of this research. In this regard, this paper fails to support the H1 hypothesis that assumes a negative relationship between social media usage and the perception of business failures. Since these results are

consistent for Czech, Slovakian and Hungarian samples, this paper does not confirm the differences among countries regarding social media usage and SMEs' perception of business failures.

Tab. 2. The results regarding social media and business failure

Country	Variable	Estimate	S.E.	Wald	df	P value Sig.	95% CI [Lower Upper]
MODEL-1							
Czech Republic	Failure = 1	-5.424	0.474	130.776	1	0.000	[-6.354 -4.495]
	Failure = 2	-3.901	0.454	73.958	1	0.000	[-4.790 -3.012]
	Failure = 3	-2.058	0.432	22.670	1	0.000	[-2.905 -1.211]
	Failure = 4	-0.380	0.405	0.877	1	0.349	[-1.174 0.415]
	Social media = 1	-7.129	0.611	136.259	1	0.000	[-8.327 -5.932]
	Social media = 2	-4.442	0.554	64.198	1	0.000	[-5.529 -3.356]
	Social media = 3	-3.004	0.481	38.943	1	0.000	[-3.947 -2.060]
	Social media = 4	-2.088	0.500	17.416	1	0.000	[-3.069 -1.108]
Slovakia	Failure = 1	-7.096	0.655	117.348	1	0.000	[-8.379 -5.812]
	Failure = 2	-4.600	0.585	61.752	1	0.000	[-5.748 -3.453]
	Failure = 3	-2.628	0.561	21.967	1	0.000	[-3.727 -1.529]
	Failure = 4	-0.464	0.522	0.790	1	0.374	[-1.486 0.559]
	Social media = 1	-8.507	1.299	42.864	1	0.000	[-11.053 -5.960]
	Social media = 2	-5.730	0.690	69.042	1	0.000	[-7.081 -4.378]
	Social media = 3	-3.608	0.608	35.226	1	0.000	[-4.799 -2.416]
	Social media = 4	-1.975	0.630	9.832	1	0.002	[-3.210 -0.740]
Hungary	Failure = 1	-7.732	0.595	168.839	1	0.000	[-8.898 -6.566]
	Failure = 2	-4.676	0.507	84.901	1	0.000	[-5.671 -3.681]
	Failure = 3	-2.632	0.476	30.585	1	0.000	[-3.565 -1.699]
	Failure = 4	-0.109	0.437	0.062	1	0.804	[-0.966 0.748]
	Social media = 1	-8.358	0.811	106.186	1	0.000	[-9.948 -6.768]
	Social media = 2	-5.939	0.610	94.872	1	0.000	[-7.134 -4.744]
	Social media = 3	-3.878	0.550	49.671	1	0.000	[-4.957 -2.800]
	Social media = 4	-2.139	0.509	17.680	1	0.000	[-3.136 -1.142]

Source: own processing. Note: Sig.: Significance

Tab. 3, depicted below, illustrates the outcomes of the second research model for all research samples. Regarding p values of the cut-offs of social media usage, they are only significant for the Hungarian sample (p -values for social media=1=0.006, social media=2=0.000, social media=3=0.001 and social media=4=0.000). On the other hand, p -values for the cut-offs of social media usage are not significant for both Czech and Slovakian samples. For these reasons, while social media usage is a significant predictor of the financial performance of Hungarian SMEs, it is not for Czech and Slovakian SMEs. In this regard, it can be declared that there are differences in the impacts of social media usage on the financial performance of Hungarian and Czech-Slovak SMEs. Since coefficients (estimate) are positive in the Hungarian sample, Hungarian SMEs having higher volumes in social media usage indicate better financial performance perception, while other SMEs from the Czech Republic and Slovakia do not. Thus, while this paper supports the H2 hypothesis for the Hungarian sample, it fails to support the H2 hypothesis for the Czech and Slovakian samples.

