



Publisher

<http://jssidoi.org/esc/home>

COMPANIES' PERFORMANCE AND BEHAVIOUR RESPONDING TO CRISIS DURING COVID-19 PANDEMIC: A CASE STUDY OF THE CZECH REPUBLIC

Ekaterina Chytilová ¹, Milan Talíř ²

¹ *Institute of Technology and Business in Ceske Budejovice, Faculty of Corporate Strategy, Nemanická 436/7, 370 10 České Budějovice, Czech Republic*

² *Brno University of Technology, Institute of Management, Faculty of Business and Management, Kolejní 2906/4, Brno, 612 00, Czech Republic*

E-mails: ¹ chytilova@vste.cz; ² 252620@vutbr.cz

Received 18 November 2023; accepted 28 February 2024; published 30 March 2024

Abstract. The aim of the paper is to find out whether the behaviour of B2B and B2C enterprises differed in the pandemic period in terms of disruption, the extent of measures taken and the financial situation in the following period. To achieve the main objective, a questionnaire survey was conducted in Czech companies with a predominantly B2B or B2C business relationship. Two research questions were defined, which were answered by testing a total of 6 hypotheses. The parametric two-sample one-factor ANOVA and Pearson's Chi-squared test were used to test the hypotheses. The test results suggest that the correlation between the number of operation barriers and the level of disruption is more pronounced for B2C than for B2B. B2C businesses were more likely to use tools such as simplifying organisational structure or changing product offerings to combat the impact of pandemic. In contrast, B2B businesses used tools such as working from home and moving online to a greater extent. The correlation between the level of disruption and the use of remedial measures is only valid for the B2B group. The link between the measures taken and the economic situation after the pandemic was confirmed for both B2B and B2C businesses (to a greater extent). The survey results are valid only for B2B or B2C businesses in the Czech Republic. The results are limited to these measures only, other measures were considered irrelevant for the purpose of the study. The results are limited to the crisis period; results may differ in other periods.

Keywords: B2B; B2C; disruption; corrective action; economic impact of pandemic

Reference to this paper should be made as follows: Chytilová E., Talíř M. 2024. Companies' performance and behaviour responding to crisis during Covid-19 pandemic: a case study of the Czech Republic, *Entrepreneurship and Sustainability Issues*, 11(3), 305-320. [http://doi.org/10.9770/jesi.2024.11.3\(21\)](http://doi.org/10.9770/jesi.2024.11.3(21))

JEL Classifications: 012, M21, L26

Additional disciplines information and communication

1. Introduction

The impact of the pandemic on businesses has been significant and businesses are currently having to adapt to the changing business environment. Businesses experience a reduction in revenue and profitability during a recession as consumers cut back on spending (Kacperska et al., 2021). The pandemic has caused significant supply chain disruption. Disruption is evident in businesses across size and sector differentials. The exploration of the degree of disruption in relation to the dominant business relationship (B2B, B2C) has been the subject of research in several papers, e.g. (Wani et al., 2022; Zahoor et al., 2022). Almeida et al., 2022 highlights the high level of disruption especially for service providers in the B2C sector (hotels, restaurants and others dependent on tourists).

Businesses have been forced to take a variety of measures to reduce the economic and other impacts of the pandemic. In particular, micro, small and medium enterprises have had to adjust their supply chain management plans (Khan et al., 2021, Navickas et al., 2022). Some companies have been forced to reduce staff, cut working hours or close down operations altogether. Businesses in different sectors have had to incur additional expenses related to health and safety standards, such as purchasing personal protective equipment and implementing social segregation measures (Almeida et al., 2022). The IT support of HR management is one of the key elements of long-term sustainable efficiency (Koman et al., 2023).

Businesses, including SMEs, have had to adjust their business and production processes to comply with social segregation rules. A significant number of businesses have been forced to move online, for example, to provide virtual services or sell goods or services online (Kacperska et al., 2021). Enterprises have expanded their supplier base, formed strong supply alliances and diversified their supply chain (Khan et al., 2021). In response to these difficulties caused by the pandemic and the crisis, some businesses are changing the way they operate or coming up with new strategies to help them adapt to the changes. A number of businesses have embraced digitization of processes or online sales. Process digitalisation has become a trend during the crisis and has managed to keep businesses active. An aspect of process digitization is automation, the use of digital platforms to support collaboration, communication and data exchange (Yordanova, 2021). Digital commerce appears to be the most effective norm for buying and paying during a pandemic (Akram et al., 2021). Companies may also find it harder to raise funds or financing, which may limit their ability to invest in expansion or keep operations running properly. Governments have put measures in place to assist affected companies, including compensation programs (Wong and Wong, 2021).

The effectiveness of individual measures to combat the economic impact of the pandemic is becoming a key issue for both the scientific research community and practitioners.

The aim of the paper is to find out whether the behaviour of B2B and B2C enterprises differed during the pandemic period in terms of disruption, the extent of measures taken and the financial situation in the following period (year). To achieve the objective of the paper, the following RQs were established:

RQ1: Is the link between barriers to operations and disruption during a pandemic influenced by the type of prevailing business relationship (B2B or B2C)?

RQ2: Is the link between disruption during a pandemic, the extent of action taken and the financial situation of the business in the following year influenced by the type of prevailing business relationship (B2B or B2C)?

2. Theoretical background

A business-to-business relationship (abbreviated as "B2B") refers to a business between two companies. This type of business is very common in practice, for example, the sale of goods to a retailer from a large corporation. "Business to consumer" (abbreviated as "B2C") refers to business-to-consumer trade, or the sale of goods or services to an end customer (Asipi and Durakovic, 2020). The emergence of e-commerce has also created "consumer to consumer" (or "C2C") trade taking place between individual consumers through online marketplaces or platforms. This is a one-off and occasional trade where the seller sets their own prices and terms of sale (Pei et al., 2021; Zhao et al., 2020). The commerce models have been discussed in detail by He and Zhang (2022), who argue that the B2B and B2C models separately may not be sufficient to address a firm's marketing needs and customer relationship management in a digital environment. As a result, they proposed a digital interactive platform that combines the B2B and B2C business models. Due to the different customers of B2B and B2C, these models have different priorities. The B2B model aims to establish lasting business partnerships (Haqqani et al., 2020). As a result, the main priority is often to produce goods and services that specifically meet the requirements of business clients, offer superior customer support and cultivate a long-term relationship with them. Business in the B2B model often involves multiple goods or services. In contrast, B2C commerce often focuses on providing a satisfying customer experience (Gligor et al., 2020). Customer satisfaction, brand reputation, and customer relationships are of the highest priority in B2C businesses. B2C businesses must expend resources to cultivate a loyal consumer base, offer quality assortments, and provide fast, convenient customer service (Xie and Zang, 2020; Világi, Konečný and Ruschak, 2022). B2B supply chains are typically longer and more complex than B2C supply chains (Nurhayati et al., 2023). Many actors are

