



Corporate Resilience and Performance in Food Industry SMEs During COVID-19

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Abstract

The small and medium entrepreneurs' and managers' main interest is to avoid the problems resulting from the economic and social crisis during COVID-19. One way to prevent these problems is to increase the organizations' resilience to achieve optimal business performance. Resilience helps with business continuity and performance, simultaneously assisting social, economic, and cultural policymakers and planners in their tasks. This study investigates the impact of corporate resilience dimensions on performance in the food SMEs industry in Iran during the COVID-19 era. After reviewing the literature on organizational resilience (planned and adaptive) based on Porter's value chain, the effects of five dimensions (human resources, marketing, finance, supply chain management, and services) on corporate performance were assessed. Ninety-five questionnaires were collected from food industry SMEs using the simple random sampling method. SPSS 26 and SMART PLS 2.0 were used to analyze the data. The results of data analysis with Partial Least Squares (PLS) showed that all dimensions had a positive effect on corporate performance because all the items had high t coefficients ($t > 1.96$). With GOF, the overall validation of the model is high. Appropriate changes in Porter's value chain components (Human Resources, Marketing, Finance, Supply Chain Management, and Services) under the COVID-19 influence have a positive effect on performance.

Keywords: Corporate Performance, Corporate Resilience, COVID-19, Food Industry SMEs

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1. Introduction

The COVID-19 pandemic has had a significant influence on the human condition around the world. This worldwide crisis has profoundly affected the development of the global economy and “[countries’] investment at the macro-level” (Bofinger et al., 2020; Dey & Loewenstein, 2020; Wang, Hong, Li & Gao, 2020). This calamity has additionally exerted negative impacts on the US and Europe. For example, Apple announced it expects a significant drop in its quarterly earnings (Apple, 2020). German Post declared an EBIT reduction in a range of 60 to 70 million euros (Bild, 2020). The pandemic has led to the inactivation of container shipping fleets (Retaildive, 2020). Meanwhile, Asia was also severely affected by COVID-19. The disease affected Iran’s economy only by reducing its GDP, but since the pandemic came as a shock to production, its effect was more lasting. In the first stage, it reduced Iran’s GDP by 1.9% (Sakhaei, Khorsandi, Mohammadi & Arbab, 2020). Therefore, recognizing the effects of COVID-19 on businesses, the economy, and GDP is of great significance (Motallebi, 2020).

Employment and having access to desired business opportunities are considered among the most basic needs of a given society. Therefore, eliminating unemployment as a social, economic, and cultural destructive phenomenon has been a crucial concern for policymakers and planners during the COVID-19 pandemic in different countries. Given the importance of small and medium enterprises in social development and the special attention of planners and development policymakers to this vital issue, policymakers need to adopt a policy suitable for the growth and development of small and medium-sized enterprises during the COVID-19 pandemic.

The COVID-19 crisis has impacted various business actors and start-ups. In different regions, many people have changed their shopping patterns and have turned to online platforms to address their basic needs (Indriastuti & Fuad, 2020). As a result, some businesses have expressed concern about their productivity, seeking to become more resilient (Ivanov, 2020; Verma & Gustafsson, 2020) and to consider changing their business system more quickly and efficiently (Verma & Gustafsson, 2020). The survival of businesses depends on their ability to respond to disruptions. Small businesses have more flexibility and creativity and are expected to be drivers of economic growth (Indriastuti & Fuad, 2020). When a crisis occurs, these firms either transform that challenge into an opportunity or try to seek new market opportunities to overcome it (Wang et al., 2020). Since the inception of Corona, many small and medium-sized businesses have faced declining sales, risks, and failures. Attention to the factor of resilience is important for adaptation to existing conditions and the development of businesses.

As a concept in catastrophe and business continuity management, resilience supports businesses to cope with disruptive events and manage them (Ghandour & Benwell, 2012). It focuses on bolstering response capabilities, risk reduction, and building a capacity for safety (Asgary, Azimi, & Anjum, 2013; Golan, Jernegan & Linkov, 2020). Firms' inherent resources and qualities that enable them to retain or restore their pre-disaster levels of functioning and achieve effective adaptation are referred to as resilience (Brewton, Danes, Stafford & Haynes, 2010). Businesses' resilience is mostly affected by their social capital, the availability of human resources, financial resources, and customer retention (Asgary et al., 2013).