Tab. 3. The results regarding social media and financial performance

Country	Variable	Estimate	S.E.	Wald	df	P value Sig.	95% CI [Lower Upper]
MODEL-2							
Czech Republic	Performance = 1	-0.734	0.382	3.691	1	0.055	[-1.483 0.015]
	Performance = 2	1.228	0.386	10.139	1	0.001	[0.472 1.984]
	Performance = 3	2.719	0.406	44.835	1	0.000	[1.923 3.515]
	Performance = 4	3.920	0.459	73.062	1	0.000	[3.021 4.818]
	Social media = 1	0.135	0.459	0.087	1	0.768	[-0.765 1.035]
	Social media = 2	0.634	0.500	1.608	1	0.205	[-0.346 1.613]
	Social media = 3	0.435	0.434	1.002	1	0.317	[-0.416 1.286]
	Social media = 4	0.648	0.468	1.918	1	0.166	[-0.269 1.566]
Slovakia	Performance = 1	-1.430	0.495	8.348	1	0.004	[-2.399 -0.460]
	Performance = 2	0.849	0.488	3.021	1	0.082	[-0.108 1.806]
	Performance = 3	1.992	0.501	15.845	1	0.000	[1.011 2.974]
	Performance = 4	4.289	0.631	46.254	1	0.000	[3.053 5.525]
	Social media = 1	0.278	0.961	0.083	1	0.773	[-1.606 2.161]

	Social media = 2	0.356	0.587	0.368	1	0.544	[-0.795 1.507]
	Social media = 3	0.414	0.536	0.598	1	0.439	[-0.636 1.464]
	Social media = 4	0.468	0.584	0.642	1	0.423	[-0.677 1.612]
Hungary	Performance = 1	0.666	0.468	2.028	1	0.154	[-0.251 1.584]
	Performance = 2	3.142	0.489	41.322	1	0.000	[2.184 4.100]
	Performance = 3	4.824	0.521	85.779	1	0.000	[3.803 5.845]
	Performance = 4	6.866	0.703	95.256	1	0.000	[-5.487 8.245]
	Social media = 1	1.932	0.697	7.685	1	0.006	[0.566 3.299]
	Social media = 2	2.567	0.564	20.698	1	0.000	[1.461 3.673]
	Social media = 3	1.768	0.543	10.617	1	0.001	[0.705 2.832]
	Social media = 4	1.856	0.522	12.638	1	0.000	[0.833 2.880]

Source: own processing. Note: Sig.: Significance

The outcomes of the 3rd research model are also presented in Tab. 4. Similar to the results of the 2nd research model; the researchers find significant findings only in the Hungarian sample. According to Table 4, the *p*-values of the cut-offs are not significant in the Czech and Slovakian samples. Thus, social media usage is not a significant predictor of the financial risk of Czech and Slovakian SMEs. On the other hand, since the coefficient (estimate) and *p* volumes for social media usage in Hungarian data are positive (estimates for social media=1=1.997; social media=2=1.639; social media=3= 1.402; social media=4=1.104) and significant (*p*-values are lower than 5% significance level for social media=1=0.003, social media=2=0.002, social media=3=0.010 and social media=4=0.048), respectively, Hungarian SMEs having higher values in social media usage more tolerant of encountering financial risk compared to their counterparts that indicate lower propensities in social media usage. A unit rise in Hungarian SMEs' social media usage increases their tolerance to less intensively perceived financial risk. Thus, the H3 hypothesis is supported for the Hungarian sample. However, since social media usage does not influence the financial risk perception of Slovakian and Czech SMEs, this paper fails to support the H3 hypothesis for both samples, Czech and Slovakian. For these reasons, social media usage shows different effects on Hungarian and Czech-Slovak SMEs' perception of financial risk. In this regard, it can be stated that Czech and Slovakian SMEs show similar patterns regarding the impacts of social media usage on perceived financial risk.