involved in B2B supply chains, including suppliers, manufacturers, distributors and retailers (Anderson et al., 2022). This supply cycle of B2B and B2C businesses was most affected during the pandemic, leading to disruption of the value chain that shapes the ultimate value to the customer (Eisenreich et al., 2022). The disruption of normal operations due to pandemics has been addressed in a number of studies. The disruption of the value chain during a pandemic led to a slowdown in all business activities. Measures to prevent the spread of the disease caused supply and logistics problems due to travel restrictions and border closures. Many businesses had to find new sources of supply and strategies to ensure the availability of goods (Nagy-Bota et al., 2022). They had to adapt to new working practices, including managing operations remotely and working remotely, which meant a reduction in performance and efficiency (Martínez-Azúa et al., 2022). The changes included adjustments to marketing and sales strategies as customer wants and demands changed due to the pandemic (Hoekstra and Leeftang, 2020). Businesses were forced to implement new strategies to reach their customers, such as digital marketing and e-commerce (Subriadi and Wardhani, 2022). The impact of coronavirus has also exposed the fragility and vulnerability of supply chains (Fonseca and Azevedo, 2020). Supply chain disruptions resulted in delivery delays and shortages of goods (Duong et al., 2022). The epidemic led to a drop in demand, which exacerbated supply chain problems. Companies had to quickly adapt to the changing environment and change their supply chains to meet the new market demands (Bouanba et al., 2022). Thus, in order to increase productivity and reduce costs, the use of digital technologies such as automation and artificial intelligence has become widespread (Tam et al., 2022). In addition to diversifying sources of supply, improving visibility of supply networks and investing in risk management measures, the enterprise has also had to focus on developing more resilient supply chains (Dixon et al., 2021). Changing business processes due to pandemics is addressed in studies such as (Aday and Aday, 2020; Chowdhury et al., 2021). A number of companies faced low demand, which led to disruptions in production and supply chain (Aday and Aday, 2020; Chowdhury et al., 2021). Businesses had to adapt their business processes to new safety regulations, adjust their operations, including equipping workers with protective equipment and introducing social distance (de Oliveira Neto et al., 2022). To achieve flexibility and efficiency in a turbulent period, enterprises had to take a number of measures, such as adjusting production and distribution processes to meet changing demand (Kang et al., 2021), and introducing new digital practices (Gaspar and Ternai, 2020).

The main measures taken include, for example, adapting the organisational structure (model), changing the product offering, using home office (HO), increased marketing communication, moving online, accelerating digitalisation. A study (Conoscenti et al., 2022) highlights the benefits of adapting the organizational model in a health facility during a pandemic. The data collection was done in the form of a questionnaire survey and the data processing was done in the form of Chi-square statistical testing (Conoscenti et al., 2022). The relationship between the need for staff and the economic impact of a pandemic is discussed in (Gashi et al., 2021). Data collection was done through a questionnaire survey. The data processing was done in the form of Statistical Package for the Social Sciences (SPSS), specifically by using the descriptive data analysis (descriptives, frequencies, cross-tabulations) (Gashi et al., 2021). The study establishes that most of the company does not change the org structure but changes the service/product offering. Product portfolio customization is also the object of research (Beninger et al., 2022). The study states that the main impacts include impact on strategic priorities, change in product focus, changes in workload, among others. (Beninger et al., 2022). (González-Aleu et al., 2022) focuses on identifying business opportunities in a manufacturing company during a pandemic. Data collection was conducted through content analysis of market information for the company using competitors' annual reports, market trend analysis and free government trades. Data processing was done in the form of SWOT analysis and Hoshin Kanri et al. (González-Aleu et al., 2022) among others. The issue of HO during a pandemic period in terms of its impact on the level of stress in families is addressed in studies such as (Neocleous & McGregor, 2021). The research was conducted in the form of a questionnaire survey. Data processing was done using Descriptive Statistics, Independentt-Test, and One Way ANOVA were applied through SPSS. The study (Strakšienė et al., 2021) focuses on researching the possibilities of HO application in corporate practice during a pandemic. Data collection was conducted through a questionnaire survey and qualitative research (focus group). Data processing was done in the form of Statistical data analysis. Adaptation of marketing communication to achieve competitiveness is the object of research e.g. (Chemsripong, 2022). Data collection was done in the form of questionnaire survey. Statistical data analysis was done using reliability test with Cronbach's alpha coefficient, Paired Samples t-test, multiple regression analysis (Chemsripong, 2022). The link between pandemic and innovative marketing and innovation is discussed in (Amoah et al., 2021). Data

collection was done through interviews with managers and business owners. The effects of digital marketing for social network development during a pandemic are discussed in (Konhäusner & Seidentopf, 2021). Interviews with experts were used for data collection (Konhäusner & Seidentopf, 2021). Moving online as another potentially effective tool in combating the effects of a pandemic is addressed in several studies. For example, (Gîngioveanu Lupulescu & Zamfir, 2021) focuses on finding out how and where data and information can be exclusively searched online to gain business knowledge. All the data and information used for this study was obtained from the internet. (Gîngioveanu Lupulescu & Zamfir, 2021). (Velica Cărciumarescu et al., 2022) points out that teleworking should be maintained at an appropriate level in order to keep the productivity of employees unchanged under the given conditions after the last two years marked by the pandemic. The changing roles of online reviews due to the pandemic is highlighted by (Kutlubay et al., 2023). Data collection was conducted by surveying online reviews of 321 products at different times. The issue of accelerating digitalisation is becoming one of the key issues for achieving sustainable competitiveness in a crisis period. Digitization played a significant role in many areas of life during the COVID-19 epidemic. Digitalization has enabled employees and companies to work remotely and students to learn online (Zeverte-Rivza and Gudele, 2021; Kollmann and Dobrovič, 2022). In order to reduce the number of patients in hospitals and surgeries, the health sector introduced online ordering of medicines and online communication with doctors (He et al., 2020). People were also able to connect with friends, family and co-workers through digital platforms, which did not violate measures against the spread of coronavirus (Osler and Zahavi, 2022). Digitisation also enabled people to shop online during the pandemic, where they could order goods or services from anywhere (Gregoric et al., 2021). During the pandemic, digitization became an essential part of the functioning of B2B and B2C businesses. Digitalization has helped B2B and B2C companies to stay operational and competitive in the market (Birkie, 2021). By implementing digitalization, B2B and B2C companies can now automate processes, streamline operations and reduce costs (Johansen et al., 2020). It has also enabled these businesses to access new markets, improve performance and reach new customers (Shpak et al., 2020). In their research on digitalisation, the authors (López and Giusti, 2020) found that B2B companies are slower to develop an overall digital strategy compared to B2C companies. However, it should be emphasized that digitization alone is not the only factor for sustaining a company in the market during the Covid-19 pandemic. The issue of digital transformation and its impact on employee performance is addressed by (Bikse et al., 2021). A survey of opinions on the topic among employers in Latvia was used for data collection (Bikse et al., 2021). Already at the beginning of the 2020 epidemic, many businesses were closed due to coronavirus. Estimates from the Current Population Survey showed that between February and April 2020, the number of active businesses decreased by 22% (Fairlie and Fossen, 2021). In order to prevent a massive loss of businesses in the Covid-19 pandemic, governments have introduced compensation programmes to help businesses affected by the crisis (Honda et al, 2023; Pociute-Sereikiene et al., 2022). Financial damage due to the pandemic (financial damage) in enterprises of different sizes has been reported by (Gashi et al., 2021). The degree of damage to supplier-customer relationships is also discussed by (Gashi et al., 2021).

It is closest to the topic of this paper (Gashi et al., 2021). In Kosovo, research by (Gashi et al., 2021) examines both the financial impact of the pandemic on businesses and the extent of measures taken to combat the negative impacts of the pandemic (among the measures, the authors cite layoffs of employees, the need for new employees, changes in organizational structure, and changes in service/product offerings). In order to meet the objectives of this article, the research itself will be carried out similarly in the form of a questionnaire survey and statistical analysis methods will be used for data analysis.

