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Impact of the Covid-19 Crisis on Service Enterprises and their Attitudes Towards Marketing Investments

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Abstract

The service sector has become the dominant sphere of market economies over the last forty years. The maturity of a country's economy is directly related to the maturity of services as an economic sector. The immense growth across the service sector has also put mounting pressure on the competitiveness of service enterprises and their marketing activities. The turn of the millennium has already seen the competitive struggle affected by two crises – first, an economic one and now, one caused by the Covid-19 pandemic, which has had a great impact (not only) on the service sector. The article deals with the question of how Czech service enterprises reflect on the impact of the pandemic. The article's aim is to find out how service enterprises perceive the impact of the Covid-19 crisis depending on their size and classification within the service sector and how they approach marketing investments during a pandemic crisis. The research is focused on service enterprises (n=90) in terms of their application of marketing processes in the conditions of the Czech Republic in the period 2020-2021. The results, based on descriptive and inferential statistics (ANOVA test in conjunction with Hochberg and Games-Howell tests, Pearson's correlation coefficient and chi-squared test), show that smaller enterprises tend to be more affected by the effects of government measures in the context of the Covid-19 crisis than medium and large enterprises.

Keywords: service enterprises; marketing investment; enterprise size; Covid-19; service sector.

JEL classification: M21; M31.

1. INTRODUCTION

Services account for approximately two-thirds of the world economic output, making them the backbone of the global economy and the most dynamic component of international trade (WTO, 2022). With a share of 62% in 2019, the service sector was the dominant contributor to gross value added in the Czech Republic (Marek, 2020; ČSÚ, 2022). The pandemic caused by the spread of the coronavirus affected the global economy and hampered

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economic growth in the Czech Republic, with the economic decline reaching 5.8% (Žurovec, 2021). This represents the second crisis the economy has had to overcome in the 21st century. In the Czech Republic, where the principles of the market economy were revived in the 1990s, the growth of the service sector was interrupted by the economic crisis in 2008 and 2009 and now, in 2020, by the Covid-19 crisis. In order to develop a crisis strategy, companies need to predict the possible impact of these external factors, and certain assumptions can indeed be formulated from research related to the economic crisis already overcome. However, there are no studies that look at the relationship between service marketing and the level of crisis management in services to demonstrate how marketing activities can contribute to preventing and eliminating the impact of these crises. So far, it has not been fully tested whether knowing and applying marketing principles in times of crisis may actually help keep service firms' operations running at maximum efficiency and allow them to respond flexibly to change. Based on a content analysis of articles published since 1993, Furrer *et al.* (2020) indicate (from an analysis of a total of 3,177 articles) which areas are most addressed, also identifying the potential for further research. In the field of marketing, the majority of studies focus on relationship marketing, purchase behaviour and customer satisfaction. Mele *et al.* (2021) draw on an analysis of over 200,000 research papers using AI to categorize them with a focus on services in times of crisis (Mele *et al.*, 2021), highlighting the need for further research areas focused on grasping the notion of 'essential services' or innovation and market-shaping in services. The need to examine and predict the impact of crises and crisis management issues in the service sector among service scholars and practicing service marketers has already been highlighted by Martin (2005). He also addresses the questions of whether 'a proactive approach to crisis management is required, whether some organizations may be more crisis-prone than others', as well as the controversy over the polarity of the perception of the concept of crisis. However, it offers 'only' the author's view of the issue in question, unsupported by research. Due to the ongoing crisis, the topic of marketing crisis management and its impact on the success of a firm during a pandemic has not yet been explored. Likewise, research published in the field of international services marketing (Hofer & Knight, 2020) does not address marketing crisis management and its specifics in services. In a research area analysis of 942 articles published in international marketing journals, the topic of crisis management in services does not appear among either strategic or tactical marketing topics.

The contribution of the present paper to the research on marketing in services is that it verifies the relationships between different service sectors and firm sizes and how much they are affected and their investments in marketing in the context of the Covid-19 crisis. The results can be used to determine the direction of the education of future and current marketers in services, focusing on the specifics of each sector and the typology of crises that may befall them. If, for example, universities are aware of these directions, they can better prepare future marketers to practice in services and thus eliminate the impact of crises on the service sector. The aim is to find out how service enterprises perceive the impact of the Covid-19 crisis depending on their size, their classification within the service sector and how they approach marketing investments during a pandemic crisis, as well as to make recommendations for effective implementation of marketing to eliminate the impact of a crisis on services.

2. THEORETICAL BACKGROUND

2.1 Service Sector

To understand the common and differing elements of crisis management in services as opposed to tangible products, it is useful to first define the concept of a service and the determinants potentially involved in the implementation of both marketing and crisis management in a given sector (Ajmal *et al.*, 2021; Lebrun *et al.*, 2021; Ricciardelli *et al.*, 2021; Sharma, 2021). A service is a complex product that can be defined as 'a set of tangible and intangible elements containing functional, social and psychological benefits or advantages. The product may be an idea, a service or a good, or a combination of all three outputs' (Pride & Ferrell, 1991; Dibb *et al.*, 2012). For a more detailed analysis and understanding of the specifics of services and their marketing management, we can use the classification of economists Foote and Hatt (1953), who divided the service sector into:

- tertiary sector - handicraft and craftwork previously carried out at home, where the material elements forming the essence of the service predominate and the material background is important mostly during the whole process of service provision (i.e. repair, hairdressing, cosmetics, but also hospitality, etc.),
- quaternary sector - services facilitating and streamlining the division of labour, where the emphasis is on process procedures and activities (i.e. transport infrastructure, communications, etc.),
- quinary sector - services that change and improve their recipients and are demanding of the expertise of the provider (i.e. counselling, medicine, etc.).

The above breakdown also forms a basis for setting up the additional elements of the marketing mix of services, and is therefore an important determinant for the marketing management of companies across different sectors. A significant part of the literature on services marketing has been written by researchers who explore concepts in other disciplines from a perspective of their potential relevance to services. These applications are appropriate to the interdisciplinary nature of service practice (Martin, 2005).

