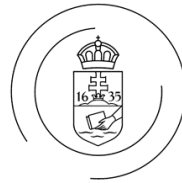


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**Túl a számokon: A vállalati pénzügyi reziliencia
tényezőinek vizsgálata a magyar szálláshely szolgáltató szektor-
ból a COVID-19 kontextusában**

**Beyond Numbers: Exploring Aspects of Corporate Financial
Resilience in the Hungarian Accommodation Sector Amidst
COVID-19**

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Budapest, 2023. 11. 01.

Nyilatkozatok

1. Alulírott Szerző, nyilatkozom, hogy jelen dolgozat saját szellemi termékem, önálló munkám eredménye. A dolgozat készítése során betartottam a hivatkozásokra vonatkozó szabályokat, a szó szerinti idézéseket idézőjellel is jelöltem. Jelöltem azt is, ahol saját korábbi munkáimból használtam fel részleteket. Tudomásul veszem, hogy a plágiumot elkövető hallgatóval szemben fegyelmi eljárás indítható.
2. Alulírott Szerző, nyilatkozom, hogy a dolgozatban szereplő adatokat jogszerűen használtam fel. Tudomásul veszem, hogy a dolgozat titkosítására nincs lehetőség.

Budapest, 2023. 11. 01.



Szerző

Vezetői összefoglaló

A kutatás a vállalati pénzügyi rezilienciát vizsgálja a turisztikai szektorban, kifejezetten a magyarországi szálláshely-szolgáltatókra összpontosítva a COVID-19 Járvány idején. A tanulmány célja, hogy azonosítsa azokat a tényezőket, amelyek hozzájárulnak a vállalati pénzügyi ellenállóképesség kialakításához, hasonló természetű válságok során. A tanulmány fő állításai szerint a turisztikai vállalatok egészséges finanszírozási szintek fenntartásával, piaci körülményekhez való alkalmazkodással, alternatív konfigurációkkal és a szolgáltatások minőségének növelésével alapozhatják meg rezilienciájukat. A tanulmány különböző kvalitatív és kvantitatív változók kombinációját használja fel a pénzügyi teljesítmény és a reziliencia alapvető tényezőinek elemzéséhez. Minden a cégekről gyűjtött információ kizárólag nyíltan elérhető forrásból származik. Az eredmények azt sugallják, hogy azon vállalatok, amelyek támogatást kapnak, kevesebb turisztikai tevékenységgel rendelkező helyeken működnek, több csillaggal és több létesítménnyel rendelkeznek, magasabb szintű ellenállóképességet mutatnak a válság idején. A kutatás értéket teremt azzal, hogy gyakorlati ajánlásokat nyújt a turisztikai szektor vállalatai számára ellenállóképességük javításához. A tanulmány egy szakirodalomban való hiányt tölt be, a magyar turisztikai szektor rezilienciájának, és annak természetének elemzésével a COVID-19 Járvány kontextusában. Összességében ez a tanulmány új betekintéseket nyújt a vállalati pénzügyi reziliencia mélyebb megértéséhez a turisztikai szektorban.

Abstract

The research examines corporate financial resilience in the tourism industry, specifically focusing on accommodation providers in Hungary during the COVID-19 Pandemic, to identify factors that contribute to corporate financial resilience during such crises. The main theses of the study propose that accommodation providers can enhance their resilience by maintaining healthy funding levels, adapting to market conditions, considering alternative configurations, and emphasising service quality. The study utilises a combination of qualitative and quantitative variables to analyse the financial performance and underlying factors of resilience, gathered strictly from publicly available sources. The findings suggest that companies receiving grant support, operating in locations with less tourism activity, having a higher star rating, and having multiple facilities exhibit higher levels of resilience during the crisis. The study adds value by providing practical recommendations for companies in the tourism industry to enhance their resilience. It fills a research gap in the literature by assessing resilience dynamics in the Hungarian tourism industry during the COVID-19 Pandemic. Overall, this study offers novel insights for understanding corporate financial resilience in the tourism industry.

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1. INTRODUCTION

The Coronavirus Disease 2019 is a respiratory infection caused by the SARS-CoV-2 virus. In December 2019 there was an evident outbreak of the virus among several workers of a market in Wuhan. Its strong contagious ability resulted in the spreading of the disease to almost all countries in the world, provoking the declaration of a global pandemic in March 2020 (Verity et al., 2020). To date (October 22, 2023) 771,549,718 COVID-19 cases have been recorded in 229 countries, out of which 6,974,473 resulted in death (WHO, 2023). Containment measures taken against the further spreading of the virus caused, in recent times, a not yet recorded degree of downturn in economic activity. Lockdowns and travel restrictions particularly affected contact-intensive sectors both in terms of turnover and workforce (Niestadt, 2020; Knezevic et al., 2021). This resulted in the heaviest losses in the history of tourism (Dube et al., 2020). Hereinafter the COVID-19 Pandemic will be denoted under the terms “Pandemic” and “COVID-19”, and the losses associated with it under the term “crisis”.

Tourism is vulnerable as it is based on interactions between people. In the European Union, the tourism industry is of paramount importance. Representing a fundamental source of employment and income, pre-Pandemic gross value added by the industry was estimated at EUR 787 billion (Eurostat, 2020). In 2020 an apparent plunge in tourism activity could be observed. Tourism nights spent by Europeans dropped by 37%, 129 million fewer airplane trips were made, and 51 million fewer residents made tourism trips. (Eurostat, 2022) As a result of the crisis 1.6 million jobs were put at risk in Germany, 1 million in Italy, and 0.8 million in Spain and France (Jones & Comfort, 2020). In global terms, over 90% of the world population was affected by travel bans (Gössling et al., 2021), and an estimated five to seven years’ growth will be lost in the tourism industry due to the effects of COVID-19 (UNWTO, 2020).

Hungary, being highly dependent on international tourism also experienced severe losses not only in the tourism industry, but in the economy as a whole as an effect of the crisis. In the third quarter of 2020, the nation’s GDP decreased by 4.7%, and the performance of the national economy decreased by a total of 5.6% in the first three quarters compared to previous year (Palkovics, 2022). A marked decline in nights spent by international tourists at accommodation establishments could be noticed in the capital Budapest. Airbnb owners reported losses generated by decreased demand and lower prices, with many of them fleeing

the market during the Pandemic. (Boros & Kovalcsik, 2021) Frustration could also be noticed among workers, many of whom left the tourism industry due to the unstable environment caused by the crisis. The highest losses were recorded in the accommodation and hospitality sectors, even in spite of the government easing restrictive measures in the third quarter of 2020 (Palkovics, 2022). Taking all of these factors into consideration, it becomes clear how the COVID-19 Pandemic has impacted the financial statements of businesses within the Hungarian accommodation sector between 2019 and 2020.

Throughout history, organisations' resilience has been tested by several previous outbreaks exhibiting varying levels of intensity. As pandemics cause devastating levels of life losses, they deprioritise firms' operations in the interest of protecting human lives leading to considerable economic damages (Ozbay et al., 2021). For this reason, it is essential that firms carry the traits of resilience. Holling (1973) was among the first ones to define resilience. He stated resilience is the capacity of a system to absorb disturbances and still maintain its fundamental structure and function. Institutional resilience can be defined in many ways and in many aspects. Resilience in corporate terms is a firm's capability to recover from disruptive economic events and adapt to adverse circumstances (Xia et al., 2022). This capability can be further separated into five elements based on different aspects. These are financial resilience, operational resilience, technological resilience, organisational resilience, and reputational resilience. Financial resilience enables a corporation to endure rapid drops in revenue, increases in costs, and/or credit problems (Natale et al., 2022). As previously discussed, the resilience of the accommodation sector of the Hungarian tourism industry has been especially strained by the closures, cancellations of bookings, and drops in international and domestic trips. Due to the Pandemic's long lasting psychological effects the financial resilience of the sector remains critical. Potential tourists persist in reducing their expenditures, cancel their travels (this phenomenon is called "non-travelling"), and turn to virtual possibilities (Raffay, 2020).

Having presented the background, this research has several aims. Firstly, to analyse the financial resilience of actors in a severely impacted sector, of a country highly dependent on tourism. Because of its properties the Hungarian accommodation sector perfectly serves this purpose. Secondly, to introduce an innovative definition of financial resilience on a three-level scale using profit and revenue, which one can employ using strictly publicly available data. Thirdly, besides determining the financial statement-related resilience it was a goal to assess the firms' qualitative attributes contributing to or reducing their financial resilience.