Based on the literature review, it can be concluded that there is a gap in examining the degree of influence of external factors on the behaviour and performance of companies in the context of B2B and B2C business.

3. Research objective and methodology

The research questions for this article were stated as follows:

RQ1: Is the correlation between operation barriers to and level of disruption during a pandemic influenced by the type of business relationship prevailing (B2B or B2C)?

RQ2: Is the relationship between disruption during a pandemic, the extent of action taken and the financial situation of the business in the following year influenced by the type of prevailing business relationship (B2B or B2C)?

To answer the RQ, a questionnaire survey will be conducted in Czech companies from different sectors. The sample will be drawn by non-probability sampling, based on voluntariness. The minimum return threshold for this research has been set at 200 enterprises. The enterprises will be selected based on voluntariness - i.e. random selection. The normality of the data will be ensured by similar sample sizes of the comparison groups (B2B and B2C), the maximum variance is set at 5 percent. Based on the established RQs and given the stated research design, six hypotheses have been established.

The questions of the questionnaire related to the research object of the article are defined as follows:

- 1) Type of business relationship. Answer options: B2B, B2C, other.
- 2) How were you doing in business before the crisis? Answer options: Business would be profitable, making a profit for its operations and the owner's daily life/ Business was becoming profitable, Stagnating/ Business was losing money.
- 3) Operation during a pandemic (at the most critical stage). Answer options: Closure of business/ Forced closure/ Suspension of business/ Change in existing established services/ Reduction in operations/ No change/ Business development.
- 4) Main obstacles for your business (What were the biggest obstacles for the operation of the business during the COVID-19 pandemic?) Response options (0-3 options could be selected): Breakdown of supplier relationships/ Breakdown of customer relationships/ Decline in demand for goods or services.
- 5) Did you take any measures; did you make any changes that helped the company to cope better with the "covid situation"? (select the main ones). Answer options (more than one type of measure could be selected): no measures were taken/ simplification of the organisational structure, optimisation of the number of employees, including management/ more efficient organisation of work (setting shifts, working from home) / change in the range of products and services/ acceleration of digitisation/ move to the online environment/ increased marketing promotion of the company, discount offers/ Other.
- 6) How do you assess the current situation of the company (situation as of October 2021)? Answer options: We are considering going out of business/ We are trying to recover but the situation is still uncertain, we have a number of problems/ We are almost recovered and are continuing with the business/ We are fully recovered and are continuing as before the pandemic/ We are fully recovered and are better off than before the pandemic/ The pandemic has not had a negative impact on the business.

Fig. 1 shows the structure of the empirical research.

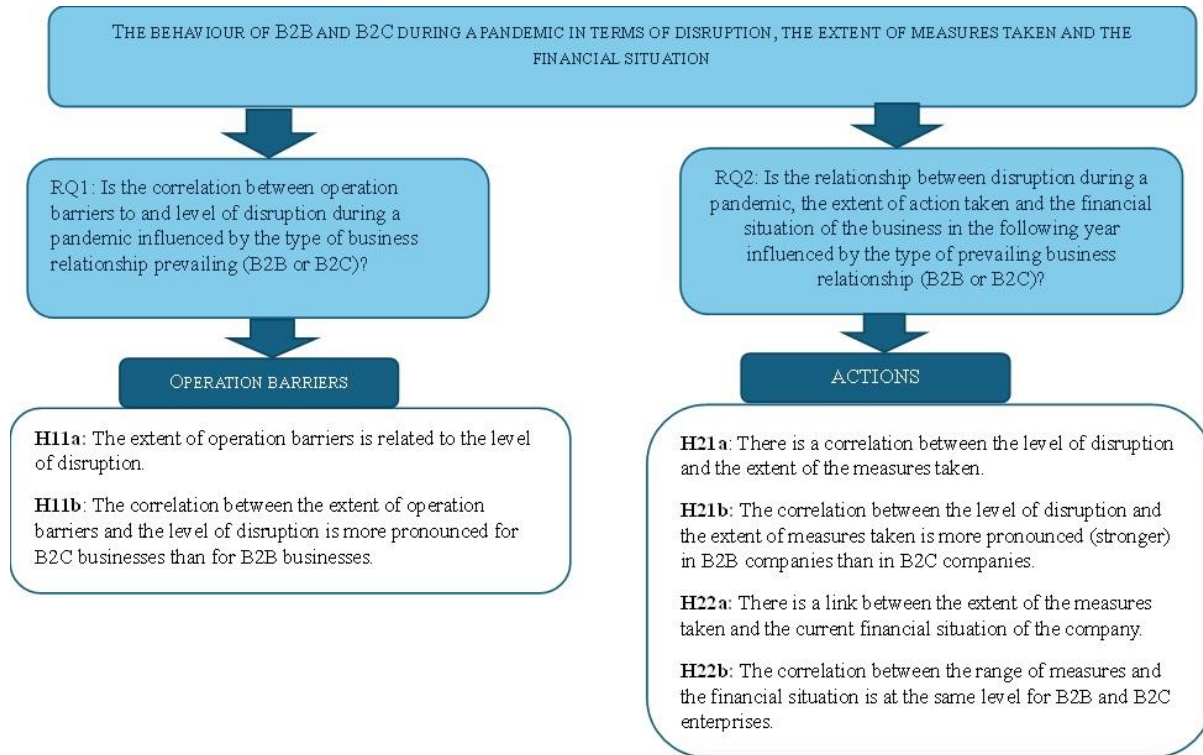


Fig. 1. Structure of the empirical research

Source: own

To answer RQ1, the following hypotheses were established.

H11a: The extent of operation barriers is related to the level of disruption.

H11b: The correlation between the extent of operation barriers and the level of disruption is more pronounced for B2C businesses than for B2B businesses.

In the first phase, H11a will be tested. If H11a is confirmed, then the context will be tested separately for B2B and B2C files, i.e., H11b testing.

The sample description for testing H11a and H11b is presented in Table 1.

Table 1. Sample description for testing H11a, H11b

Level of disruption			The extent of operation barriers			Sector	
A11: Closure of business, Forced closure, Suspension of business	B11: Change of existing services, Restriction of operation	C11: No change, Business Development	A12-all three	B12 - at least one of them	C12 - none of them	B2B	B2C

Source: own

The selected operations barriers include disruption of supplier relationships, disruption of customer relationships and a decline in demand for goods or services. The enterprises are then divided into three groups (the enterprise had none of the obstacles listed, the enterprise had only one of the obstacles listed, the enterprise had 2 or 3 of the obstacles listed).

To answer RQ2, 4 hypotheses were constructed:

H21a: There is a correlation between the level of disruption and the extent of the measures taken.

H21b: The correlation between the level of disruption and the extent of measures taken is more pronounced (stronger) in B2B companies than in B2C companies.

H22a: There is a link between the extent of the measures taken and the current financial situation of the company.

H22b: The correlation between the range of measures and the financial situation is at the same level for B2B and B2C enterprises.

A schematic description of the sample for testing H21 and H22 is presented in the following tables 2 and 3.