Tab. 4. The results regarding social media and financial risk

Country	Variable	Estimate	S.E.	Wald	df	P value Sig.	95% CI [Lower Upper]
MODEL-3							
Czech Republic	Financial risk = 1	0.026	0.390	0.004	1	0.948	[-0.739 0.790]
	Financial risk = 2	1.816	0.400	20.585	1	0.000	[1.031 2.600]
	Financial risk = 3	3.147	0.427	54.423	1	0.000	[2.311 3.983]
	Financial risk = 4	4.400	0.502	76.756	1	0.000	[3.416 5.385]
	Social media = 1	-0.065	0.473	0.019	1	0.891	[-0.992 0.862]
	Social media = 2	0.555	0.509	1.190	1	0.275	[-0.442 1.552]
	Social media = 3	0.772	0.444	3.029	1	0.082	[-0.097 1.642]
	Social media = 4	0.892	0.477	3.497	1	0.061	[-0.043 1.826]
Slovakia	Financial risk = 1	-1.896	0.503	14.198	1	0.000	[-2.883 -0.910]
	Financial risk = 2	0.589	0.489	1.452	1	0.228	[-0.369 1.548]
	Financial risk = 3	2.172	0.522	17.343	1	0.000	[1.150 3.194]
	Financial risk = 4	4.547	0.848	28.733	1	0.000	[2.884 6.209]
	Social media = 1	-0.653	0.987	0.438	1	0.508	[-2.588 1.281]
	Social media = 2	-0.941	0.623	2.286	1	0.131	[-2.162 0.279]
	Social media = 3	0.043	0.539	0.006	1	0.937	[-1.014 1.100]
	Social media = 4	-0.449	0.593	0.574	1	0.449	[-1.611 0.713]
Hungary	Financial risk = 1	-0.163	0.432	0.142	1	0.707	[-1.009 0.684]
	Financial risk = 2	2.399	0.450	28.374	1	0.000	[1.517 3.282]
	Financial risk = 3	3.912	0.479	66.770	1	0.000	[2.974 4.850]
	Financial risk = 4	5.842	0.630	85.965	1	0.000	[4.607 7.077]
	Social media = 1	1.997	0.668	8.925	1	0.003	[0.687 3.307]
	Social media = 2	1.639	0.533	9.467	1	0.002	[0.595 2.682]
	Social media = 3	1.402	0.544	6.631	1	0.010	[0.335 2.468]
	Social media = 4	1.104	0.559	3.898	1	0.048	[0.008 2.201]

Source: own processing. Note: Sig.: Significance

Discussion

As mentioned in the Results section, this paper confirms the positive association between the usage of social media by SMEs and their more intense perception of business failure. Thus, this result makes this paper have opposing views on the studies of Kim et al. (2013) and Bocconcelli et al. (2017) that confirm the negative association among those variables. Regarding the usage of social media and the financial performance of SMEs, this paper has various results for Hungarian and Czech-Slovakian SMEs. Since the positive association between social media usage and financial performance is confirmed for the Hungarian sample, this paper has compatible results with the studies of Odoom et al. (2017), Werdani and Djoko (2018), and Ainin et al. (2015). On the other, the results of this paper regarding Czech and Slovakian samples make this inconsistent research results with the findings of Odoom et al. (2017), Werdani and Djoko (2018), and Ainin et al. (2015) since social media usage does not affect the financial performance of the investigated Czech and Slovakian SMEs. This paper also finds different results for different research samples concerning the association between social media usage and financial risk management. The positive relationship between the usage of social media and the financial risk management of SMEs is confirmed for the Hungarian sample. Thus, this research has similar findings to the research of Kim and Ko (2011), Dahnil et al. (2014) and Amoah et al. (2021). However, since the positive association between social media usage and financial risk management is not supported for Czech and Slovakian samples, the results for those samples are not in line with the studies of Kim and Ko (2011), Dahnil et al. (2014) and Amoah et al. (2021).

Concerning the international differences, although this paper does not confirm international differences in the effect of social media usage on business failure, it proves international differences in the effect of social media usage on both financial performance and financial risk. The perceptions of Czech and Slovakian SMEs are similar regarding the impacts of social media usage on business failure, financial performance and financial risk. In this regard, this paper finds a similar result to Belas et al. (2021) since those researchers verify the similar perceptions of Czech and Slovakian SMEs regarding the effects of social media tools on the reduction of business failure. According to Khan et al. (2020), the Czech Republic and Slovakia have similar cultural, historical and economic conditions. These factors might be a strong argument for why this paper also confirms the similarities between Czech and Slovakian SMEs. Hudakova et al. (2021) also declare the fact that Czech and Slovakian SMEs have similar perceptions regarding financial risk. This fact might be another reason this paper vindicates similar perceptions of Czech and Slovakian SMEs' social media usage and its impact on financial risk.

On the other hand, differences exist between Czech-Hungarian and Slovakian-Hungarian SMEs regarding the influences of social media usage on financial performance and financial risk. In this regard, the result of this paper is also consistent with the study of Belás et al. (2021). This is because these researchers declare that Czech firms agree less with the fact that social media positively affects the growth in the performance of firms compared with their Hungarian counterparts. Cultural differences between Czech-Slovak and Hungarian SMEs can also be a reason to understand variations among those businesses (Ključnikov et al., 2022). Since the Czech Republic and Slovakia were together under former Czechoslovakia, they show similar attitudes more than both groups, Hungarians-Czechs or Hungarians-Slovakians (Civelek et al., 2020). Furthermore, Civelek et al. (2020) prove the fact that Hungarian SMEs use social media channels more than their Czech and Slovakian counterparts. This fact might be a reason why the usage of social media has reduced the concerns of Hungarian SMEs regarding their financial risk and performance more than their Czech-Slovakian counterparts.