This way advice can be given not only in the context of the individual firms' financial performance but in several more easily manipulable factors, which is also an objective of this study. In alignment with these objectives, an ordinal logistic regression model is developed to identify the variables which can serve as predictors for the firms' resilience.

The importance of this issue lies in the growing scientific interest towards the financial impact of health crises on the tourism industry, with a particular focus on the accommodation sector. Besides this, actors of the sector are seeking ways to be prepared for unprecedented events such as the COVID-19 Pandemic. This paper aims to facilitate these preparatory measures.

The contribution of this work extends already present resilience theories into the context of COVID-19 in the Hungarian accommodation sector and helps in understanding financial resilience in adverse situations such as pandemics. Furthermore, it provides recommendations for enhancing the resilience of individual firms by practical implications for accommodation facilities operators, and the Hungarian accommodation sector as a whole. For this, the study identifies and explains relevant variables that can serve as reference to improve resilience. Among others, the quality of service, the gender perspective, configuration, ratings, financing, and indebtedness are taken into consideration.

With the stage set through the introduction, this article will provide a thorough review of the existing literature, followed by a presentation of hypotheses. The next section outlines the research methodology. Afterwards, the study moves on to discussing the results, by interpreting them in the context of hypotheses, and providing practical recommendations for industry practitioners based on them. Then a short assessment of the study's limitations and future implications will follow. The paper ends with the final conclusions based on the results of the study.

2. LITERATURE REVIEW

This section presents a literature review of evaluating corporate resilience using qualitative and quantitative measures, predominantly in studies on the accommodation sector of the tourism industry, with a direct focus on Hungary. This evaluation is a complex task involving numerous factors gathered strictly from publicly available sources of the companies' information, such as financial statements, websites, and legal documents. To manage the complexity of this evaluation the study's literature review is broken down into three subjects: (2.1.) the impact of COVID-19 on the tourism industry; (2.2.) corporate financial resilience during COVID-19; and (2.3.) the qualitative determinants of corporate resilience.

2.1. IMPACT OF COVID-19 ON THE TOURISM INDUSTRY

The COVID-19 Pandemic provoked the biggest downturn in the history of the tourism industry (Dube et al., 2020). Rivera (2020) highlighted the importance of researching the tourism industry in the context of the Pandemic. We could see an increasing number of papers concerned with this subject (Casado et al., 2021), but much of this area still remains to be explored in Hungary. Methods to analyse the effect of COVID-19 include field surveys, secondary data analysis, discussions on resuming activities during and after the Pandemic, comparisons of the current Pandemic with past health crises, and assessments of the Pandemic's economic impact (Davahli et al., 2020). The study first reviews publications with resilience-based approaches to evaluate the effect of COVID-19 on tourism, then COVID-19's effect on accommodation providers, followed by Hungarian research of COVID-19's effect on tourism. Publications are listed in order of decreasing popularity based on number of citations on the Google Scholar database.

Using a resilience-based approach, Sharma et al. (2021) investigated the impact of COVID-19 on the tourism industry of several countries and regions. Based on their conclusion tourism activity was not only victim of the crisis, but a catalyst of it. Without tourism the Pandemic could not have generated such losses. The authors argue furthermore that the industry's unsustainable practices also served as contributing factor to the crisis' strength. Watson et al. (2021) used US country-level resilience data to analyse COVID-19's effect. Using the measure presented by Ringwood et al. (2019) they found that the industry's losses associated with COVID-19 made counties with substantial tourism activity less resilient to economic downturns such as the crisis, than counties less reliant on tourism-related income. Boto & Mayor (2022) evaluated the short-term resilience of the Spanish tourism industry

using panel regression clustering. They found that price drops in components of tourism resulted in an increase of domestic demand. This means domestic tourism has a balancing effect on the losses of international tourism in Spain. Yang & Smith (2023) propose a resilience-based approach using growth rates of publicly available data to evaluate the effect of COVID-19 on US tourism industry in each county. Similar to Watson et al. (2021) they discovered different levels of resilience between counties based on urbanity, with non-urban counties having higher short-term resilience, and urban counties having higher long-term resilience during, and after the Pandemic. There is a noticeable lack of resilience-based evaluations of the Hungarian tourism industry during COVID-19, therefore, this study aims to set the ground for future papers.

Since throughout the research the focus will be on accommodation providers, it is essential to examine previous papers focusing directly on this sector. Many influential studies have been published containing country and international level investigations of COVID-19's effect on different accommodation subsectors (Hao et al., 2020; Song et al., 2021; Jones & Comfort, 2020; Duro et al., 2021; Jones & Comfort, 2020; Almeida et al., 2022). Ozdemir et al. (2021) quantified the impact of COVID-19 on the US hotel sector, using changes in key performance measures acquired from a national tourism database. They found that as an effect of substantial plunges in all indicators, COVID-19's impact is of varying scales between different hotel segments. Economy class hotels proved to be more resilient, with luxury hotels experiencing the largest declines. Besides this, chain-managed hotels were more affected compared to independent facilities. According to the authors, the US hotel industry's revenue dropped by \$30 Billion in a time period of three months at the peak of the crisis. Boto & Mayor (2022) focused their research on the Spanish hotel sector's demand changes with regards to the COVID-19 crisis. To assess the impact of COVID-19 on the sector, they utilised national visitor frequency variables measured during pre-Pandemic and mid-Pandemic periods. Their results indicate that due to price drops, hotels in areas favoured by international tourists suffered greater losses than hotels at destinations targeted by domestic tourists. This is evident because mid-Pandemic domestic demand shows a positive connection with pre-Pandemic domestic demand, resulting in increased resilience of hotels in locations that have historically been more popular among local travellers. Polemis (2021) researched the impact of COVID-19 on Italian hotel performance in comparison to Türkiye using a difference-in-differences methodology. Findings suggest a very slow adjustment of the sector after losses due to national lockdowns. The author argues, however, that longer-

term sectoral performance decreases would have been greater without implementing restrictive measures. According to an examination on international accommodation sharing by Gerwe (2021), the strengths of the sector transformed into its biggest weaknesses during restricted activity similar to the tourism industry as a whole, which is in line with the findings of Sharma et al. (2021). The author finds furthermore, actions by hosts helping healthcare workers during the crisis will likely contribute to the post-Pandemic legitimacy of the sector assisting in regaining its strength. This insight sets stage for exploring Hungarian accommodation sharing literature in the following subsection of COVID-19's effect on the Hungarian tourism industry.

Jancsik et al. (2018) highlighted the transition of the Budapest accommodation scene to a more digital-oriented, and privately operated market. This paired with favourable domestic regulations resulted in international tourism arrivals in Hungary experiencing a consistent rise from 2010 on, leading to "overtourism" in the city described by Remenyik et al. (2021). Furthermore, the city's popularity was exceptionally high compared to other regions of the country. This was all stopped in 2020, when COVID-19 hit. Boros & Kovalcsik (2021) examined the Budapest Airbnb market in the shadow of the Pandemic. Using publicly available data they concluded that the plunge in economic activity in Hungary's capital was disproportionate to other regions of the country due to its higher reliance on international arrivals. This is in line with the findings of Boto & Mayor (2022) in Spain. Due to occupancy rates being negatively affected by restrictive measures, many accommodation providers left the market, while the remaining actors decreased prices significantly. In their paper Kovalcsik et al. (2021) state that Hungary's tourism was not only influenced because of local restrictions, but more due to COVID-19's effect on other countries, the citizens of which Hungary is highly dependent on as source of visitors. This could be easily observed because even after the summer reopening made possible by the centralisation of decision-making with declaring state of emergency, international arrivals were in deficit compared to previous periods. Uzzoli et al. (2021) investigated the intensity of COVID-19 waves in different regions of Hungary. Their findings are consistent with previously mentioned papers describing the different degrees of influence on different regions (Boto & Mayor, 2022; Polemis, 2021; Almeida et al., 2022), and with Fekete et al. (2021) who examined crisis management during the Pandemic around areas of Lake Balaton. Palkovics (2022) researched tourism and economic development during COVID-19 in Hungary and the European Union. In Hungary, tourism experienced decreases in both guest traffic and revenue due to COVID-19.

This also negatively affected employment figures which further impacted the industry's performance. The author's conclusions align with previously mentioned studies (Hao et al., 2020; Niestadt, 2020; Knezevic et al., 2021).