Intuitively, it appears that those flexible firms that can quickly adjust to changing environments have been able to tackle the problem and maintain company continuity. That said, even large enterprises will fail when they are unable to adapt to a changing ecosystem. Certainly, they will need to rebalance their business when encountering a crisis. Thus, in crisis management, it is vital for companies to properly evaluate and analyze their business performance and review their business model components (Donthu & Gustafsson, 2020; Verma & Gustafsson, 2020).

As several studies have pointed out, COVID-19 influences the performance of firms (Prayag, Chowdhury, Spector & Orchiston, 2018; Corey & Deitch, 2011). Therefore, improving business resilience will be a crucial step to be taken by all small and large businesses around the world to overcome this tragic event, reduce the potential impact of the COVID-19 pandemic, and reinforce their resilience, all of which are essential in sustaining improving performance under uncertain conditions. The influence of resilience on business performance has not been examined among food industry firms. Specifically, we should note that post-disaster COVID-19 business performance is influenced by many factors, including human resources, marketing, finance, etc. This research aims to investigate the impact of resilience dimensions on business performance during COVID-19.

There are five key sections to the article. Following this introduction, Section 2 presents the conceptual model, study hypotheses, and theoretic connection between variables. The methodological path is presented in section 3 using the study design, data source and collection, and data treatment as examples. The results are presented in section 4 and a commentary is provided in light of the theory explored. The work's concluding thoughts are detailed in section 5, which summarizes the study's

findings and proposes suggestions to guide future research possibilities.

2. Conceptual Framework

2. 1. Corporate Performance

Performance is a critical factor in business development (Eke, Kalu & Gershon, 2019). According to Lebas and Euske (2006), performance is a combination of financial and non-financial metrics that provide information on the degree to which a firm's aims and outcomes have been met. There is no consensus on performance indices, as a result of which a broad range of financial and non-financial performance metrics exist (Yusaf, 2002; Combs, Crowk & Shook, 2005; Wiklund & Shepherd, 2005). COVID-19 caused firms to show more flexibility in coping with these situations to increase their resilience and ability to adapt. Thus, sustainability in performance is critical for any firm because, through this, these firms can evaluate their development and achieve efficient and effective results (Taouab & Issor, 2019).

In a traditional context, financial indexes such as cash flow, revenue growth rate, net profit, and return on investment were the most important performance measures due to the simplicity of small firms' operations (Dossi & Patelli, 2010; Taouab & Issor, 2019). Over the passing decades, technology has advanced and changes have occurred in the corporate world, resulting in firms' propensity to non-traditional approaches and their focus on quality, flexibility, and delivery (Ghalayini & Noble, 1996). Non-financial performance indicators usually refer to customers, internal processes, and human measurement perspectives (Dossi & Patelli, 2010).

