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Reactions of Family Businesses to the Initial Effects of Pandemic Shock

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Abstract

Theoretical background: A pandemic shock caused by the COVID-19 virus spread around the world, negatively affecting social and economic life in short term. Lockdowns, shutdowns and restrictions hit business performance extremely hard. Family businesses, a significant part of the business sector, are entities focusing generally on continuity, futurity and perseverance. Due to their multi-generational perspective, these firms are forced to react in the short term to deter negative impacts of the pandemic, including a drop in revenue and employment alongside doubtful prospects of survival. As an anti-crisis remedy, family businesses have drawn from their economic specificity to implement several intrinsic solutions aimed at mitigating the negative impacts of an economic downturn.

Purpose of the article: The purpose of the paper is to isolate and determine which retrenchment, persevering and innovating responses to crisis were undertaken by family businesses as a remedy for the negative consequences of the pandemic shock.

Research methods: The data collection was conducted in April and early May 2020. The final sample totalled 202 family businesses from Poland, and research questions were investigated by employing logit regression models. The dependent variables were various actions undertaken by family firm due to the crisis and independent variables were negative pandemic impact in businesses and self-estimated probability of their survival.

Main findings: Family businesses facing a drop of employment decided to switch employees to non-paid holidays, reduce wages, switch employees to remote work and further tap liquid finance reserves. In addition, they started to liquidate less profitable areas if they expected a further employment drop. In the case of revenue decrease, these firms also reduced wages, suspended repayment of loans and leasing handling and extended payment terms of liabilities. The family firms investigated in this study that estimated a lower level of capital survivability also decided to liquidate less profitable areas of activity, sell less important production assets, suspend repayment of loans and leasing handling, extend payment terms of liabilities and suspend investment processes.

Introduction

The opening months of 2020 turned out to be a period that surprised much of the world. The rapidly spreading SARS-CoV-2 virus (Anwar & Clauß, 2021; Bretas & Alon, 2020) posed a threat to life and health, though the indirect effect of the COVID-19 pandemic was primarily an economic shock (Kuqi et al., 2021). This slowdown resulted from the lockdowns and restrictions introduced by the governments of most countries, which often resulted in the shutdown of companies from various industries in both the short and long term (Le Breton-Miller & Miller, 2021). In these circumstances, enterprises introduced changes to their current activities in order to avoid the negative effects of the crisis (Truant et al., 2021). This challenge was faced primarily by family businesses (Kraus et al., 2020; Ramírez-Solís et al., 2021), whose business profile is based on a long-term perspective or dissemination of family values (Chrisman et al., 2012; Domańska et al., 2022; Domańska & Zajkowski, 2022; Truant et al., 2021) that is reflected by continuity, future orientation and perseverance (Brigham et al., 2014) and accompanied by an emotional bond (Berrone et al., 2012).

In light of these special challenges, we decided to investigate the first reactions of family businesses to COVID-19 crisis in which businesses were affected by drop of revenue and employment and were therefore newly "recalculating" their probability of market survival. The theoretical framework for our survey was based on three

of the four proposed strategic responses to crisis presented by Wenzel, Stanske and Lieberman (2020): retrenchment, persevering and innovating.

The aim of the paper is to isolate which retrenchment, persevering and innovating responses to crisis were undertaken by family businesses to remedy the negative consequences of pandemic shock.

Our study is presented through six successive sections. First, we detail aspects of the crisis as an inherent part of business life, and review the many ways businesses manage crises. Next, we explore the impact of COVID-19 on entrepreneurship. Subsequently, family businesses responses to the COVID-19 pandemic were presented, allowing for the formulation of research questions. Following this, the empirical portion of the paper presents our methodology and describes and discusses our results. Finally, a brief conclusion, including discussion of the study's limitations, summarizes our project and its contributions.

Literature review

Crisis and crisis management

A crisis is associated with a period of declining production, reduced real income of the population and a shrinking employment rate, all consequences of economic fluctuations or cyclicality of economic growth (Hadziahmetovic et al., 2018; Mankiw, 1985). These sorts of crises are seen as "classical" and are, to some extent, predictable (Budsayaplakorn et al., 2010; Davis & Karim, 2008). They contrast with almost unpredictable natural disasters such as Hurricane Katrina in the New Orleans region (Hallegatte, 2008), the Canterbury earthquake sequence in New Zealand (Saunders & Becker, 2015) or the Japanese earthquake and tsunami in 2011 (Arto et al., 2015; Baldwin & Weder di Mauro, 2020). Despite differences, both varieties of crisis are associated with a general negative impact on the economy and business entities, although they can also be seen as periods of opportunity (Kraus et al., 2020; Mzid et al., 2019). Still, for the majority of businesses, a crisis implies a period of disruption connected with the need to implement adequate responses or measures (Du et al., 2020; Katare et al., 2021). Wenzel, Stanske, and Lieberman (2020) typologize these crisis responses into four major types: retrenchment, persevering, innovating and exit.