In conclusion, previous papers have identified the influence of different locations on the impact of the Pandemic on tourism actors, with regions more reliant on international tourism experiencing the highest losses. The type of accommodation also affected the level of losses, as luxury hotels were the most vulnerable during COVID-19. Furthermore, independent facilities proved to be more resilient than firms in chain configuration throughout the Pandemic.

2.2. CORPORATE FINANCIAL RESILIENCE

Holling (1973) defines resilience as an organisation's ability to withstand shocks and adapt to changes while maintaining fundamental structure and functions. Financial resilience can be derived from this with the same logic. Using the thought process of Natale et al. (2022) the term corporate financial resilience can also be interpreted as the ability to endure rapid drops in revenue, increases in costs, and/or credit problems. A bibliometric study shows, the conceptual framework of resilience is gaining increasing attention in recent years. Primary domains of resilience research in business and economics are banking and trading, with the literature lacking studies on financial, and controlling dimensions of businesses. Even with an increasing number of papers in this subject it can be asserted that research on corporate resilience in Hungary is minor, with research on the tourism industry's resilience being virtually non-existent (Hegedűs, 2022). Also, the number of Google searches globally containing the word -although showing peaks at certain times- is not widespread with around 62 searches in the context of finance each day, on average. (Diagram #1) For the aforementioned reasons, the focus of this section will be to examine the development of corporate resilience research concentrating on definitions of resilience, followed by an assessment of international and Hungarian corporate resilience literature on COVID-19, then an analysis of resilience publications concerned with the tourism industry and its accommodation sector amidst the COVID-19 Pandemic. This paper does not make a distinction between organisational and corporate resilience.

According to Duchek (2019), the concept of corporate resilience has undergone a transformation in the last 30 years, as business and management researchers have imported the idea of resilience from other disciplines to better define and understand business survival in

threatening situations. The author groups corporate resilience perspectives into three groups. Researchers in the first group (Horne et al., 1998; Linnenluecke et al., 2012; Boin & Eeten, 2013) view resilience as the capacity to withstand adverse situations and recover from disturbances. Robert (2010) explains this as functioning on an acceptable level after such situations. The second group (Reinmoeller & Baardwijk, 2005; Vogus et al., 2007; Lengnick et al., 2011) understands resilience as the capability to adapt to continually changing environments through innovation in a way that makes the organisation stronger and gain a competitive advantage. In other words, this is maintaining, restoring, and advancing organisational processes. The third group of scholars (Somers, 2009; Boin & Eeten, 2013; Ortiz, 2016) complete the previous definitions by including anticipation. This implies that adverse situations and changing environment are a normal part of a firm's operation and managers must be prepared for such circumstances to ensure resilience. During challenging periods, the number of searches on financial resilience is increasing, and decreasing afterwards. (Diagram #1) This means the term intrigues people in adverse situations, leading us to our review of corporate resilience literature review during COVID-19.

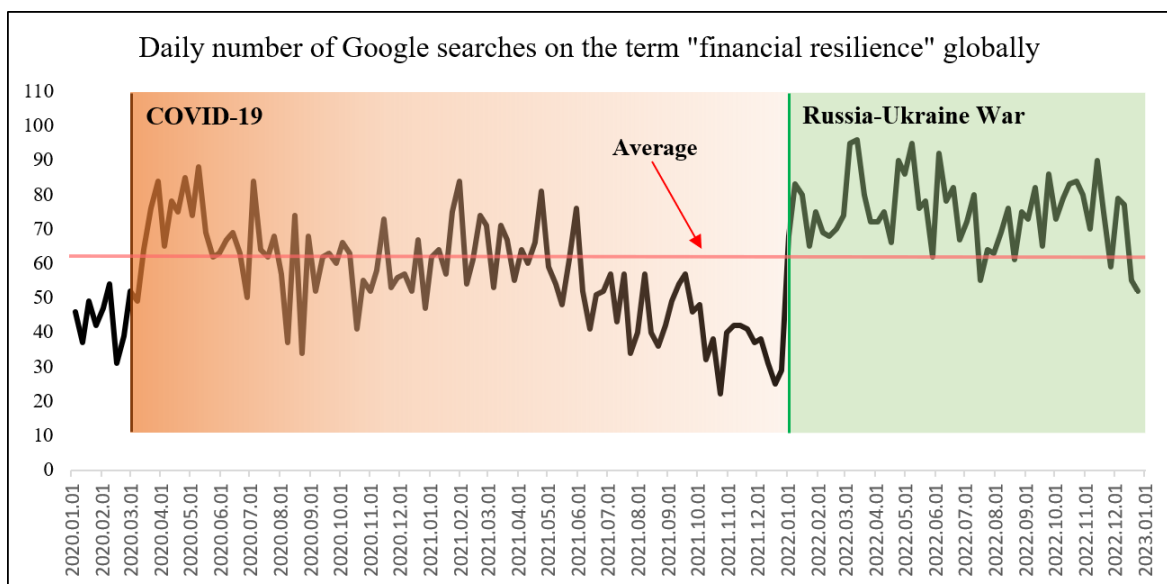


Diagram #1: Change in number of Google searches on financial resilience
Source: Google Trends (https://trends.google.com/trends/explore?cat=7&date=today%205-y&q=%2Fm%2F09y23_&hl=hu, Retrieved October 22, 2023)

To elaborate on the concept of corporate resilience and set this study into context, the following subsection will present literature concerned with COVID-19's effect on businesses from a resilience perspective. Studies will be listed according to decreasing popularity based on number of citations in the Google Scholar database. Fitriasisari (2020) used a qualitative

method to describe a resilient business model applicable to small and medium sized enterprises (SMEs) during the COVID-19 crisis. The author finds corporate resilience is highly influenced by product excellence, reliability, and people behaviour. It is also stated that using digital tools and acquiring digital skills further raises corporate resilience, while diversity, and social responsibility lead to a higher competitive advantage. Cheema et al. (2020) analysed the drivers of global stock returns in the COVID-19 period with a focus on stakeholder relations, using ordinary least squares regression. Their findings suggest that nurturing stakeholder relations during adverse situations does contribute to corporate resilience. Highlighting methodology, the authors recommend using machine learning to evaluate crisis management efforts in future research. Acciarini et al. (2021) used a qualitative case study approach to examine the resilience of four major firms in Italy. The main focus of the study was discovering the successful strategic responses against the most significant impacts of COVID-19, by interviewing company leaders. They find, those firms can remain resilient, which are able distinguish between short-term and long-term solutions, therefore granting competitive advantage. The paper's further conclusion resonates with Fitriasisari (2020) in that the role of digital tools is effective in developing an effective response to the COVID-19 crisis, thus ensuring resilience. Xia et al. (2022) also shares this perspective. Analysing the stock prices of Chinese listed firms in the context of COVID-19, they express several points on the relation of corporate resilience and digital finance. According to the scholars, digital finance contributes to corporate resilience by reducing financing costs and supporting external financing. They conclude furthermore that corporate resilience is more facilitated by digitalisation for small firms and low cash holding firms. The role of digitalisation to build corporate resilience is recognised in Hungarian research as well. Pogácsás & Szepesi (2023) investigated the national SME sector during the Pandemic using interviews with lawyers, accountants, bankers, and firm CEOs. They found that a number of the examined firms dealt with liquidity problems, for which reserves were used up and debt was borrowed. Besides the consensus on the contributing effect of digitalisation to corporate resilience, the authors agree with Fitriasisari (2020) that human resources proved to be of substantial value for employers in recent years.