Table 2. Description of samples for testing H21a, H21b

Level of disruption			Scope of the measures taken			Sector	
A11: Closure of business, Forced closure, Suspension of business	B11: Change of existing services, Restriction of operation	C11: No change, Business Development	A22: no measures	B22: 1-2 measures	C22: 3 or more measures	B2B	B2C

Source: own

Table 3. Description of samples for testing H22a, H22b

Scope of the measures taken			Financial situation as of October 2021			Sector	
A22: no action	B22: 1-2 measures	C22: 3 or more measures	A23: Negative impact	B23: Neutral impact	C23: Positive impact	B2B	B2C

Source: own

The negative impact on the financial situation of the company (group A23) is defined by the answers: We are thinking of going out of business; We are trying to recover, but the situation is still uncertain, we have several problems.

Neutral impact on the financial situation of the enterprise (group B23) is a summary of the responses The pandemic did not have a negative impact on the enterprise.

The following answers have a positive impact on the financial situation of the enterprise (group C23): We have almost recovered and are continuing to do business; We have fully recovered and are continuing as before the pandemic; We have fully recovered and are better off than before the pandemic.

Hypothesis testing will take place in several stages.

In the first stage, the responses will be filtered. Only responses from respondents who indicated a B2B or B2C sector will be included in the final file. Responses from respondents who work in both groups (B2B and B2C) will be excluded from the sample.

In the following second stage, hypotheses H11a (there is a link between the selected operation barriers and traffic disruption) and H11b (the link between the selected operation barriers and traffic disruption is more evident for B2C than for B2B) will be tested to answer RQ1: How did the pandemic disrupt normal traffic for B2B compared to B2C? Testing will be conducted using a one-factor ANOVA tool. H11a testing will be followed by H11b testing. Normality of the data will be ensured by a similar sample size, with an allowable difference of 5 percent. The significance level will be set at 5 percent.

During the third stage, hypotheses will be tested, focusing on measures taken to combat the economic impact of the pandemic. After testing the association between the level of disruption and the use of the measures, the whole population will be tested (H21a). If hypothesis H21a is confirmed, testing will be carried out on the B2B and B2C population separately (H21b). In addition, testing of the link between the measures taken and the financial situation at the time of completing the questionnaire will be carried out. If confirmed (H22a), this will

be followed by testing the link for the B2B and B2C files separately (H22b). Testing will be carried out using Pearson's Chi-squared test. The significance level will be set at 5 percent.

4. Results and discussion

A total of 251 enterprises participated in the survey. After selection of relevant respondents (omitting enterprises that confirmed both B2B and B2C business relationships), 209 enterprises remained. The survey was conducted in October 2021 in Czech enterprises. 102 enterprises confirmed a B2B business relationship. 107 enterprises were classified as B2C. Is the correlation between operation barriers and level of disruption during the pandemic influenced by the type of prevailing business relationship (B2B or B2C)?

The distribution of responses regarding the level of disruption at the most critical stage and the main operation barriers is presented in Table 4.

Table 4. Structure of relevant responses regarding the extent of obstacles and level of disruption

	B2B	B2C
Level of disruption during a pandemic		
Restrictions	50	48
Closure	15	31
Unchanged	37	28
The extent of operation barriers		
No	50	51
1 yes	40	47
2-3 yes	12	9

Source: own

According to an initial analysis of the data, it can be concluded that businesses in the B2C sector appear to be more susceptible to the negative effects of the pandemic. On the flip side, the main barriers to operations listed are present in both sectors to approximately the same extent. The results of the H11 testing are presented in Table 5 below.

Table 5. Results of H11 testing

ANOVA test	H11a: association between selected operation barriers and the level of disruption - total				
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
transformation.operation.pandemic	2	15.77	7.884	12.75	0.00000602
Residuals	206	127.39	0.618		
H11b: The correlation between selected operation barriers and level of disruption B2B					
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
transformation.operation.pandemic	2	7.82	3.911	5.309	0.00645
Residuals	99	72.39	0.737		
H11b: The correlation between selected operation barriers and level of disruption B2C					
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
transformation.operation.pandemic	2	8.91	4.456	8.697	0.000322
Residuals	104	53.29	0.512		

Source: own

In the H11 testing, the association between the number of traffic bottlenecks and traffic disruption (at the most critical stage) was confirmed (hypothesis H11a was confirmed), both for the whole population and within each sector (B2B, B2C). Hypothesis H11b is therefore confirmed. The second RQ was defined as follows: Is the link between the disruption during the pandemic period, the extent of the measures taken and the financial situation of the company in the following year influenced by the type of business relationship prevailing (B2B and B2C)? The distribution of responses of respondents in the B2B and B2C groups regarding the degree of application of the measures is presented in Table 6 below.

Table 6. Uptake of measures to combat the impact of the pandemic for B2B and B2C

Tag	Responses	B2B	B2C
A1	no measures	39	40
A2	simplification of the organisational structure, optimisation of the number of employees, including management	10	16
A3	setting shifts, working from home	40	29
A4	change in product/service offering	12	20
A5	Acceleration of digitisation	13	18
A6	move to an online environment	23	21
A7	increased marketing promotion of the company, discount offers	7	16

Source: own

According to the primary data, it is evident that businesses in the B2C sector have made greater use of the following tools to combat the impact of the pandemic: simplification of the organisational structure, change of service offerings, acceleration of digitalisation, increased marketing promotion. In contrast, businesses in the B2B sector made greater use of tools such as working from home and moving online. The distribution of responses in the H21a and H21b testing is shown in Figure 2.

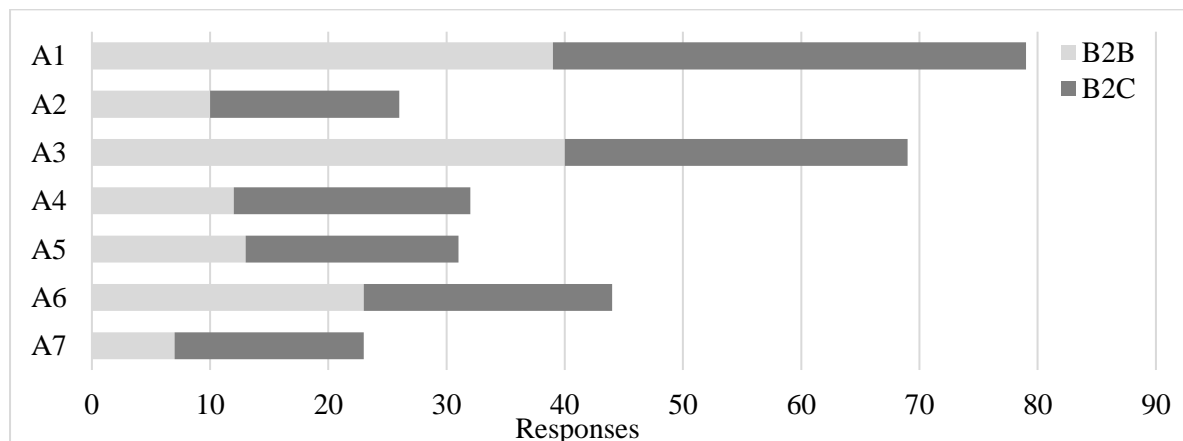


Figure 2. Measures taken to combat the economic impact of the pandemic

Source: own

The results of testing H21a and H21b are presented in Table 7.