2.2 Service Sector Response to the Pandemic Crisis

In 2019, the service sector in the Czech Republic achieved a 3.8% year-on-year growth in sales, representing a slowdown in the growth trend compared to the previous year (+5.8%). With a 6.7% average growth in the EU28, the Czech Republic achieved a below-average result, confirming a long-term trend. In the past ten years, in terms of service revenue growth, service providers in the Czech Republic only surpassed the EU28 average in 2017, when the country experienced a 6.5% increase, while the EU28 average was 6.2%. The growth situation has changed dramatically with the arrival of the pandemic crisis in 2020. The Covid-19 pandemic has rapidly taken on a global dimension and, in addition to health, other aspects of life have been affected in the form of a recession, which increases the likelihood of broader social, economic and political systemic changes (International Monetary Fund, 2021; Altay *et al.*, 2022; WTO, 2022). Up until the outbreak of the pandemic, the service sector formed the backbone of the world economy, contributing around 60% to the GDP of the Czech Republic (Marek, 2020; ČSÚ, 2022), for example. Due to the strong impact of the restrictions gradually adopted to mitigate the spread of the coronavirus in most countries, when hospitality establishments were closed or their operations severely restricted, international tourism in particular was severely limited, affecting mainly accommodation and leisure facilities (Lebrun *et al.*, 2021; Romero & Lado, 2021) but also selected modes of transport (Kicová & Poniščiaková, 2020; Sommerauerová & Chocholáč, 2020; Froněk *et al.*, 2021). Schools (which have switched to distance learning) and selected businesses were also closed (Dvorský *et al.*, 2021; Petráková *et al.*, 2021; Yang *et al.*, 2021; Gerard *et al.*, 2022), and mass gatherings and cultural events were suspended. Some other sectors, such as healthcare, are coping with an unexpected influx of patients (Gómez-Carmona *et al.*, 2022). The need to react flexibly to change has accelerated the process of digitisation (Majerova *et al.*, 2020), creating new business models or introducing necessary innovations (Mura, 2020; Nastisin *et al.*, 2021). Demand for products has gradually changed, revealing weaknesses in global supply chains (Nedeliakova *et al.*, 2014; Kicova & Nadanyiova, 2015; Mele *et al.*, 2021). In 2020, all service industries showed a decline in sales, especially tourism-related activities: accommodation (74.3%), air transport (71.8%), and catering and hospitality (55.3%), as well as administrative and support activities of travel agencies and other booking activities. On the other hand, in relation to online purchases, a 20% growth in sales was recorded for postal and courier activities. The year 2021 brought a recovery in the global economy, with GDP growth recorded. China and the United States were the fastest growing economies. GDP growth in the Czech Republic in 2021 (which is heavily dependent on the German economy) was positively affected by changes in GDP in the trade, transport, accommodation and hospitality industries, as well as in construction and most service industries, while manufacturing had a negative impact on quarter-on-quarter GVA growth (ČSÚ, 2022). The European Commission's report identifies the main factors influencing the level of impact of the pandemic, which, as the report suggest, varies from sector to sector and from company to company. Among the most significant are the extent to which they are dependent on intermediate inputs from China, their flexibility to switch to alternative suppliers, the existence of inventories, or the application of 'just-in-time' manufacturing processes (European Commission, 2021a, 2021b).

The well-being of service enterprise participants (employees and management) is at the micro level (Lorincová *et al.*, 2021). When service providers such as tourism, hospitality and leisure service providers (Gottwald *et al.*, 2015; Brumercikova *et al.*, 2020), retailers, or transport (Jaros *et al.*, 2014; Lazarevic *et al.*, 2020; Ralevic *et al.*, 2020) and travel companies struggle to survive due to disruptions, lockdowns or other restrictions, jobs and employment are at risk (Li *et al.*, 2021; Hitka *et al.*, 2022). During the pandemic, small and medium-sized retailers have been hit hard because they do not have the tools to cope with the economic shock along with high levels of uncertainty (Kabadayi *et al.*, 2020). According to a data analysis from O2 eKasa's project, which evaluated changes in the use of the O2 eKasa-based POS system in the Czech Republic, in the first week after a lockdown was introduced, three quarters of businesses stopped selling their goods and services. At the same time, for those businesses that continued to operate, the total number and value of sales fell to one-tenth of their usual figures. The only thing that grew was the share of contactless payments, i.e. payments by credit card, mobile phone or smart watch, up by 20% (Jungmanová, 2020). PwC's Covid-19 CFO Pulse Survey (Storkan, 2020), in which CFOs from 21 countries participated, provides insight into their assumptions about the situation. According to the findings, up to four-fifths (79%) of Czech companies expect a decline in revenues or profits due to the Covid-19 pandemic. However, more than half (55%) of companies also believe that if the emergency measures were to end now, their business would return to normal within three months. The most common fear among Czech

CFOs is that the global economy will fall into a recession (79%), followed by concerns about financial impacts such as a lack of liquidity and capital resources (47%), and the fear of a drop in consumer sentiment and a related drop in demand (41%). The survey participants were representatives of medium and large companies, which will not be as affected by the short-term funding shortage as small entrepreneurs and sole traders. According to Storkan (2020), small and medium-sized enterprises in the Czech Republic expect a reduction in production of up to forty percent as a result of quarantine measures. This is based on a survey conducted by the Confederation of Employers' and Business Associations among companies across segments and sizes. The categories monitored were those with less than 50, 50-250 and more than 250 employees. The most vulnerable group is hotels, restaurants and related services. For small businesses, as many as 47 percent of owners are concerned about being in secondary insolvency. Undoubtedly, the unifying element across all sectors and groups has been the general dissatisfaction with the government's measures to date - only 21% of firms consider them sufficient. European Commission (2021a) (as part of its support efforts during the pandemic) stresses that the survival of small and medium-sized enterprises, which are hit hard by the pandemic crisis, is crucial for the economy of the EU as a whole.

2.3 Marketing Management in the Wake of the Crisis

A crisis is an unexpected event that brings with it uncertainty, changes existing habits, routines and plans (Kutaic, 1938). According to Gordon-Wilson (2021), a crisis often seriously underwrites a change in consumer behaviour and creates new patterns. Published research (e.g., Weinberger & Wallendorf, 2012; Kaytaz & Gul, 2014) often focuses on consumption change in the context of crises (economic, natural disasters, pandemics, etc.). A common point present in the findings is the negative emotions individuals experience during a crisis, which they seek to mitigate by changing consumption strategies (Kemp & Kopp, 2011). There is also a tendency towards less self-control over the consumption of unhealthy snacks (cheaper goods) and alcohol (Gordon-Wilson, 2021). An important element of the marketing activities of companies in these conditions is social responsibility, by which they demonstrate their conscious and community-oriented attitude towards the situation and their consumers (Weinberger & Wallendorf, 2012). Changes in consumer behaviour during the crisis cannot be ignored as private consumption contributes significantly to gross domestic product (Kaytaz & Gul, 2014). Sarkis (2021) points out that a pandemic crisis has its own specificities compared to other crises where people begin to 'live differently' and thus new social and economic norms of sustainability emerge. Studies (Ajmal *et al.*, 2021) indicate a significant reduction in economic and social activity (from a PEST analysis perspective), and, conversely, a significant impact of Covid-19 on creating technological challenges among service delivery organisations. Thus, it can be concluded that the pandemic has significantly accelerated digital transformation in the sector. According to Martin (2005), service organizations may be more crisis prone than tangible goods firms in some respects. Although all organizations should be concerned about crises and their management, some of the almost unique characteristics of services suggest that service organizations should pay particular attention to crises, as losses may be higher for them.