Further analysing corporate resilience literature during COVID-19, we arrive at publications who concentrated on the tourism industry. Duro et al. (2021) studied the tourism industry of Spain to identify factors associated with vulnerability, and to develop a vulnerability index to COVID-19. The vulnerability of provinces depended on tourism intensity, tourism

density, accommodation supply, and seasonality. This study is connected to corporate resilience for two reasons. First, as the vulnerability of a province, or national region is influenced by the resilience of firms within. Second, because resilience can be defined as the complete opposite of vulnerability. Lombardi et al. (2021) conducted qualitative research on the resilience of the Italian hospitality sector. Using in-depth interviews with hotel managers the paper finds, the biggest contributing factor to resilient leadership in the sector is improvisation. The scholars find furthermore, improvisation can happen if leaders are in the system, and outside the system at the same time, focusing on short-term, and long-term goals simultaneously. Neise et al. (2021) used a binary logistic regression model paired with online surveys for managers to assess corporate resilience in the German hospitality sector. The study finds pre-Pandemic business problems and credit financing decrease the firms' resilience, while good service, property ownership, and owner age contributes to corporate resilience. Hamsal et al. (2022) examined the hotel industry in Indonesia during COVID-19 focusing on the effect of corporate resilience on performance. Using structural equation modelling they find dynamic capabilities are positively connected to corporate resilience and performance. As dynamic capabilities are strongly correlated to improvisation, the findings of Hamsal et al. (2022) are in line with those of Lombardi et al. (2021). Arimany et al. (2023) investigated the financial resilience of the Spanish wine sector during the COVID-19 crisis. With both a financial statement analysis, and a qualitative approach they found that the firms experienced decrease in margin and turnover, which could be balanced by larger firm size, greater firm age, subsidies, and higher share of women in management as these factors increase corporate resilience. Brune et al. (2023) examined the resilience of the agrotourism industry in the United States using a longitudinal qualitative approach. The authors' results indicate the sector not only withstood the Pandemic but could improve customer satisfaction by reorganisation strategies. They conclude furthermore, a diversified business model contributes to resilience. Keller et al. (2022) studied the management practices of Hungarian accommodation service providers during COVID-19 using questionnaires focusing on resilience. The researchers conclude, financial stability, human resources, financing, opening hours, clientele, and business structure can all influence crisis management, ultimately ensuring corporate resilience.

To conclude, corporate resilience scholars first imported the definition of resilience into business literature, and further developed it individually with three distinct observable groups. After this, they identified several aspects influencing corporate resilience. These

were service quality, reliability, age, location, financing, indebtedness, size, employees, diversity, and digital capabilities. After a literature review, it becomes evident that a lack of studies can be identified focusing on the financial and controlling aspects of corporate resilience in the context of COVID-19, and that currently existing definitions of corporate resilience cannot be perfectly described by a mathematical model. Another research gap can be recognised in the Hungarian literature, as popular internationally used approaches to assess resilience are absent. Hungary's tourism industry also lacks a profound analysis of its actors' resilience not only during COVID-19, but in preceding years as well.

2.3. QUALITATIVE DETERMINANTS OF CORPORATE RESILIENCE

Qualitative variables can help the reader better understand the methodology and focus of the study and enables the scholar to consider factors which would not be explicit when considering quantitative aspects only. Compared to using quantitative variables alone, employing a combination of qualitative and quantitative variables improves the representativeness of mathematical models. (Cantelmi et al., 2021) The focus of this subsection is on methodology, by examining the types of qualitative methods and variables. This will be done by first reviewing articles with a qualitative approach to corporate resilience during COVID-19, followed by a paragraph with a deeper dive into qualitative research on the tourism industry in a similar manner. This subsection will also include a concise description of the relationship between determining corporate resilience and failure prediction using quantitative models. Publications will be listed in order of decreasing popularity according to number of citations on the Google Scholar database.

Fitriasari (2020) used a Business Model Canvas (BMC) combined with SWOT analysis (strengths, weaknesses, opportunities, threats) to describe an easily applicable SME business model appropriate for long-term business development in the context of COVID-19. The paper presents the BMC with 9 interconnected boxes, taking customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structures into consideration. These aspects are crucial when SMEs determine their business model. Acciarini et al. (2021) conducted semi-structured interviews with Italian CEOs about COVID-19. The authors argue despite a single case offering depth of information, semi-structured interviews helped to consider all aspects. Davari et al. (2021) used a survey approach to test the dependence of corporate resilience on Porter's five forces (human resources, finance, supply chain management, marketing, per-

formance, and services), and the interrelation of these variables. To determine these, a Partial Least Squares (PLS) analysis was used, which supported all hypotheses based on the questionnaires. Nijwa et al. (2023) explored the effect of female leadership on corporate resilience in 24 countries during COVID-19 using an integrated multiple-moderation model. The correlation of female dominance and business resilience was analysed using qualitative variables such as country, firm size, firm age, female top management, and during-COVID-19 technology adoption. The results show a negative relationship between female domination and business resilience. Pogácsás & Szepesi (2023) used a questionnaire approach to determine the effects of COVID-19 on SMEs in Hungary concentrating on reactions, changes in operations, and future market circumstances. Questions were directed towards analysts, bankers, attorneys, accountants, and CEOs, who answered based on their own data collections. According to the professionals' answers corporate resilience was most influenced by external demand.

Lombardi et al. (2021) investigated Italian hospitality resilience using explanatory interviews with accommodation managers employed in the tourism industry. With 17 interviews the scholars achieved the saturation point for the research. Questions were on the topic of improvising and how it ensures resilience. The results indicate improvisation positively affects the hotels' corporate resilience. Further focusing on the Italian tourism industry, Casprini et al. (2022) analysed wineries through questionnaires received from 67 women-led wineries and 100 non-women led wineries. The questionnaires contained sections dedicated to general information about the company, long-term company growth goals, and information about the managers. Qualitative growth goals included innovation, improving service quality, and reinforcing brand image. The study finds resilience in non-women led wineries depends on qualitative growth goals. Arimany et al. (2023) was also concerned with the winery sector. The paper examined the resilience of 355 Spanish companies using the following qualitative variables: number of employees, firm age, subsidy received, workforce gender, exporting, region, and company type. The scholars developed a model in which they supplemented qualitative variables with quantitative variables. After this statistical analyses were conducted to arrive at the conclusion that larger firm size, greater age, higher share of women in workforce, and subsidies made contribution to financial resilience during COVID-19. Using longitudinal qualitative method Brune et al. (2023) investigated corporate resilience in the US agrotourism industry. They interviewed operators three times during 2020 in a semi-structured manner. Questions were about challenges the companies

faced during COVID-19 and the strategies to overcome those challenges. Using chaos theory, the study shows how agrotourism operators took advantage of uncertain circumstances during the Pandemic. Keller et al. (2022) conducted qualitative research on the Hungarian tourism industry's resilience during COVID-19. The authors sent structured open-end questionnaires to tourism managers on previous experiences with crises, risks associated with them, and if plans were developed for the ongoing Pandemic beforehand. The study finds firms identified pre-Pandemic risks well but plans for the crisis were not prepared.

In the view of this study's author, approaching corporate resilience from a quantitative perspective and the techniques of corporate failure prediction can be very similar. Many of the previously mentioned studies on corporate resilience during COVID-19 used regression models to determine the connection between variables (Boto & Mayor, 2022; Cheema et al., 2020; Neise et al. 2021), which can also be said for corporate failure prediction research in the same period, and prior to that as well (Kristóf et al., 2023; Pelaez & Loscertales, 2021; Ďurica et al., 2019). Because of this a similar approach is followed in this study.

In summary, many previous articles utilised qualitative tools and variables to better understand corporate resilience. Authors recognised that qualitative approaches enable clearer questions and provide straightforward results. Tools used were surveys, questionnaires, and interviews for managers and subject experts. Mathematical models were also developed using non-financial statement related variables focusing on indirect influencers of firm performance. Still, a research gap remains in that qualitative methods and variables are rarely paired with quantitative ones to improve findings.

2.4. HYPOTHESES

A study of previous literature shows that influencing factors of corporate resilience can be grouped into qualitative and quantitative classes. The quantitative research approach has been widely employed by scholars in the field of corporate resilience and bankruptcy prediction. An objective of this study is to enhance this approach by analysing the more evident underlying factors of corporate financial resilience. The primary focus of this research is to identify qualitative variables highly likely to be associated with resilience. These variables may offer more straightforward ways to advise in carrying constant levels of business flexibility and performance even in times of critical events. Hypotheses regarding the determinants of corporate resilience in the context of COVID-19 are identified as follows.

Scholars concerned with the resilience and corporate failure prediction research agree that sufficient financing and subsidies improve the stability of a company. Keller et al. (2022) state, this aspect influences crisis management, potentially ensuring resilience. This is further supported by Xia et al. (2022) who describe the importance of external financing. Arimany et al. (2023) also conclude that subsidies ensure resilience.

H1. Accommodation providers who received grant support are more resilient.

With regards to the location of the company Duro et al. (2021) indicate that tourism has substantial effect on a province's losses. Watson et al. (2021) highlight companies in counties with high reliance on tourism experienced higher losses, and Yang & Smith (2023) argue urban counties have lower short-term resilience.