Table 7. Results of testing H21a, H21b

ANOVA test	H21a: association between level of disruption and use of measures - total				
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
classification.measure	2	4.39	2.1948	4.339	0.0143
Residuals	205	103.69	0.5058		
H21b: relationship between level of disruption and use of measures- B2B					
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
classification.measure	2	2.97	1.4846	3.319	0.0403
Residuals	99	44.29	0.4473		
H21b: relationship between level of disruption and use of measures- B2C					
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
classification.measure	2	2.43	1.2139	2.251	0.11
Residuals	103	55.53	0.5392		

Source: own

H21a testing confirmed the link between the level of disruption (at the most critical stage) and the use of remedial measures. Hypothesis H21a was confirmed. Testing of H21b showed that the association was only valid for the B2B group, and the association was not confirmed for B2C. Hypothesis H21b was confirmed. The second half of the hypotheses (H22a, H22b) focused on testing the link between the measures taken and the financial situation after the pandemic.

The results of H22 testing are presented in Table 8.

Table 8: Results of testing H22a, H22b

Pearson's Chi-squared test results, H22ab			
file	X-squared	df	p-value
Full file (B2B and B2C)	21.288	4	0.0002776
File B2B	14.803	4	0.05128
File B2C	10.052	4	0.03957

Source: own

In testing H22a, the association between the measures taken and the economic situation after the pandemic was confirmed (the number of measures taken improves the economic situation of the company after the pandemic). It can therefore be concluded that hypothesis H22a was confirmed. Another result of the testing is the finding that for B2C sector enterprises the association between the measures taken and the resulting economic situation is greater than for B2B sector enterprises. Hypothesis H22b is rejected (the association between measures and financial situation after the pandemic is not at the same level).

Disruption of business operations due to pandemics has been the subject of several studies. For example, according to (Gashi et al., 2021), the pandemic caused extensive damage in a wide range of businesses. According to our own research, it can be concluded that there is a direct proportionality between the number of barriers to traffic and disruption (the more barriers, the stronger the level of disruption). This conclusion follows the results of (Migheli, 2022) on the variation in the extent of traffic bottlenecks in different EU cities. It can be concluded that the link between the extent of bottlenecks and traffic disruption is more pronounced for B2C

than for B2B businesses. This result is broadly expected, given the larger number of barriers (Verheyen & Kołacz, 2022) and the greater reliance on direct sales (Verheyen & Kołacz, 2022) of B2C sector firms.

A direct correlation was also confirmed between the level of disruption (at the most critical stage) and the use of corrective measures. Thus, the results of our own research are consistent with those of (Gashi et al., 2021). According to (Gashi et al., 2021), the impact of a pandemic on commercial enterprises is quite high, due to the numerous disruptions to operations. Therefore, businesses have tried to implement a few measures (change in organizational structure, change in portfolio or services, change in marketing activities, etc.). The importance of using HO during a pandemic is confirmed, for example, by (Strakšienė et al., 2021). Own results also confirm the link between COVID-19 and the use of innovative marketing, which was the object of research (Amoah et al., 2021). The importance of using digitalisation as a measure to combat the impact of the pandemic is in line with the findings of (Bikse et al., 2021), which emphasises that the process of digitalisation is progressing at a faster pace due to, among others, the impact of the pandemic. The results of our own research suggest that when dividing businesses according to the predominant type of business relationship (B2B or B2C), the association between the level of disruption and the use of remedial measures is only valid for the B2B sector. This can be explained by the fact that B2C businesses may have had the centre of gravity of operational barriers in areas such as secondary insolvency, lack of employees, lack of protective equipment, areas that were not included in the survey. We can also assume that B2Bs are more flexible in implementing measures in times of crisis.

The correlation between the measures taken and the financial situation in the following year was confirmed (the financial situation of the company improves with the number of measures taken). For enterprises in the B2C sector, the link between the measures taken and the resulting economic situation is stronger than for enterprises in the B2B sector. Thus, the results are indirectly related to the findings of (Gashi et al., 2021) on the opportunities for creative solutions in product implementation and finding new ways of delivering goods in times of pandemic.

Conclusions

The main objective of this paper was to determine whether the behaviour of predominantly B2B and B2C businesses differed during the pandemic in terms of disruption, the extent of action taken and the financial situation in the following year.

This objective was fulfilled with the help of primary quantitative research, and most of the examined relationships were confirmed. The research showed that B2C businesses were more affected by disruption of business operations in relation to traffic barriers. On the other hand, it was found that only for companies from the B2B sector there is a direct link between disruption of business operations and the use of corrective measures. Even more surprising is the conclusion that, although the measures taken during the pandemic proved to be economically efficient for both sectors, the measures had a greater economic impact for B2C businesses. Based on the results of the study, several recommendations can be made for the target segment. Continuous measurement of the performance of the various measures introduced should be a priority for companies. A stronger sensitivity to the measures put in place to reduce the negative impact of the pandemic is evident in enterprises with a predominantly B2C business relationship. Thus, B2C companies can be advised to use the range of recommendations mentioned to combat the negative impact of the crisis. B2B businesses can be characterized by a stronger association between the economic situation during the pandemic and the number of measures introduced. B2B enterprises should be able to link the introduction of individual measures to the effect since their introduction.

The research results have some limitations. The research itself focuses mainly on B2B and B2C businesses in the Czech Republic, so the results cannot be fully applied to other business entities (businesses providing products to B2B and B2C markets simultaneously, B2G) or other territories. The results are limited to these measures only, other measures were considered irrelevant for the purpose of the study. The results are limited to the crisis period; results may differ in other periods.

The results of the study suggest some directions for future research. The first potential direction for future research is a more detailed exploration of the impact of individual measures. Another important issue is to determine the effects from individual measures based on the dynamics of the economic situation before-during-post pandemic. For the purpose of this paper, the sample was taken from enterprises that operate simultaneously in the B2B and B2C sectors. Thus, as part of a more comprehensive research, it would be appropriate to include these enterprises, as well as B2G enterprises, in the research. A final direction for future work could be to conduct a repeat survey to compare responses in the crisis and post-crisis periods with the identification of dynamic values.