An important question is how to strategically approach marketing management and the implementation of marketing activities in times of crisis. B2 inside's research (B2B Monitor, 2012), drawing on a survey of 300 randomly selected companies (categorised by industry and size) in the Czech Republic, focused on the impact of the crisis on marketing and overall economic stability. The results of the study show that marketing spending declined during the crisis. In retrospect, marketing and sales directors admit that cutting marketing spending was often not the right move. Just under half (46%) of marketing executives consider spending cuts to be the right thing to do. The rest either rate it negatively or fail to assess the move. Interpretation of the findings highlights the directly proportional relationship between the increase in marketing spending and the growth in company turnover. However, there is a question as to why these results were not segregated by firm size, as large firms are more sophisticated in their marketing and are less vulnerable to the crisis (Martin, 2005). This would indirectly support the results presented. Data2Decisions (Dyson, 2021) has also reached similar conclusions in its studies, arguing that firms should not cut back on marketing and promotional spending in times of crisis. Cutting advertising budgets to zero can take five years to recover. Similar results are independently reported by Kantar (2021), which states that ‘strong brands recovered 9x faster than weaker brands following the financial crash of 2008.’

3. MATERIALS AND METHODS

The aim is to find out how service firms perceive the impact of the Covid-19 crisis depending on their size and their classification within the service sector and how they approach marketing investments during a pandemic crisis. The fulfilment of the objective is based on the results of research focused on service enterprises in terms of the application of marketing processes in 2020-2021. Within the baseline set, there were 2,932,963 Czech business entities registered in 2020 (95.45% micro, 3.45% small, 0.91% medium and 0.19% large enterprises) (ČSÚ, 2022). Service enterprises were monitored separately according to their size in three basic categories – micro-enterprises (up to 10 employees), small enterprises (11-50 employees) and medium and large enterprises (more than 50 employees). The sample was selected by stratified proportional sampling in terms of service enterprise size, with 99 service-oriented businesses selected from the database of business entities (ČSÚ, 2022). Data collection was done through a questionnaire survey where the researcher personally contacted the business entity and the person in charge of marketing or the top manager/owner. Table no. 1 details the composition of the final research population. The representation of enterprises by size is approximately proportional in the research sample (n=90). The results of the chi-squared test confirm ($p<0.001$, Cramer's V = 0.743) a strong dependence of the existence of a responsible person or department for marketing on the size of the enterprise. This fact was expected and is further considered in the interpretation of the results. The sample size was tested by means of G*Power tests (for the group of F tests – ANOVA one way and with an effect size of 0.35 and α=5% the resulting test power is 0.84; for correlation the resulting test power for the two-tailed test is 0.827 and for the binomial test of one sample case it is 0.99). Cronbach’s alpha for the 4 observed responses is 0.702, and none of the items examined would increase the resulting coefficient if dropped from the set.

The survey was focused on marketing management and the impact of government measures introduced in the Covid-19 crisis on service firms. To meet the objective of the paper, part of the collected data (5 responses) will be evaluated to address the topic of past turnover change and predictions for the future:

- How do you perceive the impact of the government's Covid-19 measures on your business? Answer options: 1 strongly negative, 2 rather negative, 3 we have not felt any effect yet, 4 rather positive, 5 strongly positive.
- What change in turnover has occurred between 2019-2020 due to the Covid-19 crisis? Answer options: 1 a significant decrease, 2 a slight decrease, 3 no change, 4 a slight increase, 5 a significant increase.
- What turnover trends do you expect in the next 6 months? Answer options: 1 a significant decrease, 2 a slight decrease, 3 no change, 4 a slight increase, 5 a significant increase.
- How do you intend to invest in marketing and promotional spending this year? Answer options: 1 we are not investing, 2 we are reducing investments, 3 no change (stagnant or we have not decided on a change yet), 4 we are increasing investments.

Table no. 1 – Composition of the research sample

sector of services	size of the entity						**Total**	
	micro		small		medium and large			
	Count	%	Count	%	Count	%	**count**	**%**
tertiary sector	25	51.6%	12	24.1%	12	24.4%	49	100%
quaternary sector	4	12.9%	10	36.1%	14	51.1%	28	100%
quinary sector	4	28.3%	7	52.9%	2	18.7%	13	100%
total	**33**	**36.7%**	**29**	**32.2%**	**28**	**31.1%**	**90**	**100%**

Source: authors

Outcomes were achieved by processing the data using descriptive and inferential statistics. A comparison of the means of ordinal variables according to the selected factor (firm size) was made by an ANOVA test preceded by Levene's test of homogeneity of variances in conjunction with a Hochberg or Games-Howell test (for non-homogeneous groups). The correlation of ordinal variables was tested using Pearson's correlation coefficient, while Pearson's chi-squared test was used to identify the association of categorical variables.

Based on literary review, the following research questions can be posed:

1. Research question 1: What was the impact on service firms based on their classification (according to Foote and Hatt) within the service sector in the context of the pandemic crisis in the Czech Republic? Considering the overall impact of the crisis on service enterprises, it can be predicted that the greatest impact will be perceived by the tertiary sector (where accommodation, catering and hospitality, beauty services, etc. are classified), followed by the quaternary sector (e.g. transport services). The quinary sector (where we include travel agency services, administrative services, banking services, etc.) is expected to be the least affected. Consequently, a research hypothesis is set:
    1.1. ***Research hypothesis 1 (RH1)****: Service firms' subjective perception of the crisis depends on the company's classification within the service sector, with the tertiary sector being the most negatively affected.*

2. Research question 2: What role does firm size and service sector classification play in the Czech context in terms of the impact of the Covid-19 crisis? According to research, a higher perception of subjective influence in the case of micro and small service enterprises may be assumed, allowing us to determine the following research hypotheses:

2.1. ***Research hypothesis 2 (RH2)**: Micro and small enterprises are significantly more affected by the crisis, regardless of their classification within the service sector.*
2.2. ***Research hypothesis 3 (RH3)**: Larger service companies have more positive expectations for turnover in the next 6 months than smaller ones, with more than half of medium and large companies expecting only positive developments linked to the relaxing of government restrictions.*

3. Research question 3: How does the management of marketing activities in service firms affect the ability to withstand the negative effects of the Covid-19 crisis? Research (B2B Monitor, 2012; Dyson, 2021; Kantar, 2021) suggests that companies that invested in marketing even during the crisis (did not reduce their investment) had higher turnover in subsequent periods. However, the question arises as to why some studies do not consider results in this context with regards to size or service sector classification. We therefore set the following research hypotheses:
3.1. ***Research hypothesis 4 (RH4)**: Despite the fact that service sectors were differently affected, a firm's classification within the service sector does not affect marketing investment within each firm size category. This is based on the assumption that enterprises have the same interest in increasing the turnover that these investments can bring them.*
3.2. ***Research hypothesis 5 (RH5)**: For medium and large enterprises, there is a relationship between investments in marketing and turnover predictions in the service sector.*