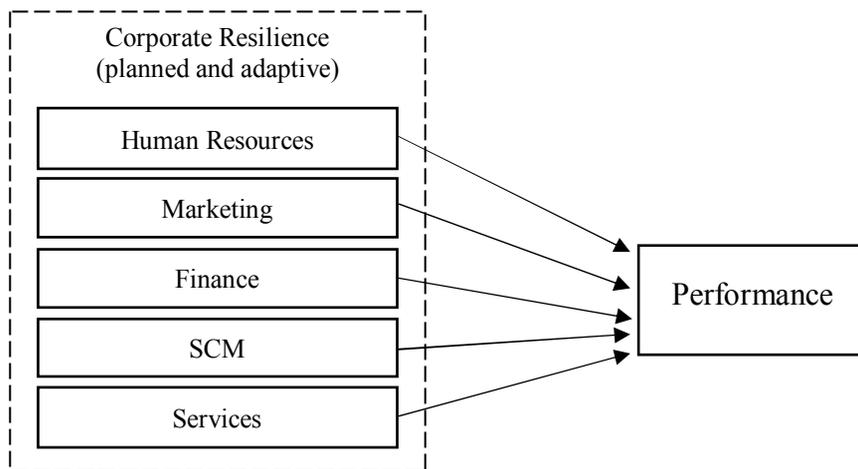
2. 2. Corporate Resilience

Corporate resilience is considered a crisis or emergency management strategy (McManus, Seville, Vargo & Brunson, 2008); hence market- and learning-oriented small businesses tend to be more resilient through strategic and operational readiness or rapidity, positive adjustments, or knowledge creation (Sheffi, 2007). Business resilience has several dimensions. Sincorá, Oliveira, Zanquetto-Filho and Ladeira (2018) consider three dimensions for organizational resilience: anticipation, adaptability, and recovery. Anticipation means risk identification; deviation monitoring; early detection of disruptions; early detection of opportunities; strong predictive capacity; adaptability means process modification; simulation of processes; technological advancement; application of continual improvement; high adaptability, and recovery refers to the organization of reaction teams; transmission of information; public relations management; disruption mitigation; and good recovery capacity (Sincorá, et al., 2018). In a study by Lee, Vargo, and Seville (2013), it is propounded that resilience has two dimensions: planned and adaptive (Lee, Vargo & Seville, 2013). Whereas pre-disaster resilience is planned, post-disaster adaptive resilience arises and involves leadership, external connections, internal cooperation, the ability to learn from previous events, and staff well-being (Nilakant, Walker, Heugen, Baird & Vries, 2014). According to McManus et al. (2008), there are three essential elements comprising company resiliency: situation awareness, control of keystone vulnerabilities, and adaptive capacity. The understanding and perception of an organization's operational environment are referred to as "situation awareness". The operational and managerial components of an organization prone to suffering significant negative consequences in a crisis are referred to as

keystone vulnerabilities. Finally, adaptive capability describes an organization's culture and dynamics that enable it to make timely and appropriate decisions in both ordinary circumstances and emergencies (McManus et al., 2008).

The recent pandemic has increased the importance of the value chain of the production section (Dilyard, Zhao & You, 2021). Value chain analysis provides insights into the elements that bring greater value to the customers and demonstrates the activities that can quickly reduce cost, optimize effort, eliminate waste, increase profitability, and improve firm performance and resilience (Gamble, Savage & Icenogle, 2004). The purpose of this study is to investigate the impact of resilience dimensions based on some of Porter's value chain elements (finance, human resources, marketing, services, and supply chain) on performance during the COVID-19 era. Accordingly, Figure 1 outlines the conceptual model of this research. In the next step, the main dimensions of this research are examined.

Figure 1. The conceptual model of the research



Source: Authors

2. 2. 1. Financial Factors

After the outbreak of COVID-19, consumers have become more conservative in their spending habits, preferring to cut out unnecessary costs, resulting in a drop in income for certain businesses in the first quarter of 2020 (Wang et al., 2020). According to the UNWTO (2020) report, the spread of COVID-19 resulted in a loss of 2.4 to 3.0 percent of GDP in major economies during 2020. Such a loss places significant pressure on many businesses to control the reduction in revenue and to manage the financial crisis in these uncertain conditions. The disruptions in trade flow caused some commodity prices to increment from March 2019 up to now (Arouna, Soulier, del Villar, & Demont, 2020). Some governments attempted to assist SMEs in surviving by enacting new policies such as deferring debt repayments to banks (Indriastuti & Fuad, 2020).