References

- Aday, S., & Aday, M.S. (2020). Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 4(4), 167-180. <https://doi.org/10.1093/fqsafe/fyaa024>
- Akram, U., Fulop, M. T., Tiron-Tudor, A., Topor, D. I., & Capusneanu, S. (2021). Impact of digitalization on customers' well-being in the pandemic period: Challenges and opportunities for the retail industry. *International Journal of Environmental Research and Public Health*, 18(14), 7533. <https://doi.org/10.3390/ijerph18147533>
- Almeida, S., Mesquita, S., & Carvalho, I. (2022). The COVID-19 Impacts on the Hospitality Industry Highlights from Experts in Portugal. *Tourism and Hospitality Management*, 28(1), 61-81. <https://doi.org/10.20867/thm.28.1.3>
- Amoah, J., Jibril, A. B., Owusu, V. K., Odei, M. A., & Naatu, F. (2021). Covid-19 Pandemic and Future Business Prospects: A Conceptual Study. In *Resilience and Economic Intelligence Through Digitalization and Big Data Analytics* (pp. 223–231). Sciendo. <https://doi.org/10.2478/9788366675704-023>
- Anderson, E. G., Lopez, J., Parker, & Geoffrey G. (2022). Leveraging value creation to drive the growth of B2B platforms. *Production and Operations Management*, 31(12), 4501-4514. <https://doi.org/10.1111/poms.13866>
- Anderson, J., Papadia, F., & Véron, N. (2021). COVID-19 Credit Support Programs in Europe's Five Largest Economies. *Peterson Institute for International Economics Working Paper*, 21-6. <http://dx.doi.org/10.2139/ssrn.3826517>
- Asipi, V., & Duraković, B. (2020). Performance Analysis of B2B and B2C companies in Northern Macedonia and Serbia. *Heritage and Sustainable Development*, 2(2), 89-99. <http://dx.doi.org/10.37868/hsd.v2i2.29>
- Beninger, P., Caubel, P., Sharma, L., Pajovich, G., & Boyd, P. (2022). Effects of the COVID-19 Pandemic on Pharmacovigilance Strategy, Systems, and Processes of Large, Medium, and Small Companies: *An Industry Survey*. *Clinical Therapeutics*, 44(9), 1225-1236. <https://doi.org/10.1016/j.clinthera.2022.07.007>
- Bikse, V., Lusena-Ezera, I., Rivza, P., & Rivza, B. (2021). The development of digital transformation and relevant competencies for employees in the context of the impact of the Covid-19 pandemic in Latvia. *Sustainability (Switzerland)*, 13(16). <https://doi.org/10.3390/su13169233>
- Birkie, S. E. (2021). *Digitalization for Resilience and Sustainability During the Covid-19 Pandemic: An Explorative Event Study*. In: *Advances in Production Management Systems. Artificial Intelligence for Sustainable and Resilient Production Systems: IFIP WG 5.7 International Conference, APMS 2021, Nantes, France, September 5–9, 2021, Proceedings, Part IV*. Springer International Publishing. p. 591-600. https://dx.doi.org/10.1007/978-3-030-85910-7_63
- Bouanba, N., Bendou, A., & Barakat, O. (2022). *Covid-19 & Supply Chain Agility: Case of Moroccan Small & Medium Enterprises*. In: *2022 14th International Colloquium of Logistics and Supply Chain Management (LOGISTIQUA)*. IEEE, 2022. p. 1-6. <https://doi.org/10.1109/LOGISTIQUA55056.2022.9938104>
- Buendía, J. L., & Dovalo, A. (2020). State aid versus COVID-19: The commission adopts a temporary framework. *Eur. St. Aid LQ*, 19: 3. <https://doi.org/10.21552/estal/2020/1/4>
- Chemsripong, S. (2022). *Impact of Covid-19 Pandemic upon jewelry and gems business: marketing mixed perspective*. 12th International Scientific Conference “Business and Management 2022”. <https://doi.org/10.3846/bm.2022.895>
- Chowdhury, P., Paul, S. K., Kaisar, S., & Moktadir, M. A. (2021). COVID-19 pandemic related supply chain studies: A systematic review. *Transportation Research Part E: Logistics and Transportation Review*, 148, 102271. <https://doi.org/10.1016/j.tre.2021.102271>

Cirera, X., Cruz, M., Davies, E., Grover, A., Iacovone, L., Cordova, J. E. L., Medvedev, D., Maduko, F. O., Nayyar, G., Ortega, S. R., & Torres, J. (2021). Policies to support businesses through the COVID-19 shock: A firm level perspective. *The World Bank Research Observer*, 36(1), 41-66. <https://doi.org/10.1093/wbro/lkab001>

Conoscenti, E., Campanella, M., Sala, A., Di Stefano, M. C., Vinci, D., Lombardo, R., Arena, G., Ginestra, A., Fiolo, R., Tuzzolino, F., Ippolito, A., Martucci, G., Enea, G., & Luca, A. (2022). Impact of the Organizational Model Adopted during the COVID-19 Pandemic on the Perceived Safety of Intensive Care Unit Staff. *Journal of Clinical Medicine*, 11(6). <https://doi.org/10.3390/jcm11061487>

De Oliveira Neto, G. C., Tucci, H. N. P., Godinho Filho, M. G., Lucato, W. C., & Da Silva, D. (2022). Moderating effect of OHS actions based on WHO recommendations to mitigate the effects of COVID-19 in multinational companies. *Process Safety and Environmental Protection*, 159, 652-661. <https://doi.org/10.1016/j.psep.2022.01.011>

Dixon, J. M., Weerahewa, J., Hellin, J., Rola-Rubzen, M. F., Huang, J., Kumar, S., Das, A., Qureshi, M. E., Krupnik, T. J., Shideed, K., Jat, M. L., Prasad, P. V. V., Yadav, S., Irshad, A., Asanaliyev, A., Abugalieva, A., Karimov, A., Bhattarai, B., Balgos, C. Q., Benu, F., Ehara, H., Pant, J., Sarmiento, J. M. P., Newby, J. C., Pretty, J., Tokuda, H., Weyerhaeuser, H., Digal, L. N., Li, L., Sarkar, M. A. R., Abedin, M. Z., Schreinemachers, P., Grafton, Q., Sharma, R. C., Saidzoda, S., Lopez-Ridaura, S., Coffey, S., Kam, S. P., Win, S. S., Praneetvatakul, S., Maraseni, T., Touch, V., Liang, W., Saharawat, Y. S., & Timsina, J. (2021) Response and resilience of Asian agrifood systems to COVID-19: An assessment across twenty-five countries and four regional farming and food systems. *Agricultural Systems*, 193, 103168. <https://doi.org/10.1016/j.agsy.2021.103168>

Duong, A. T. B., Vo, V. X., Do Sameiro Carvalho, M., Sampaio, P., & Truong, H. Q. (2022). Risks and supply chain performance: globalization and COVID-19 perspectives. *International Journal of Productivity and Performance Management*, <https://doi.org/10.1108/IJPPM-03-2021-0179>

Eisenreich, A., Fueller, J., Stuchtey, M., & Gimenez-Jimenez, D. (2022). Toward a circular value chain: Impact of the circular economy on a company's value chain processes. *Journal of Cleaner Production*, 134375. <https://doi.org/10.1016/j.jclepro.2022.134375>

Fairlie, R., & Fossen, F. M. (2021). The early impacts of the COVID-19 pandemic on business sales. *Small Business Economics*, 1-12. <https://doi.org/10.1007/s11187-021-00479-4>

Fonseca, L. M., & Azevedo, A. L. (2020). COVID-19: outcomes for global supply chains. *Management & Marketing. Challenges for the Knowledge Society*, 15, 424-438. <https://doi.org/10.2478/mmcks-2020-0025>

Gashi, A., Sopa, I., & Havolli, Y. (2021). The impact of covid-19 on economic aspects of business enterprises: The case of Kosovo. *Management (Croatia)*, 26(Special issue), 63-79. <https://doi.org/10.30924/mjcmi.26.si.4>

Gaspar, D., & Ternai, K. (2020). *Towards a Process Based Approach to Address Investment Inefficiencies in Digitalization*. In: Electronic Government and the Information Systems Perspective: 9th International Conference, EGOVIS 2020, Bratislava, Slovakia, September 14–17, 2020, Proceedings 9. Springer International Publishing, pp. 64-77. https://doi.org/10.1007/978-3-030-58957-8_5

Gîngioveanu Lupulescu, G. M., & Zamfir, F. E. (2021). *Can knowledge be created exclusively from online sources? A business intelligence approach in ecommerce*. Proceedings of the International Conference on Business Excellence, 15(1), 119–127. <https://doi.org/10.2478/picbe-2021-0012>

Gligor, D., Bozkurt, S., Golgeci, I., & Maloni, M. J. (2020). Does supply chain agility create customer value and satisfaction for loyal B2B business and B2C end-customers? *International Journal of Physical Distribution & Logistics Management*, 50(7/8), 721-743. <https://doi.org/10.1108/IJPDLM-01-2020-0004>

Glukhova, M. N. (2021). The impact of COVID-19 pandemic on business-state interaction: The business view. *Zhurnal Novoy Ekonomicheskoy Assotsiatsii/Journal of the New Economic Association*, 52, 4. <https://doi.org/10.31737/2221-2264-2021-52-4-11>

González-Aleu, F., Hernandez, J. V., Ramirez, R., Linares, C. M., Peinado, J. A., & Daniel, J. (2022). Strategic planning for repurposing kitchen equipment production operations during COVID-19 pandemic. *Operations Management Research*, 15(3-4), 1241-1256. <https://doi.org/10.1007/s12063-022-00292-6>

Gregoric, M., Roncevic, A., Horvat, D. M., Zagar, M. (2021). *Customer relationship management and online shopping under the influence of the Covid-19 pandemic in the republic of Croatia*. In: 10th International Scientific Symposium on Region, Entrepreneurship, Development (RED), p. 79-92. ISSN: 1848-9559.