4. RESULTS

4.1 Perceived Impacts of Government Restrictions on the Covid-19 Crisis

Covid-19 restrictions imposed by the Czech government have mainly affected the service sector (Kulhánek, 2020; European Commission, 2021a). The first question was how service enterprises perceive the impact of government measures related to the Covid-19 crisis in relation to the size of the enterprise. Enterprises answered on a scale from 1 to 5, where 1 means strongly negative, 2 rather negative, 3 we have not felt any effect yet, 4 rather positive, and 5 strongly positive. As is demonstrated in Figure no. 1, one can anticipate a strong effect of firm size on the degree of impact of government measures on a service enterprise. The assumption is confirmed by the result of an ANOVA test at the 1% significance level ($p<0.001$, the value of the ANOVA effect size by Eta squared is 0.171), while the subsequent Games-Howell test specifies that differences are identified between micro/small enterprises compared to medium and large enterprises ($p=0.003$). However, there is a reasonable suspicion that the findings may also be related to the subjects' area of application in the service sector. An ANOVA test of means by sector classification provides information on a significant difference at the 1% significance level with an Eta size of 0.254. Upon closer examination (Figure no. 2), this difference applies to medium and large enterprises (at the 1% significance level, effect size 0.57), while according to the Games-Howell test, medium and large enterprises in the tertiary service sector (at the 5% significance level) are most affected by the restrictions. For this reason, an ANOVA test was subsequently conducted for each sector separately in terms of firm size. It was found that the difference in the perception of the impact by size is identified in the case of the quaternary sector (p=0.011, Eta squared 0.303, a Hochberg test determined a difference between small enterprises and medium and large enterprises at p=0.010) and the quinary sector (with a high effect Eta squared of 0.885, at a significance level of 1% / p<0.001). In the case of the quaternary sector, the comparison of micro and small enterprises (a Games-Howell test yielded p<0.001) to medium and large enterprises shows a significant difference. Thus, it can be concluded that in the case of the tertiary service sector, the degree of perceived impact on these entities did not depend on the size of the enterprise. This can be explained by the fact that this sector was the most affected by the measures to prevent the spread of the coronavirus and the size of the enterprise thus did not represent a statistically significant effect (Marek, 2020; Žurovec, 2021; ČSÚ, 2022). Figure no. 2 presents the perception of the impact of government restrictions on service enterprises, with the worst situation in the tertiary sector regardless of the size of the enterprise.

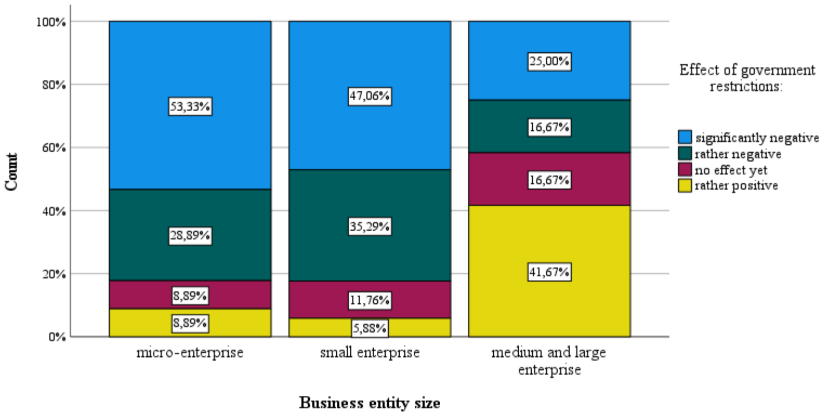

Figure no. 1 – Comparison of responses indicating the effect of government restrictions on service enterprises by size
Source: own research

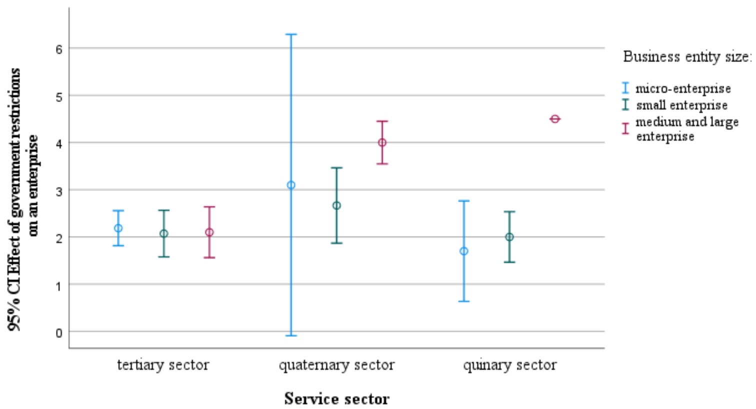

Figure no. 2 – Comparison of responses indicating the effect of government restrictions on service enterprises by size and sector.
Source: own research

4.2 Year-on-Year Turnover Comparison (2019/2020)

Similar to the other attributes, respondents reported the change in turnover on a scale of 1 to 5, where 1 indicated a significant decrease and 5 a significant increase in turnover. Figure no. 3 presents the proportion of firms' statements on year-on-year turnover change in the three firm size categories. While the vast majority of micro and small enterprises reported a decline in turnover (micro 55.56% and small enterprises 58.8%), larger enterprises showed a stagnation in turnover (33.3%). An ANOVA test did not confirm significant differences in the year-on-year turnover change depending on the size of the enterprise (p=0.33), but given the results of the perception of the impact on the enterprise, it is possible to assume an association with this attribute and therefore a possible relationship with the classification of the enterprise within the service sector. The resulting Pearson's correlation coefficient (0.678) shows a strong relationship between the assessment of the impact of restrictions and the year-on-year change in turnover, at the 1% significance level (p<0.001). Furthermore, the ANOVA test confirms a significant dependence of the change in turnover on service sector classification (p<0.001, Eta squared 0.169) and, according to the Hochberg test, a difference is identified in the quaternary sector in comparison to the tertiary sector (p<0.001) and the quinary sector (p=0.040). No significant differences were found (p=0.435/0.324/0.589 at the 5% significance level) when we selectively re-examined sector differences by firm size.