Retrenchment involves taking costs reduction measures to ensure the business retains adequate liquidity and providing a solid foundation for long-term recovery (Pearce & Robbins, 1994). According to some scholars, retrenchment might be a mostly necessary or unavoidable *ad hoc* response to crisis over the short term (Chadwick et al., 2004). However, in the face of a long-term crisis, continued retrenchment could lead to erosion of various aspects of the business (Ndofor et al., 2013).

Persevering is connected with maintenance of the firm's ongoing operations and mitigating unfavourable impacts of the crisis (Wenzel, 2015). Generally, the main

concern of this response is to avoid starting a strategic renewal at the wrong time, and the success of this approach is linked to the duration of a crisis (Kraus et al., 2020). Stieglitz et al. (2016) indicated that for businesses facing uncertainty and changing day-to-day circumstances, persevering may allow businesses to outperform these conducting strategic renewal.

Innovating is related to strategic renewal of the business. Businesses facing a crisis situation could employ "additional forces" to explore new alternatives, expand their activities toward other sectors and reflect on new ways of doing business in the wake of environmental uncertainties (Reymen et al., 2015). Innovating is a coping strategy with sustainable effects and may make the company stronger in the future (Pateli & Giaglis, 2005).

Finally, exit means the discontinuation of a business entity in response to crisis (Argyreset et al., 2015). This could result from the deliberate decisions of managers that no other response can allow the business to survive (Wenzel, Stanske, & Lieberman, 2020). However, in contrast to bankruptcy, exit is usually a consequence of a deliberate decision to free up new resources and create fresh future opportunities (Carnahan, 2017).

In the empirical portion of this paper, our concerns centred on three of these four strategic crisis responses: retrenchment, persevering and innovating. We omitted considerations of exit, as our sample consisted of business entities that decided to conduct activities during the COVID-19 crisis.

The impact of COVID-19 on entrepreneurship

The COVID-19 pandemic has been recognized as one of the most important and dangerous economic and social events to occur in decades (Czech et al., 2020). The dynamic spread of the COVID-19 virus spurred governments to implement measures limiting further transmission. The World Health Organization (WHO) classified the COVID-19 epidemic as a global pandemic on 11 March 2020 (Maier & Brockmann, 2020), indicating that it was affecting vast numbers of people across borders. The governments of many countries took on a number of severe restrictions that affected not only the functioning of the society but also national economies (Phelan et al., 2020). Lockdowns and shutdowns have rapidly changed living and working conditions, substantially affecting airlines, tourism, trade and hospitality, as well as a host of other activities requiring face-to-face interaction as show business, sport, education and cultural activities (Abay et al., 2020; Kraus et al., 2020; Manjula Bai, 2020; Ratten, 2020). These restrictions translated into a drop of GDP, an increased unemployment rate, a decline in active businesses and a delay in supply chains (Andrews et al., 2021; Ivanov, 2020; Bonaccorsi et al., 2020; Dörr et al., 2022; European Commission, 2020; Fairlie, 2020; Fernandes, 2020) or a complex mix of supply and demand shocks (Botta et al., 2020).

It should be stressed that, for some businesses, this pandemic shock proved to be a period of prosperity. Businesses that were able to provide services with limited personal interactions, the ICT sector, e-commerce and logistics (Abay et al., 2020; Kim, 2020) started to tackle the new circumstances quite well after a short but intense mobilisation. For some business entities, it was a period of new opportunities that required innovative actions on their part (He & Harris, 2020; Kuckertz et al., 2020; Ratten, 2021; Verma & Gustafsson, 2020). In fact, for such businesses the development of new products or services were observed alongside novel reorganisations of work.

Nevertheless, taking into account general statistical data, the overall global impact of the pandemic on national economies was decidedly negative (International Monetary Fund, 2021). The European Investment Bank reported that sales in Central and Eastern Europe (CEE) fell by about 15%. This sales decline had adverse consequences for jobs and households, with firms shedding around 11% of their workforce (European Investment Bank, 2022).

In these circumstances, both scholars and policymakers expected that the COVID-19 crisis will be most detrimental for the SME (small- and medium-sized enterprise) sector, as SMEs are characterised by lower cash buffers, lower uptake of digital tools and technologies and were overrepresented in the most affected industries (OECD, 2021). The main threat to this group of businesses was associated with a drop in liquidity and redundancy of employment (Bartik et al., 2020; European Commission, 2020; Fairlie, 2020).