In sum, many businesses need to develop strategies to improve their sales, income, and cash flow (Indriastuti & Fuad, 2020). Small business leaders must be resilient (Giritli Nygren & Olofsson, 2020). SMEs (small and medium enterprises) that are resilient will be able to identify new resources and ways to address problems (Asgary et al., 2013). For example, business owners can use revenue and spending reports to evaluate products that are costly and must be kept under control. Monitoring company transactions may also be beneficial, as it allows business owners to immediately reconcile bank accounts on all cash and bank accounts (Indriastuti & Fuad, 2020). Meanwhile, cost elimination or reduction for the firm can be maintained by the B2B interaction between the company and all of its stakeholders (workers, suppliers, consumers, community, and investors) (Sheth, 2020). As a whole, using specific strategies to maintain business cash-flow levels, analyzing

business obligations and emergency cases, delaying debt repayments, increasing access to financial supporting options such as loans, stopping investing in less necessary projects, and reducing unnecessary expenses is suggested. These strategies might prove helpful to increase the business's financial resilience and lead to higher business performance. As we have seen, planned and adaptive measures are essential in a financial context. We propose the first hypothesis as follows:

H1: Financial actions during COVID-19 will have a positive effect on performance.

2. 2. 2. Human Resources

Firms are inevitably thrown into crisis due to disasters (Benson & Clay, 2004). Many studies on crisis management focus on human resource management (Sanchez, Korbin & Viscarra, 1995; Lee & Warner, 2005; Harvey & Haines Iii, 2005). Yet, according to the existing literature on corporate resilience, employee (Paton & Johnston, 2001), staff engagement, and involvement (Asgary et al., 2013) are the most critical factors positively linked with resilience.

The COVID-19 pandemic has immediate, short-term, and broad effects on job shifts (Spurk & Straub, 2020). Since human resource management is one of the supportive activities in the Porter value chain (1985), many firms try to use flexible employment relationships such as Gig workers (Spurk & Straub, 2020) instead of regular ones (Kalleberg, 2000). Gig work is a form of temporary contract employment that uses a digital platform to link self-employed individuals with clients (Spreitzer, Cameron & Garrett, 2017). It provides more boundaryless careers, new opportunities, more resources, a greater possibility for work-life integration, and

greater job autonomy (Chen, Rossi, Chevalier & Oehlsen, 2019). Working from home, teleworking, quarantine sick leave, and technology jobs where a percentage of the gross salary is paid to the employees are among the solutions for human resource support and retention (Ioan, 2020).

Some managers make an effort to assist their employees in adapting to and coping with major changes taking place in the social environment while also enhancing the relationship-oriented human resources systems (Carnevale & Hatak, 2020). For example, quick adjustment means putting in place new policies and procedures in the workplace to reduce human contact and shifting full-time workers to a remote work environment (Carnevale & Hatak, 2020). These activities may enhance employees' capacity to flourish in such dynamic and uncertain times, which contribute to employee wellness (Donthu & Gustafsson, 2020) and stronger performance by the firms. Therefore, planned and adaptive measures are essential in human resources, and we propose the second hypothesis as follows:

H2: Actions by human resources during COVID-19 will have a positive effect on performance.

2. 2. 3. Marketing and Sales

Demand and supply patterns have been disturbed by COVID-19 (Pantano, Pizzi, Scarpi & Dennis, 2020), and service industries have been decimated (Donthu & Gustafsson, 2020). Widespread company closures to combat the pandemic have resulted in a decrease in aggregate supply, while concurrent reductions in consumption and investment have led to a decline in demand (Seetharaman, 2020) and altered customer purchasing behavior

(Wang et al., 2020). Due to surges in demand for critical commodities, plant closures, and shifts in customer preference from physical to online purchasing, the global production system has been harmed (Ivanov, 2020). Firms have faced a sharp reduction in orders, insufficient demand, a general increase in raw material prices, cost pressures such as rent, wages, and taxes, and difficulty finding alternative suppliers in the midst of a crisis (Wen, Wei, & Wang, 2020). All these things will harm the firm's sustainability (Indriastuti & Fuad, 2020) and urge it to plan to reach a desirable resilience. Since organizational resiliency is an indicator of a healthy business and competitive advantage (Pal, Torstensson & Mattila, 2011), one of the business managers' tasks will be to decide how to improve their business models and adapt their marketing strategies to overcome the environmental uncertainty in the times of crisis.