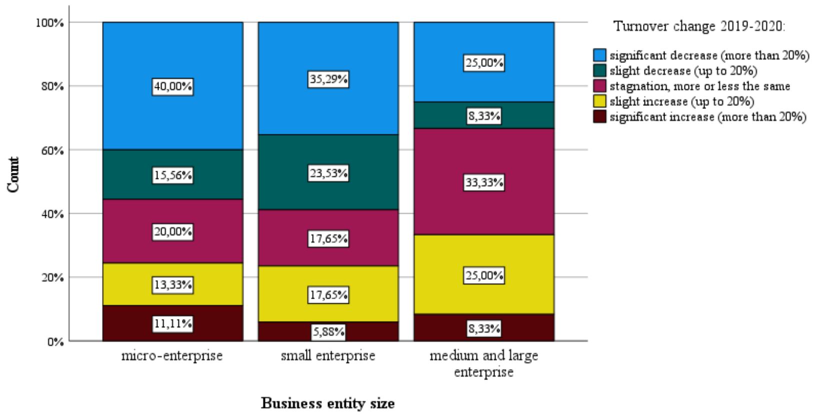

Figure no. 3 – Comparison of turnover change of service enterprises in the period 2019-2020 by size
Source: own research

4.3 Turnover Predictions for the Next Six Months

Service enterprises were also asked about their predictions for turnover development in the next 6 months. They were given the option to respond on a scale of 1 to 5, where 1 is a significant decrease, 2 a slight decrease, 3 no change, 4 a slight increase, and 5 a significant increase (Figure no. 4). Figure no. 5 shows the frequency of each answer by business size. What can be inferred from the graphical representation is that smaller businesses have more negative expectations of turnover trends over the next 6 months (micro businesses up to 40% vs. medium and large businesses 0%). From the results of a comparison of means by an ANOVA test at a 1% significance level (p<0.001, Eta squared 0.158), we can conclude that there is a significant inequality in expectations among large companies. According to the Games-Howell test (at the 5% significance level), there are significantly more negative predictions of micro-enterprises in the tertiary sector compared to small to large enterprises. At the same time, it can be confirmed that based on the results of the non-parametric binomial test, the hypothesis that more than 50% of medium and large enterprises expect a positive development of turnover in the form of growth (p=0.02) was confirmed, which was not confirmed for micro and small enterprises (p=0.72 and p=0.121, respectively).

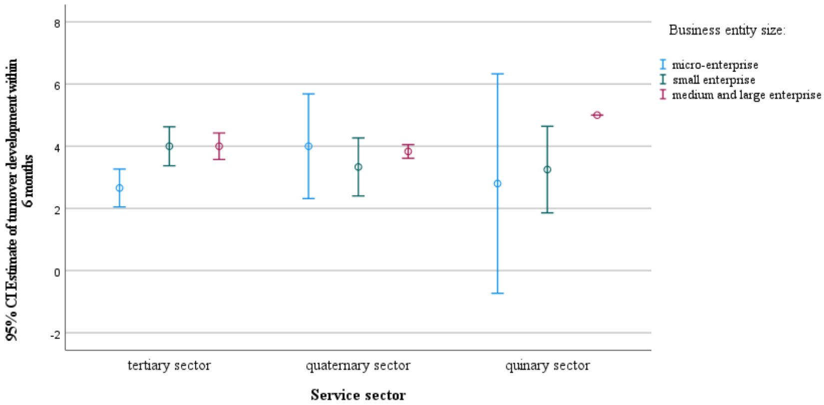

Figure no. 4 – Comparison of the mean values of predictions for the change in turnover by service sector

Source: own research

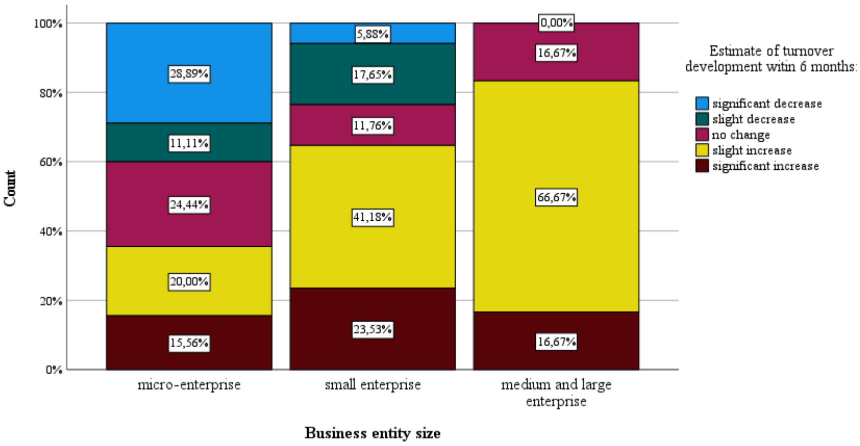

Figure no. 5 – Predictions of enterprises for the change in turnover by firm size

Source: own research

4.4 Investments in Marketing and Promotion

In the question related to investments, respondents were given four answer options: not investing, reducing investment, not considering change and increasing investment. As many as

37.5% of all businesses are reducing their marketing investments, but 29.5% are not changing them. The evaluation presented in Table no. 2 uses a sign scheme to make the results of the adjusted residuals of investment change in 2021 more transparent with respect to firm size and sector. In the last two columns, the results of the chi-squared test and Cramer's V are presented for clarity. Based on the values presented, we can see that the most significant changes have been observed in small enterprises, which until 2019 were more likely to invest in marketing than micro-enterprises, but the arrival of the crisis changed their attitude towards such investments. The quaternary and quinary sectors reduce investment more (expressed through a positive mean dependence at the 5 and 1% significance levels) rather than keeping current investment levels. The tertiary sector, which was the most affected, chooses to completely stop investments (compared to other sectors) for small enterprises (1% significance level), while medium and large enterprises focus on maintaining the current level of investment in marketing compared to other sectors (Cramer's V 0.506 and chi-squared sig. 0.026).

Table no. 2 also presents the results of Pearson's correlation coefficient comparing the change in marketing investments and the expected change in turnover over a 6-month period. It can be noted that for the tertiary sector (for small, medium and large enterprises), the dependence turns out to be strong negative (at the 1% significance level, coefficient -0.722 to 0.791), which may be related to the high impact of restrictions on the operations of these enterprises and their pessimistic view of the issue. On the contrary, for the quaternary sector, the relationship appears to be a strong positive one (coefficient 0.652 to 0.674, at the 5% significance level), where enterprises see a positive response in the form of increased turnover for small, medium and large enterprises, along with the approach to investment in marketing.