To increase likelihood of business survival, two general measures were undertaken. First, local and central governments of particular countries were forced to take actions against the devastating impact of the crisis on economic activity (Marti & Puertas, 2021) and preserve the continuity of their existence and protect employment during and after the COVID-19 outbreak (European Commission, 2020; Dobaczewska, 2021). The World Bank reported that the majority of support measures were related to debt and finance, followed by interventions centred on employment support, taxes, business costs, other financial instruments, demand, business climate and business advice (World Bank, 2022). For example, by April 21, the European Union and its member states prepared rescue packages amounting to EUR 3.4 trillion (Kraus et al., 2020). This was an unprecedented amount of aid for enterprises in recent centuries. This was a likely contributor to the fact that, despite the large decline in sales, only 4% of firms in the region have filed for insolvency since the outbreak or were closed permanently at the time of the first COVID-19 wave (European Investment Bank, 2022).

A second type of measure involved business entities implementing their own solutions to increase the likelihood of survival. This included decisions to temporarily close the business, cut expenses, take on additional debt, reduce employment or implement remote and shift work (Bartik et al., 2020; Jamal et al., 2021; Kraus et al., 2020). One in five firms in CEE countries started or increased online business

or delivery of goods and services, and four in five firms adjusted their production processes in response to the pandemic (European Investment Bank, 2022). They start managing working capital more efficiently to meet short-term debt and expenses (Tandoh, 2020; Zimon & Dankiewicz, 2020), as working capital management can have a significant impact on firms' performance in times of financial crisis (Akgün & Memiş Karataş, 2020). Additionally, family businesses, for example, decided to mobilise owners' personal financial resources to ensure the continuous operation of the firm (Marjański & Sułkowski, 2021). In this paper, we focus on the intrinsic actions and solutions undertaken by businesses to mitigate negative consequences of the crisis and survive in long-term run.

Family businesses responses to the COVID-19 pandemic

For family businesses that have been operating on the market for generations, the COVID-19 pandemic was not the first crisis they had to face (Ramírez-Solís et al., 2021). Facing wars, natural disasters and deep recessions gave them a belief in the strength and commitment of the family treated as an effective form of crisis management (Leppäaho & Ritala, 2022). In contrast to non-family enterprises, in family firms an important role is played by family ownership, in which each family member takes responsibility for the functioning of the company and the natural instinctive behaviour is to take care of the family's property in times of crisis. Abeysekera and Tran (2021) noted that the pandemic contributed to the increased involvement of family members in company operations. The literature describes many family businesses and their decisions in particularly difficult periods which sought to ensure functioning and liquidity. For instance, Leppäaho and Ritala (2022) described the case of a Finnish family business that, over 61 years of operation on the market, faced three crises, modifying its business model and focusing on innovation while maintaining its traditions. In the 1990s, the company adapted to the reality of that era by diversifying its services, which proving the remarkable determination of its owners, who, in accordance with the findings of behavioural literature (Chrisman & Patel, 2012), will do whatever it takes to survive on the market. This was further confirmed by the actions taken successively during the crisis of 2008–2009, when the company relied on its tradition in a bid to acquire new customers; this is also a characteristic approach to innovation for family businesses (Sahin, 2020).

Family businesses are perceived as a unique form of businesses; for them, management concerns not only business factors, but also the interests of the family as a whole and its individual members (Ibrahim et al., 2008). As a result, when these businesses face external shocks they suffer twofold, as both family and business (Llanos-Contreras et al., 2019). From an entrepreneurial perspective, the crisis affected family businesses the same way as their non-family counterparts. The negative effects of current pandemic were visible in a drop in production, an increase in the unem-

ployment rate, a decline of business activities and a delay in supply chains (Andrews et al., 2021; Ivanov, 2020; Bonaccorsi et al., 2020; Dörr et al., 2022; European Commission, 2020; Fairlie, 2020; Fernandes, 2020). The recent crisis allowed for some activities to be transferred to the network and a further diversification of services. Fernandez Perez and Colli (2013) note that longevity, the crowning achievement of a family enterprise, depends on its strength and propensity to survive. In the context of economic shocks, this is an extremely important feature that allows for long-term functioning and flexible adaptation to changing conditions (Chrisman et al., 2011).

Ramírez-Solís et al. (2021) investigated the importance of various concerns for Latin family firms during crisis. The surveyed businesses presented a set of most commonly recurring concerns: sustaining cash flow, maintaining the employment of collaborators, guaranteeing the safety and health of collaborators, protecting family assets, protecting the physical and emotional health of the most vulnerable family members, supporting financially and emotionally the family members who work in the company and supporting unprotected groups in society. This research suggests which actions and activities will be implemented in practice to meet crisis-related concerns.