The usage of social media, e-commerce and online communication channels are also vital for the financial performance of companies. For instance, although SMEs in this paper mainly operate in the mining and iron industries, they can be a part of an industry consortium that is a type of B2B e-commerce. By doing so, they can collaborate with other companies to get raw materials with lower expenses. Similarly, they can communicate with their suppliers and consumers and increase brand reputation by using those channels. Since many businesses operating in those industries are also located in industrial zones, they can also gain benefits from their new employees who have already worked as a social media expert in the rivals of those businesses.

SMEs' concerns regarding bankruptcy or business failure might also be reduced by information or content that they provide via their social media accounts. This is because SMEs do not only give details about their products and services but also contact with their customers by using these communication channels. By doing so, they find solutions for their customers and make them aware of their products and services. Thus, customers might be prone to buy more products and services from those businesses; firms can increase their sales and revenues, decreasing their probability of failure. Security of their social media accounts is another crucial fact for SMEs. This is because customers feeling secure in a transaction continue to make purchases from those channels. In this regard, SMEs need to invest in the security of their social media accounts.

Since social media also enables businesses to contact many customers, suppliers, and business partners worldwide, firms also need to consider cultural differences when posting their ideas, products, and services. Firms minimizing the problems that might stem from cultural variations can rapidly expand their operations. Thus, they can reduce their financial concerns, including financial performance, business failures, and financial risks. Since governments also have different regulations regarding the usage of social media channels, SMEs also need to

notice the social media implementations of policymakers. Moreover, governments should also provide equal opportunities for domestic and foreign companies regarding the usage of social media channels.

Conclusion

Although SMEs in iron and mining industries make crucial support for labour creation, international trade and the GDP of countries, financial problems that they face have been their major trouble. However, using social media might provide them less costly marketing options and enable them to minimize financial issues. This is because SMEs using social media platforms can share information about themselves and gain knowledge about their rivals' products and new trends in their industries (Al-Omouh et al., 2022). This fact makes SMEs increase their competitiveness and revenues. In this regard, this paper analyzes the impacts of social media usage on business failure, financial performance and financial risk of SMEs. Since socio-economic conditions might differ among countries and since these factors might affect the social media usage of SMEs from various countries, this paper also investigates whether the influences of social media usage on financial issues show differences between countries or not.

In parallel with these aims, the researchers created an online questionnaire and shared the link of this questionnaire with the randomly selected respondents from the Cribis database. Those respondents are owners and managers of 1156 Czech, Slovakian and Hungarian SMEs. The researchers also run Ordinal Logistic Regression analyses to examine the effects of social media usage on financial problems. According to the results, social media does affect SMEs' perceptions of business failures, and this effect does not differ among countries. On the other hand, while social media usage does not affect the financial risk and financial performance of Czech and Slovakian SMEs, it impacts Hungarian SMEs' financial risk and financial performance. For these reasons, differences exist between Hungarian and Czech-Slovak SMEs regarding social media usage, financial risk and financial performance.

The similarities or differences among countries might be explained by cultural differences, perceptions of financial risks by SMEs, and frequent usage of social media channels by SMEs. Since companies in the iron and mining industries can interact with their suppliers, customers and other parties by using social media platforms, policymakers and businesses need to take some effective action to stimulate the effective usage of those channels and the security of those platforms. Although this paper analyses SMEs from various industries and countries, considers various financial issues of SMEs to solve by social media usage and might draw academicians, policymakers, SMEs, firm executives and entrepreneurs' attention, it has some limitations. This paper analyzes financial problems from the perspective of SMEs executives. Moreover, firms from some specific countries and industries are analyzed in this paper. This paper is also limited to firms in the SMEs segment. Therefore, further studies can consider financial statements and perceptions of financial managers when focusing on such financial problems. Researchers also can focus on SMEs and larger firms from various countries and sectors. Researchers might also investigate other online marketing channels to extend the scope of new studies.

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