Table no. 2 – The change in marketing investment and the predicted change in turnover over a 6-month period

Enterprise category		marketing investments				Chi squered p-value	Cramer's V	Correlation of investment and turnover prediction
		no	reduction	stagnation	increase			
micro-enterprise	tertiary sector	**o**	**o**	**o**	**o**	0.905	0.184	0.275
	quaternary sector	**o**	**o**	**o**	**o**			-0.354
	quinary sector	**o**	**o**	**o**	**o**			0.344
small enterprise	tertiary sector	+	**o**	**o**	**o**	0.015	0.523	-0.722**
	quaternary sector	**o**	+	-	**o**			0.652*
	quinary sector	**o**	++	--	**o**			-0.544
medium and large enterprise	tertiary sector	**o**	**o**	+	**o**	0.026	0.506	-0.791**
	quaternary sector	**o**	**o**	**o**	**o**			0.674*
	quinary sector	**o**	**o**	**o**	**o**			-0.546

Note: **o** without dependence on the significance level of 5%; +/- (positive/negative) dependence of s at the 5% significance level; ++/-- (positive/negative) dependence of s at 1% significance level; ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Source: own research

5. DISCUSSION

The presented results provided the basis for answering the research questions and verifying the research hypotheses. The first research question focused on determining the impact of the pandemic crisis on service enterprises with respect to their classification (Foote & Hatt, 1953) within the service sector. It was hypothesized that the tertiary sector enterprises (where accommodation, food and beverage, beauty services, etc. are classified) would perceive the greatest impact, followed by the quaternary sector enterprises (e.g. transport services). Quinary sector enterprises (where we classify travel agency services, administrative services, banking services, etc.) are expected to be least affected. RH1 was established, assuming that the subjective impact of the crisis on service firms depends on the firm's classification within the service sector, with tertiary sector firms being the most negatively affected. Chapters 4.1-3 provide the background for answering research question 1. An overall comparison of the average subjective perception of the impact of the restrictions on service enterprises shows that this impact varied according to their classification within the service sector, with medium and large enterprises in the tertiary sector doing the worst compared to the average (ANOVA and Games-Howell tests), and no significant differences for smaller categories of enterprises. In terms of change in turnover, significant differences were confirmed for service enterprises in terms of their classification within the service sector (ANOVA and Hochberg's test). A higher negative impact (statistically significant at the 5% significance level) was determined for the tertiary and quinary sectors compared to the quaternary sector (Figure no. 4). Based on the results of the tests, RH1 can be confirmed, where in the case of the subjective impact of government restrictions on a company, statistically significant differences in turnover change at the 5% significance level were confirmed. However, if we focus on the impact in terms of enterprise size, in the case of micro and small enterprises, significant differences of the tertiary sector compared to the quaternary and quinary sectors were not confirmed.

It is also important to look at the issue of firm size and answer research question 2: What role does firm size and service sector classification play in the Czech context in terms of the impact of the Covid-19 crisis? Based on the available studies, it was expected that there would be a higher perception of subjective impact in the case of micro and small service enterprises. Our research confirms that the impact of government restrictions is perceived more negatively by micro and small enterprises compared to medium and large enterprises (Figure no. 1, ANOVA and Games-Howell tests). However, this is not the case in the tertiary sector, where the subjective impact was perceived equally regardless of the enterprise's classification within the service sector (Figure no. 2, ANOVA test and Games-Howell tests). This can be explained by the fact that this sector was the most affected by the government measures, and the size of the enterprise did not thus represent a statistically significant effect (Marek, 2020; Žurovec, 2021; ČSÚ, 2022). In terms of the year-on-year change in turnover with the arrival of the Covid-19 crisis, there were no significant differences between service enterprises in terms of size (at the 5% significance level). Significant dependence was determined in the classification within the service sector, while change in turnover did not depend on the firm's size. Therefore, RH2, which states that micro and small enterprises are significantly more affected by the crisis, regardless of their classification, is not confirmed at the 5% significance level. The predictions for the change in turnover in 6 months is significantly different between micro-enterprises and medium and large enterprises (at the 1% significance level), while according to the binomial non-parametric test more than 50% of medium and large enterprises expect a more positive development. Thus, RH3 has been verified.

The impact on service businesses can significantly affect not only the will but also the ability to invest in marketing. According to studies (B2B Monitor, 2012; Dyson, 2021; Kantar, 2021), businesses that invested in marketing even in times of crisis (did not reduce investments) had higher turnover in subsequent periods. All crises have certain commonalities, but each one is also unique in its own way. Only the future will tell whether these rules also apply in the event of a pandemic crisis, but it is already possible to assess the predictions of service firms emerging from a difficult period. Previous studies also do not address the effect of size or service sector classification on the results. Two research hypotheses were formulated on the question of marketing investments. RH4 posits that despite the fact that service sectors were differently affected, the service sector classification of a firm does not affect marketing investments by firm size. This is based on the assumption that enterprises have the same interest in increasing the turnover that these investments can bring them and thus approach the issue similarly. This hypothesis is confirmed at the 5% significance level only for micro-enterprises (Table no. 2), which in practice have minimal (or no) investment. The quaternary and quinary sectors reduce investments more (determined by the mean positive dependence at the 5% and 1% significance levels) rather than keeping current investment levels. The tertiary sector, which has been hit the hardest, chooses a more complete disinvestment strategy (compared to the other sectors) for small firms (1% significance level) and focuses on maintaining the current level of investment in marketing for medium and large firms compared to the other sectors. Moreover, RH5 was not confirmed (Table no. 2), because for medium and large enterprises, a relationship was found between investments in marketing and the predictions for change in turnover in the tertiary and quaternary sectors, but in the case of the tertiary sector, it was a strong negative relationship, which was not the assumption. For the quinary sector, this dependence was not confirmed.

6. CONCLUSION

The aim of the paper was to find out how service companies perceive the impact of the Covid-19 crisis depending on their size, their classification within the service sector and their approach to marketing investments during the pandemic crisis. The results confirm the assumptions of a strong impact based on firm size. However, this assumption is not valid in the case of the tertiary sector, where micro, small, and medium and large enterprises perceive the impact of government measures equally. At the same time, marketing investments in this sector differ for small and medium and large enterprises. Compared to other sectors, small enterprises are more likely to choose the option of not investing in marketing at all, while medium and large enterprises are more likely to choose the path of no change in investments than in other sectors. There is also a strong positive prediction for the tertiary sector in terms of 6-month change in turnover for small and medium and large enterprises compared to micro-enterprises. This divergence is not as marked for the other sectors. It can be concluded that for the tertiary sector, the measures posed the greatest challenges regardless of the size of the enterprise. However, only for micro enterprises are the predictions for turnover change in the next 6 months significantly more negative.

The global pandemic presented a wide range of systemic obstacles for the service sector, which may prove insurmountable for many businesses. As far as micro and small enterprises are concerned, the impact, except in the tertiary sector, was perceived more strongly. Approaches to marketing investments with regards to sector classification also vary during the pandemic period, especially in the case of small enterprises, which are relatively more sensitive to threats that may further affect their opportunities to invest. However, the quaternary sector, which was less affected, expects a positive development in turnover in the next 6 months in direct proportion to the decision to invest in marketing.