According to a recent Banyan Global (2020) report, family businesses have responded to the COVID-19 pandemic in a myriad of ways: delay significant capital expenditure (CapEx), reduce salary or benefits, reduce or agree to reduce dividends, borrow additional money, furlough employees, lay off employees, divert human or financial resources, acquire distressed companies, invest additional owner capital, hire employees, bring in capital from new owners and sell part of the business. Moreover, family businesses employed all available tools to keep cash in the business, including cutting operating expenses, reducing dividends and delaying capital investments. Some family businesses invested new equity or debt capital into their businesses to increase working capital. When possible, family businesses leveraged remote work and helped employees adjust to this way of working. When remote work was not possible, businesses distributed personal protection equipment to employees and accommodated social distancing in their facilities.

To achieve the purpose of this paper, we adopted a set of family business responses to the COVID-19 pandemic presented by Zajkowski and Żukowska (2020). Most of them would be classified as retrenchment strategies, while a minority are connected with preserving and innovating responses. None were associated with exit as a response to the pandemic shock (Table 1).

Table 1. Responses to the COVID-19 pandemic

Responses	Retrenchment	Persevering	Innovating
Employees have been switched to paid holiday			
Employees have been switched to non-paid holidays	x		
Wages have been reduced	x		
Employees have been switched to remote work		x	
Bonuses have not been paid	x		

Responses	Retrenchment	Persevering	Innovating
Liquid financial "reserves" have been tapped		x	
Less profitable areas of activity have been liquidated	x		
Repayment of loans has been suspended	x		
Leasing handling has been suspended	x		
Payment terms of liabilities have been extended	x		
Additional working capital loan has been taken out		x	
Less important production assets have been sold	x		
Investments have been suspended	x		
E-commerce trade has been implemented		x	
Business profile of the enterprise has been changed			x
Company engaged in social activities			x

Source: Authors' own study.

These responses were confronted with five isolated impacts of the COVID-19 pandemic on family firms: current drop in employment; current drop in revenues; predicted (next 2–3 months) drop in employment; predicted (next 2–3 months) drop in revenues and self-estimation of survival (Żukowska et al., 2021).

In this context we pose the following research questions:

Q1: Which measures were implemented by family firms facing a drop in employment?

Q2: Which measures were implemented by family firms facing a predicted drop in revenue?

Q3: Which measures were implemented by family firms that estimate a lower probability of survival?

Research methods

Data collection

Taking into account the unprecedented situation to isolate the reactions of family businesses facing a pandemic shock, we decided to collect primary data in the peak period of lockdown restrictions (the so-called Great Lockdown). Online questionnaires were sent to 8,428 business entities that potentially were family firms. As there is no official dataset of family firms in Poland, firms were classified by checking family business forums, foundations, websites and via self-declarations (Machek et al., 2015). After initial and follow-up e-mails, a total of 272 (3.2%) business entities answered; we then extracted 202 (2.4%) family firms from this group. The way to classify a given business as a family firm was self-classification (Frishkoff, 1995; Zajkowski & Życzyński, 2014), meaning that representatives of these businesses declared whether their business was a family firm or not. Similar criterion have been used in previous studies (Gallo et al., 2004; Zellweger et al., 2012). It should be

mentioned that during data collection we received several automatic e-mails giving notice that businesses were closed or suspended due to the pandemic. Descriptive statistics of the sample are presented in Table 2.

Table 2. Descriptive statistics of the sample

General	Mean	Min	Max	%
Age	23.64	2	92	
Employment	49.44	1	750	
Revenue (thousands PLN)	38,558.71	100	1,000,000	
Family generation in ownership	1.59	1	3	
Family generation in management body	1.67	1	4	
Employment				
1–9				38.7
10–49				40.3
over 49				21.0
Law form				
LLC company				50.8
General partnerships				16.9
Sole trading				16.1
Limited partnerships				8.1
Joint-stock companies				3.2
Other				4.9
Sector				
Service				39.5
Industry				25.8
Multi-sector engagement				25.8
Trade				8.9

Source: Authors' own study.

The sample was verified to check whether it is free from non-response bias (Hudson et al., 2004), common method bias (Riley et al., 2018) and potential sample bias (Madison et al., 2018). All procedures confirmed the reliability of our variables.

Dependent variables: Reactions to the crisis situation

Due to the sudden and unprecedented situation related to the COVID-19 pandemic shock, businesses were forced to react immediately. Therefore, the current crisis raises important questions about how firms can respond effectively to crises (Wenzel, Stanske, & Lieberman, 2020). Kraus et al. (2020) pointed out that family businesses in Germany, Austria, Switzerland, Liechtenstein, and Italy have implemented reduced-hour working models, remote work, intensive and proactive communication with their employees and major changes toward digitalization. These findings show that family firms pursue a wide variety of responses and changes. In this paper, the set of potential reactions of family firms were adapted from Zajkowski and Żukowska (2020) and encompass the following dichotomous variables (Table 3).