Haqqani, A. A. H., Elomri, A., & Kerbache, L. (2022). Sharing Economy: A Systematic Review of Definitions, Drivers, Applications, Industry status and Business models. *IFAC-PapersOnLine*, 55(10), 490-495. <https://doi.org/10.1016/j.ifacol.2022.09.441>

He, D., Gu, Y., Shi, Y., Wang, M., Lou, Z., & Jin, C. (2020). COVID-19 in China: the role and activities of Internet-based healthcare platforms. *Global health & medicine*, 2(2), 89-95. <https://doi.org/10.35772/ghm.2020.01017>

He, J., & Zhang, S. (2020). How digitalized interactive platforms create new value for customers by integrating B2B and B2C models? An empirical study in China. *Journal of Business Research*, 142, 694-706. <https://doi.org/10.1016/j.jbusres.2022.01.004>

Hoekstra, J. C., Leeflang, P. S. (2020). Marketing in the era of COVID-19. *Italian Journal of Marketing*, (4), 249-260. <https://doi.org/10.1007/s43039-020-00016-3>

Honda, T., Hosono, K., Miyakawa, D., Ono, A., & Uesugi, I. (2023). Determinants and effects of the use of COVID-19 business support programs in Japan. *Journal of the Japanese and International Economies*, 67, 101239. <https://doi.org/10.1016/j.jjie.2022.101239>

Howarth, D., & Quaglia, L. (2021). Failing forward in Economic and Monetary Union: explaining weak Eurozone financial support mechanisms. *Journal of European Public Policy*, 28(10), 1555-1572. <https://doi.org/10.1080/13501763.2021.1954060>

Hřivňák, M., Moritz, P., & Chrenková, M. (2021). What kept the boat afloat? Sustainability of employment in knowledge-intensive sectors due to government measures during COVID-19 pandemic. *Sustainability*, 13(15), 8441. <https://doi.org/10.3390/su13158441>

Igual, J. F. J., Jurado, E. B., & Monteagudo, I. C. (2022). Social economy and economic recovery after the covid-19 crisis. *Ciriec-España Revista De Economía Pública Social Y Cooperativa*, 7-33. <https://doi.org/10.7203/CIRIEC-E.104.21734>

Johansen, H., Røste, J., & Breunig, K. J. (2020). *A Bibliometric Analysis Deconstructing Extant Research on Sharing Economy Business Models*. In: 15th International Forum on Knowledge Asset Dynamics (IFKAD 2020), 33. ISSN: 2280-787X <https://hdl.handle.net/11250/2824029>

Kacperska, E., & Kraciuk, J. (2021). Changes in the Stock Market of Food Industry Companies during the COVID-19 Pandemic—A Comparative Analysis of Poland and Germany. *Energies*, 14(23), 7886. <https://doi.org/10.3390/en14237886>

Kang, J., Diao, Z., & Zanini, M. T. (2021). Business-to-business marketing responses to COVID-19 crisis: a business process perspective. *Marketing Intelligence & Planning*, 39(3), 454-468. <https://doi.org/10.1108/MIP-05-2020-0217>

Khan, S., Haleem, A., Deshmukh, S. G., & Javaid, M. (2021). Exploring the impact of COVID-19 pandemic on medical supply chain disruption. *Journal of industrial integration and management*, 6(02), 235-255. <https://doi.org/10.1142/S2424862221500147>

Klinova, M. (2020). The role of state in France Economy: Test for coronavirus. *Journal Contemporary Europe-Sovremennaya Evropa*, 4: 72-82. <https://doi.org/10.15211/soveurope420207282>

Kollmann, J., & Dobrovič J. (2022) Key factors of organizational and management structures in the formation of competitive strategy. *Scientific Papers "Journal of international studies"*. Szczecin, Polsko: Centre of Sociological Research, 15/2022(3), pp. 130-144. ISSN 2306-3483.

Koman, G., Toman, D., Jankal, R., & Boršoš, P. (2023). Risk management in a human resources information system. *Entrepreneurship and Sustainability Issues*, 11(1), 331-352. [https://doi.org/10.9770/jesi.2023.11.1\(20\)](https://doi.org/10.9770/jesi.2023.11.1(20))

Konhäusner, P., & Seidentopf, R. (2021). Digital Marketing Effects of Clubhouse on Crowdfunding in the Context of COVID-19. *Journal of Risk and Financial Management*, 14(8), 347. <https://doi.org/10.3390/jrfm14080347>

Krüger, N., & Meyer, N. (2021). Covid-19 pandemic business relief: a comparative study of South Africa and selected European countries. *Polish Journal of Management Studies*, 23(2). <https://doi.org/10.17512/pjms.2021.23.2.15>

Kutlubay, O. C., Cicek, M., & Yayla, S. (2023). The impact of COVID-19 on online product reviews. *Journal of Product and Brand Management*, 32(1), 1-13. <https://doi.org/10.1108/JPBM-12-2020-3281>

López-López, D., & Giusti, G. (2020) Comparing digital strategies and social media usage in B2B and B2C industries in Spain. *Journal of Business-to-Business Marketing*, 27(2), 175-186. <https://doi.org/10.1080/1051712X.2020.1748377>

Luja, R. H. C. (2020). EU fiscal state aid rules and COVID-19: Will one survive the other? *EC Tax Review*, 29(4). <https://doi.org/10.26740/jaj.v14n1.p17-29>

Mahdich, A. S. (2021) Policy Response of Asian Economies to COVID-2019 Pandemic: China, the Republic of Korea, Japan. *Засновник І Видавець: Університет Імені Альфреда Нобеля*, 5. <https://doi.org/10.32342/2074-5354-2021-2-55-1>

Martínez-Azúa, C. B., López-Salazar, P. E., & Sama-Berrocá, C. (2021). Impact of the COVID-19 pandemic on agri-Food companies in the Region of Extremadura (Spain), *agronomy*, 11(5): 971. <https://doi.org/10.3390/agronomy11050971>

Migheli, M. (2022). Covid-19 and heterogeneous restrictions: possible consequences for EU cities. *Cambridge Journal of Regions, Economy and Society*, 15(3), 703-723. <https://doi.org/10.1093/cjres/rsac020>

Nagy-Bota, Ș., Moldovan, L., Nagy-Bota, M.-C., & Varga, I. E. (2022). *Study on the Short-Term Impact of the COVID-19 Pandemic on the Logistics Field*. In: The 15th International Conference Interdisciplinarity in Engineering: Conference Proceedings. Cham: Springer International Publishing, pp. 392-401. https://doi.org/10.1007/978-3-030-93817-8_37