H2. Accommodation providers in locations with less tourism activity are more resilient.

Hotel chains establish new facilities in locations with frequent tourism activity to earn higher income. Such accommodation providers need more resources and have slower decision-making processes due to their size. Because of this, Ozdemir et al. (2021) find independent facilities are less effected by the Pandemic than chain-configured ones.

H3. Accommodation providers with one facility are more resilient.

Regarding service quality, a hotel will faster recover from a downturn if its visitors have higher willingness to return after safety measures are eased. Fitriasisari (2020) highlights the importance of product excellence in contributing to corporate resilience.

H4. Accommodation providers with higher star ratings are more resilient.

A more diverse decision-making function helps approach problems from different perspectives. Fitriasisari (2020) argues diversity leads to higher competitive advantage. A higher percentage of women in management is said to be advantageous by Arimany et al. (2023), but female dominance reduces resilience. (Nijwa et al., 2023)

H5. Accommodation providers that have women in their management are more resilient.

3. METHODOLOGY

3.1. DATA AND VARIABLES

For the research population, Hungarian accommodation providers were investigated under the NACE code I.55 between 2017 and 2021, to best display the trends of the COVID-19 Pandemic on the financial data of the companies. These financial data were acquired from the Crefoport archive with several queries, then put together into one Microsoft Excel spreadsheet to form an initial database. To filter out companies with potentially unreliable financial data, the minimum turnover for 2020 was set to be 300 million HUF, thus arriving at a set of 163 firms. The creation of the initial database was followed by calculating financial ratios and trends potentially relevant for the analysis. For each of the five years, these were: (1) Current Ratio (Current assets / Current liabilities), (2) Debt Ratio (Total liability / (Total liability + Equity)), (3) Operating Margin (Operating profit / Net sales), (4) Earnings After Taxes Ratio (Profit after tax / Net sales), (5) Change in Net Sales, and (6) Change in Operating Profit. For each of the ratios, per each examined year the average, median, variance, minimum, and maximum values were calculated, and the lower and upper quartiles were determined.

After the calculation of ratios several errors appeared in the calculation fields, which highlighted the absence of data in the case of numerous companies. Overly large changes in Net Sales or Operating Profit also underlined problems. Mistakes in the database had to be corrected or deleted manually. To look deeper into the companies' history and financial statements, the E-cégjegyzék (<https://www.e-cegjegyzek.hu/>), and E-beszámoló (<https://e-beszamolo.im.gov.hu/oldal/kezdolap>) webpages were used. Both are operated by the Hungarian Ministry of Justice. Problems arose because:

- i. the company was founded in one of the examined years resulting in a performance jump in the following year,
- ii. there was a change in main business activity of the firm distorting the trend, or
- iii. there was missing data in the database.

In the first two cases the only possibility was to clear the database by deleting the firms with mentioned histories. In the third case, if the figures were found in the previously mentioned databases, the data were corrected, otherwise the firm was deleted. By the end of this procedure, 41 companies proved to have false or missing data, leaving 122 in the database. The closer examination of ratio trends still presented peculiar peaks and valleys. This

was because outliers and distortive data remained in the database. In this case the previously mentioned method was used (manually searching for each firm with problematic data in online archives). Companies were classified as outliers if their change in net income was out of the range of -9 and 5 times the 2019 value to 2020 and/or net sales between -0,9 and 0,2 times the value of 2019 to 2020. This decision was based on visual inspection of data using Tableau, the basis of which is shown in *Diagram #2*. After the last step of eliminating an additional 38 firms from the database, we have arrived at the cleared database of 84 firms with credible financial information.

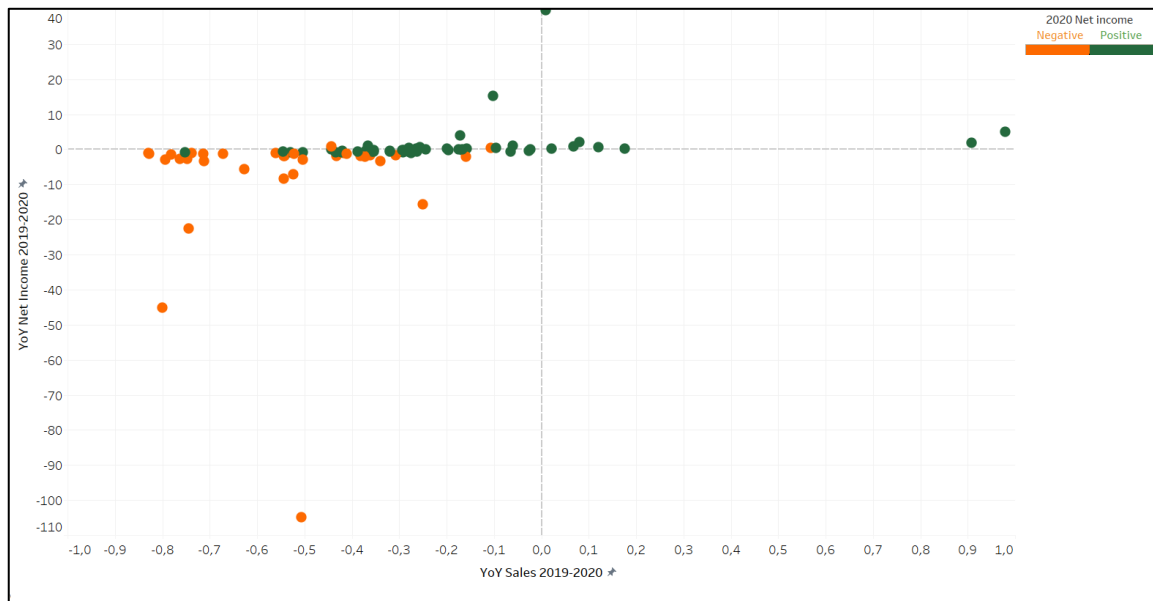


Diagram #2: Distribution of companies according to YoY Sales and Net Income

To divide the sample into two groups according to resilience for the statistical analysis, several classification methods were defined. According to the first one, a firm was non-resilient if it belonged to the lower quartile either in Net Sales, Current Ratio, or Operating Margin in 2020. The second method classified the non-resilient companies as those which belonged to the lower quartile in Change in Turnover, Current Ratio, or Operating Margin in 2020. The third method was to say those firms were non-resilient, whose Net Sales and Debt Ratio was in the lower quartile, or belonged to the lower quartile in Current Ratio, or in Operating Margin. The last method of classification using a quartile-based approach divided the firms into two groups, labelling them non-resilient if they were in the lower quartile according Change in Turnover, or if they had a negative Operating Margin in 2020. Due to significant commonality between the results of the discussed classification methods, and as they were not relevant enough to explain the effects of the Pandemic, the author rather

opted for the fifth technique. Instead of using quartiles to split the data, the averages were considered. Finally, firms were deemed non-resilient if the Net Sales or the Operating Profit fell more than the average from 2019 to 2020, otherwise they were prosperous. This was based on the idea that two factors influence the fall in a firm's performance during an economic crisis. The first one is that in case of an overall economic contraction the individual firms' financial resilience is forced downwards to a certain extent. This can be influenced by the second factor, which is the impact of managerial decisions within the firm. If the management's decisions are effective, there is a positive correction, otherwise the company is in a negative domain in performance compared to the industry average. For this reason, the Change in Net Sales was used to capture the economy's behaviour, and similarly, the Change in Operating Profit explains the effectiveness of management decisions to compensate for the effects of the COVID-19 Pandemic. Using this theoretical framework, a logit analysis was run.

After the analysis, the explanatory power of resilience remained to be weak. To assess this problem, two possible solutions were determined. The first approach was to redefine resilience. Examining the explanatory power of several definitions the following option proved to be the most successful:

Three levels of resilience (1-, 2-, 3resilient):

1. Resilient: Their profits either remained unchanged or relatively increased compared to the previous year despite a decline in revenue.¹
2. Moderately resilient: Their revenue declined, but their profits remained positive.
3. Non-resilient: Their revenue declined, and their profits are negative.

Next step was to determine the significance of each variable introduced into the model. For this box plotting, median test, chi square test, and ordinal logistic regression was utilised. Unfortunately, most of the variables could not hit the benchmark originally set. The second approach of improving the explanatory power of the model followed, which was to expand the list of variables. According to our previous findings, quantitative variables were less effective than qualitative ones, therefore, research was conducted on additional variables of this kind, and 9 new variables were introduced into the model, leaving 32 variables. Due to

¹ Due to only the interim change being taken into consideration, there are several companies who were identified as resilient despite reporting losses in 2020.

this data shortage emerged in several cases. After deleting the firms with absent data, the ultimate amount of 69 firms was ready for analysis.