Table 3. Dependent variables

Dependent variables	Coding
Employees have been switched to paid holidays	0 – no; 1 – yes
Employees have been switched to non-paid holidays	0 – no; 1 – yes
Wages have been reduced	0 – no; 1– yes
Employees have been switched to remote work	0 – no; 1 – yes
Bonuses have not been paid	0 – no; 1 – yes
Liquid financial "reserves" have been tapped	0 – no; 1 – yes
Less profitable areas of activity have been liquidated	0 – no; 1 – yes
Repayment of loans has been suspended	0 – no; 1 – yes
Leasing handling has been suspended	0 – no; 1 – yes
Payment terms of liabilities have been extended	0 – no; 1 – yes
Additional working capital loan has been taken out	0 – no; 1 – yes
Less important production assets have been sold	0 – no; 1 – yes
Investments have been suspended	0 – no; 1 – yes
E-commerce trade has been implemented	0 – no; 1 – yes
Business profile of the enterprise has been changed	0 – no; 1 – yes
Company engaged in social activities	0 – no; 1 – yes

Source: Authors' own study.

Independent variables – crisis impact

The impact of the COVID-19 pandemic was visible in GDP drops, increased unemployment, declines in active businesses, delays in supply chains as well as impacts from the number of cases (Bonaccorsi et al., 2020; Dörr et al., 2022; European Commission, 2020; Fairlie, 2020; Ivanov, 2020). The following variables were analysed to isolate how family businesses were affected by these consequences: current drop in employment; current drop in revenues; predicted (next 2–3 months) drop in employment; and a predicted (next 2–3 months) drop in revenues. All were coded as 1 – drop; 0 – no change; 1 – increase. Additionally, as independent was taken self-estimation of survival, measured on a 10-point scale (1 – it is certain that the business will collapse to 10 – it is certain that the business will survive).

Controls

In our study an additional three controls were included: age of business entity, number of employees, and revenue (logarithmic).

Models

To answer our research questions, for each dependent variable a separate linear regression model was calculated. The reliabilities of particular models were verified by calculating the *p*-value for the total model; −2log likelihood; Cox and Snell R-square; and the Nagelkerke R-square and Hosmer Lemeshow test (Walker & Smith, 2016). Not all models proved to be statistically significant; however, considering our general findings we were able to draw adequate conclusions (Table 4).

Table 4. Logistic regression models

Variables	Employees have been switched to paid holiday			Employees have been switched to non-paid holidays			Wages have been reduced			Employees have been switched to remote work		
	B	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*
Current drop in employment	-0.247	0.635	0.781	-2.118	0.006	0.120	-1.352	0.022	0.259	-1.226	0.046	0.293
Current drop in revenues	-0.124	0.796	0.883	-0.405	0.658	0.667	-1.982	0.017	0.138	0.570	0.243	1.768
Predicted (next 2–3 months) drop in employment	-0.717	0.151	0.488	-0.021	0.977	0.979	0.603	0.276	1.828	-0.360	0.529	0.697
Predicted (next 2–3 months) drop in revenues	-0.350	0.509	0.704	-1.010	0.251	0.364	-0.384	0.471	0.681	-0.446	0.398	0.640
Self-estimation of survival	-0.148	0.192	0.862	0.051	0.747	1.052	-0.079	0.508	0.924	0.357	0.044	1.293
Age	0.011	0.472	1.011	-0.017	0.580	0.983	-0.004	0.806	0.996	-0.003	0.867	0.997
Employment	0.001	0.815	1.001	-0.014	0.390	0.987	-0.001	0.779	0.999	0.011	0.096	1.011
Revenue (ln)	0.292	0.080	1.339	-0.125	0.656	0.883	-0.092	0.617	0.912	0.059	0.761	1.061
Constant	-2.155	0.173	0.116	-2.341	0.306	0.096	-1.301	0.437	0.272	-3.071	0.089	0.046
	$p < 0.039$			$p < 0.027$			$p < 0.001$			$p < 0.018$		
	–2log likelihood 119.624; Cox and Snell R-square 0.153; Nagelkerke R-square 0.204; Hosmer Lemeshow test $p > 0.121$			–2log likelihood 55.003; Cox and Snell R-square 0.165; Nagelkerke R-square 0.312; Hosmer Lemeshow test $p > 0.730$			–2log likelihood 93.802; Cox and Snell R-square 0.230; Nagelkerke R-square 0.329; Hosmer Lemeshow test $p > 0.600$			–2log likelihood 93.767; Cox and Snell R-square 0.203; Nagelkerke R-square 0.371; Hosmer Lemeshow test $p > 0.370$		