Navickas, V., Grecikova, A., Kordos, M., & Sramka, M. (2022). The Information and Communications Technologies Usage within the Covid-19 Pandemic Issue. *Transformations in Business & Economics*, Vol. 21, No 1 (55), pp.101-113

Nemec, J., & Špaček, D. (2020). The Covid-19 pandemic and local government finance: Czechia and Slovakia. *Journal of Public Budgeting, Accounting & Financial Management*, 32(5), 837-846. ISSN: 1096-3367. <http://dx.doi.org/10.1108/JPAFM-07-2020-0109>

Nurhayati, K., Rezaei, J., & Tavasszy, L. (2021). The interplay between power structure and decision-making in supply chains: A systematic review. *Journal of Supply Chain Management Science*, 2(3-4), 85-114. <https://doi.org/10.18757/jscms.2021.6112>

Osler, L., & Zahavi, D. (2022). Sociality and embodiment: Online communication during and after Covid-19. *Foundations of Science*, 1-18. <https://doi.org/10.1007/s10699-022-09861-1>

Pei, J., Yan, P., Kumar, S., & Liu, X. (2021). How to React to Internal and External Sharing in B2C and C2C. *Production and Operations Management*, 30(1), 145-170. <https://doi.org/10.1111/poms.13189>

Pereira, H. M. F., & Saes, M. S. M. (2022). Government Support and Institutions' Intermediation throughout Companies' Adaptation to the COVID-19 Crisis. *Sustainability*, 14(9), 5450. <https://doi.org/10.3390/su14095450>

Pociute-Sereikiene, G., Baranauskiene, V., Liutikas, D., Kriauciunas, E., & Burneika, D. (2022). Challenges of the tourism sector in Lithuania in the context of the COVID-19 pandemic: State aid instruments and the efficiency of the tourism business support. *European Spatial Research and Policy*. <http://dx.doi.org/10.18778/1231-1952.29.2.13>

Shpak, N., Kuzmin, O., Dvulit, Z., Onysenko, T., & Sroka, W. (2020). Digitalization of the marketing activities of enterprises: Case study. *Information*, 11(2), 109. <https://doi.org/10.3390/info11020109>

Subriadi, A. P., & Kusuma Wardhani, S. A. (2022) Survivability scenario of SMEs in facing COVID-19 crisis based on the social commerce framework. *Sustainability*, 14(6), 3531. <https://doi.org/10.3390/su14063531>

Tam, F. Y., Lung, J., & Wy. (2022). Impact of COVID-19 and innovative ideas for a sustainable fashion supply chain in the future. *Foresight*, ahead-of-print. <https://doi.org/10.1108/FS-12-2021-0257>

Velica Cărciumărescu, D.-E., Belascu, L., & Horobet, A. (2022). Considerations Upon the Effects of Covid-19 Pandemic on the Romanian Economic Environment. *Studies in Business and Economics*, 17(1), 272-289. <https://doi.org/10.2478/sbe-2022-0018>

Verheyen, W., & Kołacz, M. K. (2022). Enhancing safety in B2C delivery chains. *Transport Policy*, 117, 12-22. <https://doi.org/10.1016/j.tranpol.2021.12.020>

Világi, R., Konečný, M., & Ruschak, M. (2022). Impact of selected financial indicators on a company's reputation. *Entrepreneurship and Sustainability Issues*, 10(2), 408-417. [https://doi.org/10.9770/jesi.2022.10.2\(25\)](https://doi.org/10.9770/jesi.2022.10.2(25))

Wani, D., Singh, R., Khanapuri, V. B., & Tiwari, M. K. (2022). Delay Prediction to Mitigate E-commerce Supplier Disruptions using Voting Mechanism. *IFAC-PapersOnLine*, 55(10), 731-736. <https://doi.org/10.1016/j.ifacol.2022.09.495>

Wong, J., & Wong, N. (2021). The economics and accounting for COVID-19 wage subsidy and other government grants. *Pacific Accounting Review*, 33(2), 199-211. <https://doi.org/10.1108/PAR-10-2020-0189>

Xie, Y., & Zhang, L. L. (2020). *Customer Satisfaction with Order Fulfillment in E-Retail Supply Chains in China: An Empirical Study*. In: 2020 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), pp. 475-479. ISSN: 2157-3611. <http://dx.doi.org/10.1109/IEEM45057.2020.9309914>

Yordanová, Z. (2021). *Digitalization of Firm's Innovation Process-A Bibliometric Analysis*. In: Advances in Web-Based Learning–ICWL 2021: 20th International Conference, ICWL 2021, Macau, China, November 13–14, 2021, Proceedings 20. Springer International Publishing, p. 134-141. https://doi.org/10.1007/978-3-030-90785-3_12

Zahoor, N., Golgeci, I., Haapanen, L., Ali, I., & Arslan, A. (2022). The role of dynamic capabilities and strategic agility of B2B high-tech small and medium-sized enterprises during COVID-19 pandemic: Exploratory case studies from Finland. *Industrial Marketing Management*, 105, pp. 502-514. <https://doi.org/10.1016/j.indmarman.2022.07.006>

Zelenská, T., & Bellová, J. (2022) Tax changes in the Czech Republic in the COVID-19 pandemic. *Rev. Eur. & Comp. L.*, 50, 163. <https://doi.org/10.31743/recl.13388>

Zevert-Rivza, S., & Gudele, I. (2021) *Digitalisation in Times of Covid-19 – The Behavioural Shifts in Enterprises and Individuals in the Sector of Bioeconomy*. In: Economic Science for Rural Development Conference Proceedings, <http://dx.doi.org/10.22616/ESRD.2021.55.004>

Zhao, S., Fang, Y., Zhang, W., & Jiang, H. (2020) Trust, perceived benefit, and purchase intention in C2C e-commerce: An empirical examination in China. *Journal of Global Information Management (JGIM)*, 28(1): 121-141. <https://doi.org/10.4018/JGIM.2020010107>

Funding: This paper was funded by internal research competition at the Department of Management, Institute of Technology and Business in České Budějovice for 2023 entitled: “Changing the paradigm of strategic management using mathematical modelling“ PID: IVSUPS2304.

Data Availability Statement: Data available on request from the authors.

Author Contributions: Conceptualization: *Chytilová, Ekaterina*; methodology: *Chytilová Ekaterina*; data analysis: *Talíř, Milan*, writing—original draft preparation: *Chytilová, Ekaterina*, writing; review and editing: *Chytilová, Ekaterina*; visualization: *Talíř, Milan*. All authors have read and agreed to the published version of the manuscript.

Ekaterina CHYTILOVÁ, Ph.D. is the Assistant Professor in Institute of Technology and Business in Ceske Budejovice. Research interests: Value Chain, Supply Chain, efficiency measurement.

ORCID ID: <https://orcid.org/0000-0002-8559-5669>

Ing. Milan TALÍŘ is the Ph.D. student in Institute of Management, Faculty of Business and Management, Brno University of Technology. Research interests: Process management, Data analytics, Statistical modeling.

ORCID ID: <https://orcid.org/0000-0002-6510-1297>

Copyright © 2024 by author(s) and V&I Entrepreneurship and Sustainability Center
This work is licensed under the Creative Commons Attribution International License (CC BY).
<http://creativecommons.org/licenses/by/4.0/>