The final list of 32 variables can be divided into financial ratios and qualitative measures. Financial ratios were included to assess company performance, leverage, solvency, liquidity, profitability, and efficiency. All of these were computed strictly from company reports. Because the Hungarian Act on Accounting carries substantial differences to IFRS or GAAP reporting the translation of variables might not show perfect consistency, but this does not affect the effectiveness of the study's results. To better understand the underlying factors contributing to the assessed financial traits qualitative variables were employed. Since the connection between some financial and qualitative variables is not evident, a number of popular qualitative variables were adopted from previously reviewed literature. In case of some variables, data was used from 2023 instead of 2019. This is because the availability of data was severely limited. In the view of this study's author, 2023 data can be accepted into the model, since the post-Pandemic state of variables does explain mid-Pandemic resilience of accommodation providers, only from a future perspective. The variables can be seen in Table #1 along with their identification number from X1 to X32, their name, explanation or method for calculation, category, year of calculation, and the literature in which they have been used or mentioned previously, respectively.

3.2. STATISTICAL ANALYSIS

In this study, to statistically analyse the variables, and their relation to resilience, ordinal logistic regression was used. The model is easily applicable as it does not assume normality of variables or homoskedasticity of groups. Logistic regression can be used in cases when the dependent variable (in this case, resilience) is categorical. For logistic regression to be effective, all independent variables need to be linear and independent of each other. (Alaka et al., 2018) Since a three-level approach was utilised to categorise accommodation providers into groups of differing resilience scales, the dependent variable can take three values between which the intervals are not equal. This means resilience can be measured on an ordinal scale, therefore, the appropriate mathematical tool for the analysis was ordinal logistic regression. For the analysis, companies deemed resilient are denoted as 1resilient, moderately resilient companies are denoted as 2resilient, and non-resilient ones are labelled as 3resilient.

ID	Name	Explanation/method for calculation	Category	Calculation year	Reference
X1	Current ratio	CA / CL	Financial	2019	New variable implemented upon the decision of the author
X2	Location	Budapest; tourist attraction area; other	Qualitative	2019	Watson et al. (2021); Yang & Smith (2023); Duro et al. (2021)
X3	Grant Support	Did the company receive grant support between 2015-2019 (yes/no)	Financial	2015-2018	Arimany et al. (2023), Xia et al. (2022); Keller et al. (2022)
X4	Public Tender	Did the company win public tender between 2015-2019 (yes/no)	Financial	2015-2019	Đurica et al. (2019)
X5	ROE with Retained Earnings	(Retained Earnings + Restricted Reserves) / Share Capital	Financial	2019	Đurica et al. (2019)
X6	Equity to Share Capital	Equity / Share Capital	Financial	2019	Đurica et al. (2019)
X7	Asset Turnover	Sales / Total Assets	Financial	2019	Đurica et al. (2019)
X8	Leverage	Liabilities / EBITDA	Financial	2019	Đurica et al. (2019)
X9	Return on Assets	Net Income / Total Assets	Financial	2019	Đurica et al. (2019)
X10	Working Capital to Total Assets	(CA - CL) / Total Assets	Financial	2019	Đurica et al. (2019)
X11	Debt ratio	Total Liabilities / Total Assets	Financial	2019	Đurica et al. (2019)
X12	CA ratio	Current Assets / Total Assets	Financial	2019	Đurica et al. (2019)
X13	CL ratio	Current Liabilities / Total Assets	Financial	2019	Đurica et al. (2019)
X14	Interest Coverage	Operating Profit / Interest Paid	Financial	2019	Đurica et al. (2019)
X15	Inventory Turnover	Stock / Sales	Financial	2019	Đurica et al. (2019)
X16	Net Profit Margin	Net Income / Sales	Financial	2019	Đurica et al. (2019)
X17	Long-Term Debt ratio	Non-Current Liabilities / Total Assets	Financial	2019	Đurica et al. (2019)
X18	Working Capital to Sales	(CA - CL) / Sales	Financial	2019	Đurica et al. (2019)
X19	Net Asset Turnover	Total Assets - CL / Sales	Financial	2019	Đurica et al. (2019)
X20	Working Capital	CA - CL	Financial	2019	Đurica et al. (2019)
X21	Material Expense to Sales	Material Type Expense / Net Sales Revenue	Financial	2019	New variable implemented upon the decision of the author
X22	Personal Expense to Sales	Personal Type Expense / Sales	Financial	2019	New variable implemented upon the decision of the author
X23	Depreciation to Sales	Depreciation / Sales	Financial	2019	New variable implemented upon the decision of the author
X24	Age of the Company	2019 minus the year of establishment	Qualitative	2019	Arimany et al. (2023)
X25	Number of Employees	From Crefoport database or individual websites	Qualitative	2023	Fitriasari (2020); Keller et al. (2022)

ID	Name	Explanation/method for calculation	Category	Calculation year	Reference
X26	Company Size	Logarithm of Assets	Financial	2023	Xia et al. (2022); Ari-many et al. (2023); Keller et al. (2022); Đurica et al. (2019)
X27	Google Reviews	1-5 where 5 is the best, as of September 8, 2023.	Qualitative	2023	Fitriasari (2020)
X28	Number of Google Reviews	As of September 8, 2023.	Qualitative	2023	Fitriasari (2020)
X29	Number of Stars	1-10 where 10 is the best, superior honour also considered	Qualitative	2023	Fitriasari (2020)
X30	Women in Management	Are there women among those listed as authorised signatories (yes/no)	Qualitative	2023	Fitriasari (2020); Ari-many et al. (2023); Nijwa et al. (2023);
X31	Chain/Non-Chain	Is the company configured as multiple or only one accommodation (chain/non-chain)	Qualitative	2023	Ozdemir et al. (2021)
X32	Type	Hotel; guesthouse; campground; holiday resort complex; communal lodging; private accommodation; other accommodation	Qualitative	2023	Ozdemir et al. (2021)

Table #1: The set of originally selected variables

4. RESULTS

Through the research process an ordinal logistic regression model was designed. For the statistical analysis, properties of the 32 variables presented in Table #1 were computed, which is described in Table #3. Recognising that a higher level of significance may be more permissive in detecting potential relationships and factors influencing corporate financial resilience, the level of significance was set to be a relatively high 10%. Thus, the number of significant variables was ultimately seven. The model classified firms into the prespecified resilience groups. 45 companies got assigned the right level of resilience, while 24 were classified into one different from that specified by the authors. The original model therefore classified 65.2% of companies into the right level of resilience, meaning it correctly predicted resilience with 65.2% accuracy. In other words, the predictive power of the model on the companies' resilience is 65.2%. The confusion matrices shown in Table #2 illustrate the classification pattern of the regression model in numerical terms and percentage terms as well. Diving into greater detail, two companies were incorrectly classified as resilient when they should have been labelled moderately resilient, with five classified as moderately resilient when they were in fact resilient. Five companies were assigned the tag resilient when they were not resilient in reality. Lastly, four companies that should have fallen into the moderately resilient category were mistakenly classified as not resilient. These findings demonstrate that the model has a tendency to assign companies into groups of higher resilience than in reality, resulting in an overestimation in the number of resilient and moderately resilient companies. Resilient companies amount to 15 in the model, while in reality this number is 13. The number of moderately resilient companies in the model is 32 with 25 observed in reality, and there are 22 not resilient companies in the model, different from the number of 31 observed.