Variables	Bonuses have not been paid			Liquid financial "reserves" have been tapped			Less profitable areas of activity have been liquidated			Repayment of loans has been suspended		
	B	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*
Current drop in employment	-0.993	0.117	0.371	-2.231	0.010	0.107	-1.078	0.173	0.340	0.616	0.487	1.851
Current drop in revenues	-0.330	0.554	0.719	-0.826	0.196	0.438	-0.157	0.828	0.855	-3.801	0.007	0.022
Predicted (next 2–3 months) drop in employment	0.236	0.670	1.266	-1.443	0.017	0.236	-1.724	0.023	0.178	0.776	0.332	2.172
Predicted (next 2–3 months) drop in revenues	-0.518	0.367	0.596	0.399	0.561	1.491	1.200	0.089	3.319	1.243	0.197	3.465
Self-estimation of survival	-0.155	0.226	0.856	-0.135	0.375	0.874	-0.393	0.026	0.675	-0.987	0.001	0.373
Age	-0.023	0.204	0.978	0.009	0.695	1.009	0.018	0.463	1.018	-0.043	0.165	0.958
Employment	-0.004	0.445	0.996	0.007	0.062	1.007	-0.031	0.031	0.970	0.003	0.438	1.003
Revenue (ln)	-0.080	0.664	0.923	-0.447	0.018	0.640	0.572	0.044	1.772	0.091	0.742	1.095
Constant	1.820	0.323	6.171	3.352	0.126	28.571	-2.337	0.352	0.097	3.770	0.135	43.390
	$p < 0.015$ −2log likelihood 95.587; Cox and Snell R-square 0.203; Nagelkerke R-square 0.272; Hosmer Lemeshow test $p > 0.658$			$p < 0.001$ −2log likelihood 83.923; Cox and Snell R-square 0.337; Nagelkerke R-square 0.451; Hosmer Lemeshow test $p > 0.629$			$p < 0.001$ −2log likelihood 64.698; Cox and Snell R-square 0.285; Nagelkerke R-square 0.414; Hosmer Lemeshow test $p > 0.254$			$p < 0.001$ −2log likelihood 50.445; Cox and Snell R-square 0.392; Nagelkerke R-square 0.593; Hosmer Lemeshow test $p > 0.733$		

Variables	Leasing handling has been suspended			Payment terms of liabilities have been extended			Additional working capital loan has been taken out			Less important production assets have been sold		
	B	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*
Current drop in employment	-0.494	0.540	0.610	-0.172	0.773	0.842	-1.235	0.132	0.291	-0.234	0.797	0.791
Current drop in revenues	-2.460	0.048	0.085	-1.747	0.009	0.174	-0.540	0.561	0.583	-1.496	0.250	0.224
Predicted (next 2–3 months) drop in employment	0.852	0.224	2.345	-0.139	0.793	0.870	0.059	0.936	1.061	-1.178	0.154	0.308
Predicted (next 2–3 months) drop in revenues	1.000	0.167	2.718	0.103	0.852	1.108	0.144	0.838	1.154	0.568	0.619	1.764
Self-estimation of survival	-0.625	0.004	0.535	-0.358	0.006	0.699	0.107	0.545	1.113	-0.503	0.008	0.605
Age	0.018	0.333	1.018	0.000	0.979	1.000	0.024	0.205	1.024	-0.085	0.067	0.919
Employment	-0.002	0.749	0.998	0.008	0.037	1.008	0.005	0.129	1.005	-0.005	0.682	0.995
Revenue (ln)	0.106	0.695	1.112	-0.138	0.430	0.871	-0.042	0.855	0.959	0.223	0.475	1.250
Constant	1.003	0.714	2.727	1.981	0.246	7.249	-4.017	0.081	0.018	0.238	0.930	1.268
	$p < 0.001$ −2log likelihood 62.812; Cox and Snell R-square 0.298; Nagelkerke R-square 0.451; Hosmer Lemeshow test $p > 0.451$			$p < 0.001$ −2log likelihood 101.556; Cox and Snell R-square 0.275; Nagelkerke R-square 0.369; Hosmer Lemeshow test $p > 0.967$			$p < 0.352$; −2log likelihood 63.985; Cox and Snell R-square 0.087; Nagelkerke R-square 0.165; Hosmer Lemeshow test $p > 0.678$			$p < 0.004$ −2log likelihood 43.737; Cox and Snell R-square 0.226; Nagelkerke R-square 0.430; Hosmer Lemeshow test $p > 0.839$		