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References

Ajmal, M. M., Khan, M., Shad, M. K., AlKatheeri, H., & Jabeen, F. (2021). Empirical examination of societal, financial and technology-related challenges amid COVID-19 in service supply chains: evidence from emerging market. *The International Journal of Logistics Management, ahead-of-print*(ahead-of-print). http://dx.doi.org/10.1108/IJLM-04-2021-0220

Altay, B. C., Okumuş, A., & Adıgüzel Mercangöz, B. (2022). An intelligent approach for analyzing the impacts of the COVID-19 pandemic on marketing mix elements (7Ps) of the on-demand grocery delivery service. *Complex & Intelligent Systems, 8*(1), 129-140. http://dx.doi.org/10.1007/s40747-021-00358-1

B2B Monitor. (2012). B2B marketing in the Czech Republic and Slovakia - (surprisingly) small differences. *Inspiration for Your B2B Marketing.* Retrieved from https://www.b2bmonitor.cz/2015/07/b2b-marketing-v-cr-a-sr/

Brumercikova, E., Bukova, B., & Nedeliakova, E. (2020). A Proposal for the Account-Based Ticketing Application in Passenger Transport in the Slovak Republic: A Case Study. *Sustainability (Basel), 12*(14), 5491. http://dx.doi.org/10.3390/su12145491

ČSÚ. (2022). GDP, national accounts. Retrieved from https://www.czso.cz/csu/czso/hdp_narodni_ucty

Dibb, S., Simkin, L., Pride, M. W., & Ferrell, O. (2012). *Markating Concepts and Strategies* (7th ed.): Houghton Mifflin Co.

Dvorský, J., Čepel, M., Kotásková, A., & Bugánová, K. (2021). Differences in business risk effects on the future of SMEs due to Covid-19 pandemic. *International Journal of Entrepreneurial Knowledge, 9*(2), 14-31. http://dx.doi.org/10.37335/IJEK.V9I2.144

Dyson, P. (2021). Top 10 drivers of advertising profitability. Retrieved from www.warc.com/myadmap

European Commission. (2021a). Jobs and the economy during the coronavirus pandemic. Retrieved from https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/jobs-and-economy-during-coronavirus-pandemic_cs

European Commission. (2021b). SME Envoys-Finance subgroup Conclusions of the 2021 Survey and Roundtable on national solvency measures for SMEs during and after the Covid-19 crisis. Executive Summary. Retrieved from https://ec.europa.eu/growth/system/files/2021-11/SME%20Envoys%20Finance%20-

%20Final%20conclusions%20on%20national%20solvency%20measures%20for%20SMEs%20October%202021.pdf

Foote, N. N., & Hatt, P. K. (1953). Social mobility and economic advancement. *The American Economic Review, 43*(2).

Froněk, J., Chlumecký, J., & Vymětal, D. (2021). Covid-19 Pandemic vs. Public Transport Attractiveness - Literature Research and Selected Solutions and Recommendations. *Perner's Contacts, 16*(1), 2021. http://dx.doi.org/10.46585/PC.2021.1.1667

Furrer, O., Yu Kerguignas, J., Delcourt, C., & Gremler, D. D. (2020). Twenty-seven years of service research: A literature review and research agenda. *Journal of Services Marketing, 34*(3), 299-316. http://dx.doi.org/10.1108/JSM-02-2019-0078

Gerard, L., Wiley, K., Debarger, A. H., Bichler, S., Bradford, A., & Linn, M. C. (2022). Self-directed Science Learning During COVID-19 and Beyond. *Journal of Science Education and Technology, 31*(2), 258-271. http://dx.doi.org/10.1007/s10956-021-09953-w

Gómez-Carmona, D., Paramio, A., Cruces-Montes, S., & Marín-Dueñas, P. P. (2022). Impact of COVID-19 prevention measures on health service quality, perceived value and user satisfaction. A structural equation modelling (SEM) approach. *Atencion Primaria, 54*(2), 102178. http://dx.doi.org/10.1016/J.APRIM.2021.102178

Gordon-Wilson, S. (2021). Consumption practices during the COVID-19 crisis. *International Journal of Consumer Studies, 46*, 575– 588. http://dx.doi.org/10.1111/IJCS.12701

Gottwald, D., Lejsková, P., Švadlenka, L., & Rychnovská, V. (2015). Evaluation and Management of Intellectual Capital at Pardubice Airport: Case Study. *Procedia Economics and Finance, 34*, 121-128. http://dx.doi.org/10.1016/s2212-5671(15)01609-3

Hitka, M., Štarchoň, P., Caha, Z., Lorincová, S., & Sedliačiková, M. (2022). The global health pandemic and its impact on the motivation of employees in micro and small enterprises: a case study in the Slovak Republic. *Economic Research-Ekonomska Istraživanja, 35*(1), 458-479. http://dx.doi.org/10.1080/1331677X.2021.1902365

Hofer, K. M., & Knight, G. (2020). International services marketing: An integrative assessment of the literature. *Service Industries Journal, 41*(11–12), 225-248. http://dx.doi.org/10.1080/02642069.2020.1862091

International Monetary Fund. (2021). Regional Economic Outlook. *Regional Economic Outlook.* Retrieved from https://www.imf.org/en/Publications/REO

Jaros, J., Melichar, V., Svadlenka, L., & Press, K. U. T. (2014). *Impact of the Financial Crisis on Capital Markets and Global Economic Performance*. Paper presented at the International Conference on Transport Means.

Jungmanová, L. (2020). Press Centre - What are the impacts of coronavirus on Czech entrepreneurs? *O2 Czech Republic.* Retrieved from https://www.o2.cz/spolecnost/tiskove-centrum/673192-Dopady_koronaviru_na_ceske_podnikatele.html

Kabadayi, S., O'Connor, G. E., & Tuzovic, S. (2020). Viewpoint: The impact of coronavirus on service ecosystems as service mega-disruptions. *Journal of Services Marketing, 34*(6), 809-817. http://dx.doi.org/10.1108/JSM-03-2020-0090

Kantar. (2021). BrandZ Top 100 Most Valuable Global Brands - 2021. *Ranking The Brands.* Retrieved from https://www.rankingthebrands.com/The-Brand-Rankings.aspx?rankingID=6

Kaytaz, M., & Gul, M. C. (2014). Consumer response to economic crisis and lessons for marketers: The Turkish experience. *Journal of Business Research, 67*(1), 2701-2706. http://dx.doi.org/10.1016/J.JBUSRES.2013.03.019

Kemp, E., & Kopp, S. W. (2011). Emotion regulation consumption: When feeling better is the aim. *Journal of Consumer Behaviour, 10*(1), 1-7. http://dx.doi.org/10.1002/CB.341

Kicova, E., & Nadanyiova, M. (2015). *Marketing strategies in bus transport companies and its impact on increasing the competitiveness*. Paper presented at the 15th International Scientific Conference on Globalization and its Socio-Economic Consequences.