		Observed		
		1	2	3
Comp.	1	8	2	5
	2	5	19	8
	3	0	4	18
		Observed		
		1	2	3
Comp.	1	11.6%	2.9%	7.2%
	2	7.2%	27.5%	11.6%
	3	0.0%	5.8%	26.1%

Table #2: Confusion matrices for the original model

Predictor	Coef	SE Coef	Z	P	Odds Ratio	Lower	Upper
Const(1)	4.53037	20.2471	0.22	0.823			
Const(2)	7.53937	20.2744	0.37	0.71			
X1	0.149377	0.270092	0.55	0.58	1.16	0.68	1.97
X2							
OTHER	3.72824	1.56375	2.38	0.017	41.61	1.94	891.7
TAA	2.18935	1.05839	2.07	0.039	8.93	1.12	71.08
X3	96.6674	50.2207	1.92	0.054	9.60E+41	0.17	5.37E+84
X4							
True	-1.38197	3.10357	-0.45	0.656	0.25	0	110.05
X5	0.683842	1.50216	0.46	0.649	1.98	0.1	37.64
X6	-0.00174	0.003742	-0.46	0.643	1	0.99	1.01
X7	1.98973	1.45834	1.36	0.172	7.31	0.42	127.49
X8	-0.03375	0.127263	-0.27	0.791	0.97	0.75	1.24
X9	-6.77334	7.6809	-0.88	0.378	0	0	3947.94
X10	-12.6764	6.53623	-1.94	0.052	0	0	1.14
X11	2.44453	3.26864	0.75	0.455	11.53	0.02	6981.06
X12	7.42265	4.9824	1.49	0.136	1673.47	0.1	29150148
X14	2.02E-05	0.000104	0.19	0.846	1	1	1
X15	-0.09729	0.791755	-0.12	0.902	0.91	0.19	4.28
X16	2.42259	8.5926	0.28	0.778	11.28	0	2.32E+08
X18	1.40734	1.91578	0.73	0.463	4.09	0.1	174.55
X19	-0.90654	0.501935	-1.81	0.071	0.4	0.15	1.08
X20	0	0	0.6	0.55	1	1	1
X21	-5.22038	5.16762	-1.01	0.312	0.01	0	135.36
X22	10.0918	5.84067	1.73	0.084	24143.08	0.26	2.26E+09
X23	-6.16336	17.2567	-0.36	0.721	0	0	1.03E+12
X24	-0.09016	0.07097	-1.27	0.204	0.91	0.8	1.05
X25	-0.00185	0.00402	-0.46	0.645	1	0.99	1.01
X26	0.007526	1.72059	0	0.997	1.01	0.03	29.37
X27	-2.69354	2.47107	-1.09	0.276	0.07	0	8.58
X28	0.000025	0.000263	0.09	0.924	1	1	1
X29	1.24154	0.747583	1.66	0.097	3.46	0.8	14.98
X30							
yes	0.084618	0.867932	0.1	0.922	1.09	0.2	5.96
X31							
Non-chain	-2.38451	1.33225	-1.79	0.073	0.09	0.01	1.25
X32							
campground	1.59473	9.40984	0.17	0.865	4.93	0	5.04E+08
communal lod- ging	100.418	707122	0	1	4.08E+43	0	*
private accom- modation	-103.043	353553	0	1	0	0	*
guesthouse	1.01787	3.42948	0.3	0.767	2.77	0	2297.37
hotel	-0.31263	1.91878	-0.16	0.871	0.73	0.02	31.44
holiday resort complex	0.143797	2.78205	0.05	0.959	1.15	0	269.49

Table #3: Descriptive statistics for the original model

Using backward elimination, a reduced model was computed containing only the significant variables. The descriptive statistics of this model are in Table #5. The seven variables remaining in the reduced model are *Location* (X2), *Grant Support* (X3), *Working capital to total assets* (X10), *Net asset turnover* (X19), *Personal expense to sales* (X22), *Number of stars* (X29), and *Chain/non-chain* (X31). The reduced model also carries the tendency to assign companies into groups of higher resilience than observed, with two companies classified as resilient when in fact they were moderately resilient, and ten as moderately resilient when they were observed as resilient. 18 accommodation providers were assigned to the moderately resilient group when in reality, they were not resilient. Two companies were misclassified in reverse, to the not resilient group while being moderately resilient. Lastly, five companies who were resilient got classified as not resilient. This reduced model classified 32 firms correctly, and 37 incorrectly. (Table #4) Thus, the predictive power of the reduced model is 46.3%, which is a significant reduction from the original.

		Observed		
		1	2	3
Comp.	1	3	2	5
	2	10	21	18
	3	0	2	8
		Observed		
		1	2	3
Comp.	1	4.3%	2.9%	7.2%
	2	14.5%	30.4%	26.1%
	3	0.0%	2.9%	11.6%

Table #4: Confusion matrices for the reduced model

Predictor	Coef	SE Coef	Z	P	Odds Ratio	Lower	Upper
Const(1)	-5.68968	1.47564	-3.86	0			
Const(2)	-3.53827	1.37245	-2.58	0.01			
X2							
OTHER	2.27216	0.855752	2.66	0.008	9.7	1.81	51.9
TAA	2.39553	0.727388	3.29	0.001	10.97	2.64	45.66
X3	11.7918	25.0429	0.47	0.638	132167.1	0	2.74E+26
X10	-1.06109	0.928587	-1.14	0.253	3.50E-01	0.06	2.14E+00
X19	-0.03276	0.03093	-1.06	0.29	0.97	0.91	1.03
X22	4.395	2.83113	1.55	0.121	81.04	0.32	20824.81
X29	0.577367	0.300381	1.92	0.055	1.78	0.99	3.21
X31							
Non-chain	-1.24756	0.686611	-1.82	0.069	0.29	0.07	1.1

Table #5: Descriptive statistics for the reduced model

With regards to the connection of the significant independent variables to the dependent variable, the *Location* (X2) variable carries three options for company identification. These are “Budapest”, “tourism attraction area”, and “other”. “Tourism attraction area”, and “other” showed a strong positive connection with the dependent variable, similar to the *Grant Support* (X3) variable which showed a very strong positive connection. The *Working Capital to Total Assets* (X10), and *Net Asset Turnover* (X19) variables showed a negative connection to the dependent variable, with *Personal Expense to Sales* (X22) having a strong positive connection. The *Number of Stars* (X29) variable is positively connected to the dependent variable, and the “non-chain” option of the *Chain/Non-Chain* (X31) variable showed a negative connection.

Examining the two models’ goodness of fit, the log-likelihood function of both have been computed. The log-likelihood of the original model is -43.403. Compared to this, the reduced model displays a considerably lower log-likelihood figure of -58.181. This indicates that the original model exhibits a superior level of goodness of fit compared to the reduced model. In other words, when using only the significant variables, the model experiences a reduction in its predictive capabilities.

5. DISCUSSION OF THE RESULTS

The discussion of the results focuses on the findings obtained from the analysis of the determinants of corporate financial resilience in the accommodation sector during the COVID-19 Pandemic. The study utilised an ordinal logistic regression model to identify significant variables that contribute to the resilience of accommodation providers. Grant support is in a very strong connection with corporate resilience, thus supporting the first hypothesis (*H1*). The locations classified as “other”, and “tourism attraction area” both show a positive connection with resilience, meaning we cannot fully accept nor reject the second hypothesis (*H2*). Operating in a non-chain configuration has a negative connection with resilience, thus the third hypothesis (*H3*) is not supported. A higher star rating is associated with higher resilience, therefore supporting the fourth hypothesis (*H4*). Having women in the management does not have a significant impact on resilience, meaning hypothesis number five (*H5*) is not supported.

5.1. INTERPRETATION OF RESULTS

The results indicate that the developed logistic regression model can classify companies into a group with the right level of resilience with a 65.2% accuracy, with a reduced model containing only the significant variables doing this at an accuracy level of 46.3%. The model tends to assign companies into groups of higher resilience levels than in reality, which is the main source of decrease in its accuracy. Most of the variables labelled as significant were qualitative. Those financial variables deemed significant by the model were in such a relationship with corporate resilience that it is impossible to interpret their interrelation in a professionally consistent manner.

The most significant influencing factor identified by the model is grant support, since it has the highest level of positive connection to corporate resilience. Accommodation providers that received financial support demonstrated substantially higher levels of resilience. This finding is consistent with previous studies that emphasise the importance of funding and subsidies to ensure stability (Keller et al., 2022; Xia et al., 2022; Arimany et al., 2023) and supports the first hypothesis (*H1*) of the study. Furthermore, based on the results of the model one can argue, the availability of external financial resources can play a crucial role in managing crises as they considerably improve resilience.

With regards to the second hypothesis (*H2*) the location of the accommodation providers does influence corporate resilience. Those operating in Budapest are less resilient since the

capital's tourism is more defined by international visitors as stated by Boros & Kovalcsik (2021). On the other hand, accommodation providers in locations labelled as "other" (meaning no substantial effect of the location on increasing tourism activity) proved to be of higher resilience, probably due to a lower dependence on international tourism arrivals. These findings partially support the second hypothesis (*H2*), suggesting that accommodation providers in locations with less tourism activity tend to be more resilient in the context of COVID-19. The location of tourism attraction areas also improve the corporate resilience of accommodation providers, which is not in line with the second hypothesis. Thus, it cannot be unambiguously determined whether the location variable does have an effect on corporate resilience, or not.