Variables	Investments have been suspended			E-commerce trade has been implemented			Business profile of the enterprise has been changed			Company engaged in social activities		
	B	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*	*B*	*p*	*Exp(B)*
Current drop in employment	-1.142	0.146	0.319	-0.777	0.275	0.460	-1.341	0.225	0.262	0.882	0.923	0.791
Current drop in revenues	-0.062	0.910	0.940	-1.105	0.170	0.331	-1.311	0.298	0.270	0.660	1.231	0.224
Predicted (next 2–3 months) drop in employment	0.111	0.864	1.117	-0.105	0.873	0.900	-0.116	0.907	0.890	0.474	1.439	0.308
Predicted (next 2–3 months) drop in revenues	-0.626	0.273	0.534	0.805	0.305	2.237	1.361	0.093	3.901	0.259	1.695	1.764
Self-estimation of survival	-0.593	0.007	0.553	-0.192	0.164	0.825	0.062	0.793	1.064	0.347	0.897	0.605
Age	0.016	0.409	1.016	0.032	0.134	1.032	-0.001	0.972	0.999	0.751	1.005	0.919
Employment	-0.006	0.281	0.994	-0.016	0.023	0.984	-0.001	0.901	0.999	0.265	1.004	0.995
Revenue (ln)	-0.274	0.183	0.760	0.655	0.009	1.925	-0.062	0.864	0.940	0.948	1.010	1.250
Constant	7.633	0.006	2064.230	-4.929	0.024	0.007	-3.316	0.275	0.036	0.807	1.462	1.268
	$p < 0.001$ −2log likelihood 78.931; Cox and Snell R-square 0.311; Nagelkerke R-square 0.449; Hosmer Lemeshow test $p > 0.238$			$p < 0.001$ −2log likelihood 73.972; Cox and Snell R-square 0.289; Nagelkerke R-square 0.399; Hosmer Lemeshow test $p > 0.856$			$p < 0.523$; −2log likelihood 37.761; Cox and Snell R-square 0.072; Nagelkerke R-square 0.192; Hosmer Lemeshow test $p > 0.289$			$p < 0.399$ −2log likelihood 117.591; Cox and Snell R-square 0.083; Nagelkerke R-square 0.114; Hosmer Lemeshow test $p > 0.566$		

Source: Authors' own study.

Results

To answer Q1, we isolated the activities and actions undertaken by family businesses facing a drop of employment, an outcome reported as one of most common negative effects of the COVID-19 pandemic (Baker et al., 2020; Bartik et al., 2020; Du et al., 2020; Prime et al., 2020). Simultaneously, a portion of our family firm sample was affected by a current employment drop. In response, they decided to switch employees to non-paid holidays ($p < 0.006$), reduced wages ($p < 0.022$), switched employees to remote work ($p < 0.046$) and further tapped liquid finance reserves ($p < 0.01$). If the businesses predicted further a drop of employment in the next 2–3 months, they tapped liquid finance reserves (0.017) and started to liquidate less profitable areas ($p < 0.023$).

Following employment reduction, the revenue of business entities was estimated to drop not only at the beginning of the pandemic shock but also over a longer period of time (González & Pérez-Uribe, 2021; Kraus et al., 2020; Kuqi et al., 2021; OECD, 2021). Investigating this matter answered Q2 in our research. Facing a current decrease of revenue, surveyed family firms reduced wages ($p < 0.017$), suspended repayment of loans ($p < 0.007$), suspended leasing handling ($p < 0.048$) and extended payment terms of liabilities ($p < 0.009$). However, if these family businesses predicted a further drop of revenue over the next few months, no significant reactions were observed.

The results of previous surveys also indicated an increasing fear of business survival (Baker et al., 2020; Náglová & Horáková, 2017; Paul & Chowdhury, 2021; Zajkowski & Żukowska, 2020). It was obvious that if a business entity is expecting difficulties connected with survival it must undertake preventive actions; this allowed us to answer Q3. The family firms that estimated a lower level of capital survivability decided to liquidate less profitable areas of activity ($p < 0.026$), sold less important production assets ($p < 0.008$), suspended repayment of loans ($p < 0.001$) and leasing handling ($p < 0.004$), extended payment terms of liabilities ($p < 0.006$) and suspended investment processes ($p < 0.007$). Our models revealed that family businesses reporting higher probability of survival were simultaneously more inclined to switch employees to remote work ($p < 0.044$).

Considering control variables, less profitable areas of activity were liquidated by family firms with lower numbers of employees ($p < 0.031$). These businesses also implemented e-commerce trade solutions ($p < 0.023$), while family firms with higher number of employees extended payment terms of liabilities ($p < 0.037$). Family businesses declaring lower revenue (logarithmic) tapped liquid finance reserves ($p < 0.018$) but those with higher revenue decided to liquidate less profitable areas of activity ($p < 0.044$) and implemented e-commerce trade solutions ($p < 0.009$).