According to Naidoo (2010), marketing innovations assist companies in surviving hazards. In contrast to technology innovations, which require a lengthy research and development cycle, marketing innovations may be rapidly adapted to meet changing client demands. In addition, marketing innovations are recognized as a viable business strategy (Wang et al., 2020). Hunt & Morgan (1995) describe marketing innovation as a company's commitment to utilizing new or enhanced marketing strategies to efficiently use its resources to satisfy consumer demand and generate greater customer value. It consists of firm sales KPI analysis, concentration on the firm's capability, and collaboration and partnership with other businesses in sales and marketing to improve firm performance.

Some researchers have proposed digital marketing as the best solution. Business owners can conduct digital marketing analysis to

determine if they have good performance. Digital marketing is known as a special tool for proactively developing and enhancing customer experience as well as establishing a sense of trust on a large scale. It also offers an effective tool for learning about customers and their needs (Indriastuti & Fuad, 2020).

It is recommended to draw on suitable scenarios and marketing strategies that support firms to concentrate on the core segment of their market, prioritize valuable customers, and understand their problems. Thus, we can state that planned and adaptive measures are essential in marketing; Therefore, the third hypothesis is:

H3: Marketing actions during COVID-19 will have a positive effect on performance.

2. 2. 4. Supply Chain

Supply chains are becoming more complicated as the globe becomes increasingly linked. The global expansion of COVID-19 has raised concerns among stakeholders, customers, trade partners, suppliers, and investors in the business supply chain (Sherman, 2020; Donthu & Gustafsson, 2020; Ivanov, 2020). Many countries have reduced their exports and supply availability across the global supply chains (Ivanov, 2020).

The temporary unavailability of several manufacturers, suppliers, distribution centers, and transportation linkages (Ivanov, 2020; Verma & Gustafsson, 2020) caused a radical change in demand patterns for raw materials and heightened the risk of supply chain and network instability on a global and regional scale (Golan et al., 2020; Sheth, 2020). In other words, the coronavirus risk is an unpredictable, scaled-down, and long-term disruption which affects supply and demand infrastructure (Ivanov, 2020),

services structure, and supply chain management infrastructure and networks (Golan et al., 2020). As a result, supply chain management innovation leads to improved risk management skills and, consequently, a competitive advantage (Kwak, Seo & Mason, 2018).

Because suppliers, transportation, and the command and control network have all been affected by the pandemic, comprehensive resilience analytics are required to prevent catastrophic failure (Golan et al., 2020). Supply chain resilience refers to a company's ability to prepare for and respond quickly to unexpected risks, enabling the company to recover to its original state or grow by moving to a new, more desirable state in which customer service, market share, and financial performance will be improved (Golan et al., 2020). The company might revert to its previous condition or improve customer service, market share, and financial performance by transitioning to a new, more desirable state (Ribeiro & Barbosa-Povoa, 2018).

Businesses need a guided framework for developing a pandemic plan for their value chain to achieve resilience. For a resilient value chain, companies must rethink launching appropriate strategies for transforming and modifying the overall approach of their supply chain models, including services and logistical parts. Therefore, an operating model with less complexity and a more flexible, decentralized, and consistent risk management system to improve firm performance will be needed.

Focusing on the social elements of a supply chain, particularly collaboration with non-traditional supply chain partners, will play a significant role in shifting from supply chain to value chain resilience in a pandemic calamity such as COVID-19 (Golan et al., 2020). Another solution is using digital approaches and online

technologies (Indriastuti & Fuad, 2020) by looking for other digital platforms and replacements to identify new ways of delivering businesses' products and services with minimal physical contact and safely to the customers, which can also link buyers and sellers of raw materials (Indriastuti & Fuad, 2020). These businesses can use new technologies and digital skills such as drones, artificial intelligence, large data analytics, the internet of things (Donthu & Gustafsson, 2020), and smart contracts through Blockchain platforms (Dolgui et al. 2020) to overcome the crisis, increase their resilience (Giritli Nygren & Olofsson, 2020), and plan for their sustainability during and after this pandemic (Donthu & Gustafsson, 2020; Indriastuti & Fuad, 2020; Verma & Gustafsson, 2020).