Kicová, E., & Poniščiaková, O. (2020). Concept of BSC System and its Use in Strategic Management of Business Transport Enterprise in SR. *Perner's Contacts, 15*(1), 2020. http://dx.doi.org/10.46585/PC.2020.1.1545

Kulhánek, Z. (2020). Impact of coronavirus: it is mainly small businesses and the service sector that are in trouble. *Economic Magazine.* Retrieved from https://ekonomickymagazin.cz/2020/04/dopady-koronaviru-potize-maji-hlavne-male-podniky-a-sektor-sluzeb

Kutaic, R. I. (1938). The sociology of crises: The louisville flood of 1937. *Social Forces, 17*(1), 66-72. http://dx.doi.org/10.2307/2571151

Lazarevic, D., Dobrodolac, M., Svadlenka, L., & Stanivukovic, B. (2020). A model for business performance improvement: a case of the postal company. *Journal of Business Economics and Management, 21*(2), 564-592. http://dx.doi.org/10.3846/jbem.2020.12193

Lebrun, A. M., Corbel, R., & Bouchet, P. (2021). Impacts of Covid-19 on travel intention for summer 2020: A trend in proximity tourism mediated by an attitude towards Covid-19. *Service Business, 2021*, 1-33. http://dx.doi.org/10.1007/S11628-021-00450-Z

Li, B., Zhong, Y. Y., Zhang, T., & Hua, N. (2021). Transcending the COVID-19 crisis: Business resilience and innovation of the restaurant industry in China. *Journal of Hospitality and Tourism Management, 49*, 44-53. http://dx.doi.org/10.1016/J.JHTM.2021.08.024

Lorincová, S., Hitka, M., Ďurian, J., & Sedmáková, L. (2021). Dependence of Corporate Culture Type on Selected Socio-Demographic Factors. *Journal of Human Resource Management, 24*(1), 28-39.

Majerova, J., Sroka, W., Krizanova, A., Gajanova, L., Lazaroiu, G., & Nadanyiova, M. (2020). Sustainable Brand Management of Alimentary Goods. *Sustainability (Basel), 12*(2), 556. http://dx.doi.org/10.3390/su12020556

Marek, D. (2020). Czech economic outlook: an uncertain season. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/about-deloitte/vyhled_ceske_ekonomiky_2020.pdf

Martin, C. L. (2005). Blending services and crises: A few questions and observations. *Journal of Services Marketing, 19*(5), 346-350. http://dx.doi.org/10.1108/08876040510609952

Mele, C., Russo-Spena, T., & Kaartemo, V. (2021). The impact of coronavirus on business: Developing service research agenda for a post-coronavirus world. *Journal of Service Theory and Practice, 31*(2), 184-202. http://dx.doi.org/10.1108/JSTP-07-2020-0180

Mura, L. (2020). Innovations and Marketing Management of Family Businesses: Results of Empirical Study. *International Journal of Entrepreneurial Knowledge, 8*(2), 56-66. http://dx.doi.org/10.37335/IJEK.V8I2.118

Nastisin, L., Gavurova, B., Bacik, R., Svetozarovova, N., & Fedorko, R. (2021). Sustainable performance of players in the global aviation industry in the light of multi-factor analysis of online reputation. *International Journal of Entrepreneurial Knowledge, 9*(1), 1-9. http://dx.doi.org/10.37335/IJEK.V9I1.130

Nedeliakova, E., Nedeliak, I., & Majercak, P. (2014). *Research of Services Quality after the End of Transportation in Railway Freight Transport*. Paper presented at the 2nd International Conference on Management Innovation and Business Innovation

Petráková, Z., Okręglicka, K., Maňák, R., & Fialová, V. (2021). Generation disparities on the perception of SMEs business risks. *International Journal of Entrepreneurial Knowledge, 9*(2), 32-48.

Pride, W. M., & Ferrell, O. C. (1991). *Marketing : concepts and strategies*: Houghton Mifflin Co.

Ralevic, P., Dobrodolac, M., Svadlenka, L., Sarac, D., & Duric, D. (2020). Efficiency and productivity analysis of universal service obligation: a case of 29 designated operators in the European countries. *Technological and Economic Development of Economy, 26*(4), 785-807. http://dx.doi.org/10.3846/tede.2020.12062

Ricciardelli, R., Bucerius, S., Tetrault, J., Crewe, B., & Pyrooz, D. (2021). Correctional services during and beyond COVID-19. *FACETS, 6*, 490-516. http://dx.doi.org/10.1139/FACETS-2021-0023

Romero, J., & Lado, N. (2021). Service robots and COVID-19: Exploring perceptions of prevention efficacy at hotels in generation Z. *International Journal of Contemporary Hospitality Management*, *33*(11), 4057-4078. http://dx.doi.org/10.1108/IJCHM-10-2020-1214

Sarkis, J. (2021). Supply chain sustainability: Learning from the COVID-19 pandemic. *International Journal of Operations & Production Management*, *41*(1), 63-73. http://dx.doi.org/10.1108/IJOPM-08-2020-0568

Sharma, P. (2021). Customer co-creation, COVID-19 and sustainable service outcomes. *Benchmarking*, *28*(7), 2232-2258. http://dx.doi.org/10.1108/BIJ-10-2020-0541

Sommerauerová, D., & Chocholáč, J. (2020). Spoločenská odpovědnost organizace z pohledu společnosti poskytující expresní kurýrní služby. *Perner's Contacts*, *15*(2), 2020. http://dx.doi.org/10.46585/PC.2020.2.1647

Storkan, M. (2020). Impact of coronavirus: most Czech companies expect lower revenues. Investments will be cut. Retrieved from https://www.euro.cz/byznys/domaci/dopady-koronaviru-ctyri-z-peti-vetsich-ceskych-firem-ocekavaji-pokles-prijmu-vetsina-bude-skrtat-investice

Weinberger, M. F., & Wallendorf, M. (2012). Intracommunity Gifting at the Intersection of Contemporary Moral and Market Economies. *The Journal of Consumer Research*, *39*(1), 74-92. http://dx.doi.org/10.1086/662198

WTO. (2022). Services - gateway page. Retrieved from https://www.wto.org/english/tratop_e/serv_e/serv_e.htm

Yang, X., Zhang, M., Kong, L., Wang, Q., & Hong, J. C. (2021). The Effects of Scientific Self-efficacy and Cognitive Anxiety on Science Engagement with the "Question-Observation-Doing-Explanation" Model during School Disruption in COVID-19 Pandemic. *Journal of Science Education and Technology*, *30*(3), 380-393. http://dx.doi.org/10.1007/s10956-020-09877-x

Žurovec, M. (2021). The economy will grow by 3.2% this year. 4.2% in 2022. *Ministerstvo Financí ČR*. Retrieved from https://www.mfcr.cz/cs/aktualne/tiskove-zpravy/2021/ekonomika-letos-poroste-o-32-v-roce-2022-42837

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