Discussion

Chadwick et al. (2004) claimed that a short-run retrenchment might partly be a necessary or even an unavoidable response to crisis. In accordance with this claim, it has been observed that surveyed family businesses first undertook actions that aimed to cost cuts (Kraus et al., 2020) and reduce assets, products and product lines (Pearce & Robbins, 1994) as a basis for potential strategic renewal in the future (Benner & Zenger, 2016). Facing the various negative effects of the initial stage of the crisis, surveyed family firms decided to switch employees to non-paid holidays, reduce wages, liquidate less profitable areas of activity, suspend repayment of loans and leasing handling, extend payment terms of liabilities, sell less important production assets and suspend investments. All these measures are in line with the fundamental notion that the survival of a declining firm depends on returning to a positive cash flow (Carnahan et al., 2010; Kettunen et al., 2021). After returning to a positive cash flow, a declining firm can then shift its objectives towards development and growth. To some extent, the retrenchment approach thus allows the firm to pare back its activity to the segments of the business with the most likely prospect of good margins (DeDee & Vorhies, 1998).

The surveyed family businesses implemented several solutions directed at mitigating the adverse impacts of the crisis (Wenzel, 2015) that can be categorized as persevering crisis responses (Stieglitz et al., 2016). For example, they decided to switch employees to remote work, tapped liquid financial "reserves" and implemented e-commerce trade. These actions are typical if the objective is sustaining the firm in the medium run (Wenzel et al., 2020).

Two types of activities were classified as innovating responses (Gartenberg & Pierce, 2017), realizing some measure of strategic renewal in response to the crisis: changing the business profile of the enterprise and engaging in social activities. Both activities were insignificant. Hence we can conclude that surveyed businesses are largely unable or unwilling to implement renewal actions. Two reasons come to mind. First, the period before first lockdown and survey was too short and family businesses were concentrating on weathering current turbulence rather than thinking about an unpredictable future. Second, low liquidity during a crisis is noted as a limiting factor for innovative solutions (Kraus et al., 2020).

Conclusions

Crisis is an inevitable occurrence for businesses operating in a turbulent environment. For the majority of businesses, a crisis is associated with negative or detrimental impacts on their activities (Fairlie, 2020). Businesses entities, including family firms, try to undertake various alleviating actions in such situations of distress. The COVID-19 crisis was an extraordinarily hard period for both businesses and societies worldwide.

A sudden drop in revenue and employment were translated into anxieties surrounding the very survival of these businesses. The intention of our survey was to investigate whether the family firms experiencing and expecting COVID-related economic turbulence would rapidly implement actions or solutions directed at preventing the negative consequences of market collapse. The economic downturn were measured by revenue and employment drops (current and future) as well as by the perception of survival probability during and after the crisis. In line with the theory proposing four strategic responses to crisis (Wenzel, Stanske, & Lieberman, 2020), we found that family businesses implemented actions and solutions mostly directed to retrenchment of business activities, with rarer measures aimed at preserving the *status quo* and mitigating the adverse impacts of the crisis (Wenzel, 2015). In the first period of market restriction, no family firms declared they were engaging in innovation to realize strategic renewal in response to the crisis (Wenzel, Stanske, & Lieberman, 2020).

These findings support the statement that the first reactions of family businesses were directed toward survival on the market, rather than exit (Fairlie, 2020). Thanks to this, we can better understand the behaviour of family businesses affected by sudden and external crises. Above all, family firms prioritized financial liquidity by cutting costs, resigning from less profitable activities and assets and postponing duty payments. Liquidity was further protected by freeing up free financial resources. Additionally, due to restrictions implemented at a governmental level, such as social distancing and lockdowns (Spoz et al., 2020), where possible family businesses implemented e-commerce trade and remote work. We believe that businesses will take part in strategic renewal as a crisis response (Wenzel et al., 2020) if family businesses are able to find space to breathe after the initial pandemic shock.

Our study is not free from limitations which could be translated into opportunities for future research. First, we have investigated a purposive sample of Polish family businesses as the dominant type of business in the SME sector. This approach limits the generalization of findings to family firms in other countries (Horváthová et al., 2020). However, it would be interesting to know whether similar effects were observed in other countries, especially those addressing the fundamental measures undertaken as responses to a pandemic shock.

Moreover, the research should be repeated which will enable to capture the dynamics of changes in the organizational behavior of family enterprises. In addition, the sample size could be increased in subsequent studies. After the COVID-19 crisis, it would be of prime importance to evaluate the financial position of the family firms that implemented particular solutions in comparison with those that did not. Such a study would allow a better understanding of the application of intrinsic anti-crisis solutions and their effectiveness as a means to struggle with disruption.

As mentioned above, the surveyed family businesses did not implement innovative actions as a response to the external shock. Further studies are needed to investigate whether an innovative approach has become more common in the later phases of the COVID-19 pandemic.

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