The third hypothesis (*H3*) cannot be supported. Although the configuration of accommodation providers does affect their resilience, non-chain managed establishments tend to disclose less resilience. This is because managing facilities as part of accommodation-chains carries advantages in stability and brand recognition compared to a single facility. This idea is opposing to the findings of Ozdemir et al. (2021). While it can be argued that a single unit should be superior in terms of agility and decision-making processes compared to chain managed enterprises, franchise establishments can have greater stability to adapt to changing circumstances and apply the necessary measures during crises with more profound understanding of industry dynamics, which has a more significant impact on resilience according to the model.

Concerning the fourth hypothesis (*H4*), the star rating of accommodation providers is associated with resilience, thus supporting the proposition. The findings of the model are in line with previous research stating higher product excellence is a contributing factor to corporate resilience (Fitriasari, 2020). Accommodation providers with higher star ratings showed higher levels of resilience, most likely since the recovery and shock absorption ability of facilities is dependent on the willingness of customers to return after the easing of measures. Thus, it can be argued that accommodation providers with higher ratings may have established a reputation for quality and customer satisfaction, which may contribute to their ability to recover more effectively from periods of crisis.

Lastly, hypothesis five (*H5*) is not supported, since the presence of women in the management of accommodation establishments does not have a significant impact on resilience, neither in a positive, nor in a negative way. As stated by previous studies (Arimany et al., 2023; Nijwa et al., 2023), gender diversity in management should increase resilience with

female dominance reducing it. This would suggest that a balanced decision-making function could help approach problems from different perspectives and increase competitive advantage (Fitriasari, 2020).

5.2. PRACTICAL RECOMMENDATIONS

Based on the results of the study and previous literature, practical advice on how to be prepared for pandemics, how to navigate through them, and what to focus on afterwards can be given to managers of accommodation providers operating in Hungary, and other industry practitioners.

1. **Ensure Sufficient Funding:** The financing aspect plays a crucial role in determining a company's ability to withstand crises. Based on the findings, it is advised that companies focus on improving their financial resilience by maintaining healthy funding levels, managing debt effectively, and exploring alternative sources of funding such as grant support. Additionally, implementing digital practices in regularly reviewing financial performance can help companies navigate challenging times.
2. **Adapt to Market Conditions:** The accommodation sector is highly influenced by external factors such as tourism activity and location. Based on the results of the study, it is recommended that companies closely monitor market conditions and adapt their strategies accordingly. This includes diversifying target markets and exploring new tourism opportunities.
3. **Consider Alternative Configurations:** The study highlights the advantages of chain-configured establishments in terms of stability and brand recognition. Based on this, it is recommended that companies consider the benefits of operating as parts of franchises. Chain accommodation providers may have greater stability to endure changing circumstances and apply necessary measures during crises. This can include greater financial power, more developed business processes, and the ability to attract new customers with a long history of quality through brand recognition.
4. **Emphasise Service Quality:** The findings of this study support the importance of prioritising service quality in contributing to corporate resilience. Companies should focus on delivering excellent customer experiences and ensuring high standards of service. This can be achieved through continuous training and development programs for staff, regular customer feedback assessments, and digitalisation.

5.3. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The model was implemented using a relatively small sample size of 69 firms. While the findings offer valuable insights into the resilience of accommodation providers with revenues of over 300 million HUF, caution should be exercised when generalising the results to the entire population. A larger sample size would have provided a more representative picture of the resilience dynamics within the sector.

Although the definition of resilience used in the study is professionally sound, refining it could improve the predictive power of the model. It is important to recognise that resilience is a versatile concept that can be interpreted in various ways. The chosen definition of resilience may have influenced the study's results and may not capture the full complexity of this construct. Future research could explore alternative definitions and implementations to gain a more comprehensive understanding of resilience in the accommodation sector.

Another limitation is the exclusion of companies with a positive change in turnover when assessing resilience. This approach may overlook the adaptive strategies and successful outcomes of companies that managed to thrive despite a decline in economic activity. Considering a broader range of accommodation providers and their preparatory measures to ensure stability could provide a more nuanced understanding of resilience and its relationship with financial variables.

Furthermore, the study highlights the contradictory nature of some financial variables associated with resilience. This suggests that the interpretation of these variables and their relationship with resilience may not be straightforward. The complex interplay between financial indicators and resilience warrants further investigation and analysis to better understand their dynamics.

It is important to note that the research did not utilise qualitative approaches such as interviews and questionnaires to get a deeper insight into industry dynamics. Using them, a direct insight could be gained on how each company's operators viewed their preparedness to the Pandemic, how they navigated through it, and what their thoughts are on future with upcoming trends such as digitalisation. To provide a more well-rounded perception, future research could consider employing such approaches.

Additionally, the study did not explicitly consider the influence of regulations and macroeconomic circumstances on resilience. External factors such as government policies, industry

regulations, and macroeconomic conditions can significantly impact the resilience of accommodation providers. The absence of these considerations may limit the study's ability to provide a comprehensive understanding of resilience in the sector. Future research could explore the role of regulatory frameworks and macroeconomic circumstances in shaping resilience outcomes.

6. CONCLUSION

In conclusion, this study aimed to investigate corporate financial resilience, by evaluating the accommodation sector of the tourism industry in Hungary, with a specific focus on the impact of the COVID-19 Pandemic. The research objectives were to assess corporate financial resilience during the crisis, develop a new resilience definition using publicly available data, identify qualitative determinants of resilience, and explore the theoretical and practical implications of the findings.

The key findings of this study shed light on the significant negative impact of the COVID-19 Pandemic on the tourism industry, particularly in the accommodation sector. The industry experienced a substantial downturn, highlighting the urgent need for companies to develop strategies to enhance their resilience in the face of such crises.

Financial resilience emerged as a crucial factor in determining a company's ability to withstand and recover from the challenges posed by the Pandemic. Maintaining healthy funding levels and exploring alternative sources of funding were identified as important elements in improving financial resilience. These findings align with previous research that emphasises the importance of financial stability in enhancing corporate resilience during crises.

Furthermore, the study identified several qualitative determinants of corporate resilience in the accommodation sector. Adapting to market conditions, considering alternative configurations, and emphasising service quality were found to be key factors in enhancing resilience. These findings highlight the importance of strategic decision-making and operational flexibility in navigating challenging times and ensuring the long-term sustainability of accommodation providers.

The theoretical implications of this study contribute to the existing literature on corporate resilience by examining its determinants in the context of the accommodation sector of the tourism industry. By integrating qualitative and quantitative measures, this research provides a comprehensive assessment of resilience factors. The findings expand our understanding of the specific determinants that contribute to corporate resilience in the face of crises, particularly in the tourism industry.

From a practical perspective, the findings of this study have important implications for industry practitioners, policymakers, and managers in the accommodation sector. The recommendations derived from this research, such as maintaining healthy funding levels, adapting

to market conditions, considering alternative configurations, and emphasising service quality, can guide decision-making processes and help organisations develop strategies to enhance their resilience. By implementing these recommendations, accommodation providers can better navigate crises and position themselves for long-term success.

It is important to acknowledge the limitations of this study. The relatively small sample size of 69 firms may limit the generalisability of the findings to the entire population of accommodation providers in Hungary. Additionally, the study focused solely on the accommodation sector of the tourism industry in Hungary, which may restrict the applicability of the findings to other sectors or countries. Future research with a larger sample size and broader industry coverage would enhance the generalisability of the findings. Using qualitative methods to gain deeper understanding is also advised for future papers.

This study contributes to the understanding of corporate resilience in the accommodation sector of the tourism industry, particularly in the context of the COVID-19 Pandemic. The findings highlight the importance of financial resilience, adaptation to market conditions, alternative configurations, and service quality in enhancing corporate resilience. The theoretical implications expand our knowledge of resilience determinants, while the practical implications provide valuable guidance for industry practitioners, policymakers, and managers in developing strategies to enhance corporate resilience. By publishing this paper new avenues are opened for further examining the Hungarian accommodation sector with regards to the Pandemic's long-term effects, and to differences between responses of separate countries. Further research is warranted to validate and extend these findings in different contexts and industries.

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