Assessing and planning for maximum efficiency in the transportation network during a pandemic, which leads to the establishment of a healthier workforce and better performance, is another essential step in sustaining a resilient supply chain (Ganin et al., 2017). However, managers must integrate the transportation network into the supply chain resilience model to improve the functions of the supply chain (Golan et al., 2020). Therefore, planned and adaptive measures are crucial in the supply chain. The fourth hypothesis is as follows:

H4: Actions of supply chain management during COVID-19 will have a positive effect on performance.

2.2.5. Services

The COVID-19 pandemic might contain some opportunities for firms. This pandemic should not be a barrier to business. It can be the right moment for SMEs to improve the quality of their products or services and to develop various strategies for offering goods or

services based on their business's concerns (Indriastuti & Fuad, 2020). To be successful in the new ecosystem, firms need to be agile and possess dynamic capabilities that increase their adaptability to changing times (Seetharaman, 2020).

Crisis management will not be possible without integrated information technology (Sheth, 2020). Optimistically, the coronavirus calamity may provide several opportunities for most businesses to increase their digitization degree to be more resilient and maintain the continuity that leads to higher performance. Using robust and sustainable strategies (Verma & Gustafsson, 2020) such as transforming offline stores to online purchases (Indriastuti & Fuad, 2020), employing the methods and processes that are responsive rather than reactive (Chesbrough, 2020), utilizing digital devices for education and remote work, implementing autonomous vehicles, environmental innovations (Huynh, 2020; Verma & Gustafsson, 2020), and other systems such as integrating scattered data through CRM into an integrated database of customers, suppliers, community and employees (Sheth, 2020), using social media platforms and channels (Huynh, 2020), cloud-based accounting services, tracking inventory, sales, and expenses as well as creating workflows all help businesses and companies save their valuable time (Indriastuti & Fuad, 2020), explore new opportunities to develop new product/services and radically adapt to the crisis by remaining visible, agile, and productive (Chesbrough, 2020). Thus, the fifth hypothesis of this research will be that planned and adaptive measures are vital in services. The fifth hypothesis is:

H5: Service management actions during COVID-19 will have a positive effect on performance.

3. Methodology

This research examined the influence of organizational resilience on performance among SMEs in the food industry, such as beverages, dairy products, pasta, edible oils, canned meats, vegetables, etc. The risk faced by the food industry is lower than other industries during the COVID-19 crisis. That said, it is evident that the food industry value chain has different levels of resilience (Monastyrnaya, Joerin, Dawoe & Six, 2016).

In this study, a survey approach was utilized to collect data and test the research hypotheses. The participants in the survey were from the SMEs of the food industry during COVID-19 in Iran. A simple random sampling method was used, and a questionnaire was designed to measure organizational resilience and performance. This study uses Smart PLS 2.0., running the analysis using the Partial Least Squares (PLS) regression approach (Becker, Ringle & Sarstedt, 2018; Ringle, Wende & Will, 2005). PLS is a multivariate linear regression model extension that considers the latent structure of both dependent and independent variables. It is a variance-based structural equation modeling approach with fewer requirements in terms of measurement scales, sample size, and residual distributions (Hair, Ringle & Sarstedt, 2012), giving it greater leeway in predicting beta coefficients in the proposed model. PLS repeatedly decomposes the matrices for dependent and independent variables into their latent structures, ensuring that the latent structure of independent variables captures the most variance in the dependent variable in the most statistically sound way possible. The PLS approach can estimate complicated prediction paths with a large number of indicators compared to the sample size. Factor loading, significant t-value, composite reliability, or CR, Cronbach's alpha, or Alpha (both for internal reliability), average variance extracted, or AVE, are all terms used in data analysis.

3. 1. Data Analysis and Results

The quality of the research or constructs is demonstrated in this study by identifying and measuring the quality of constructs using reliable and valid measurement. In addition to having faith in the study's conclusions, this study also has confidence in the measurement quality (Noar 2003). In the next step, 95 electronic questionnaires were collected. After that, the Smart PLS software was run to calculate the instrument's reliability and validity coefficients. Internal reliability was calculated (the calculation coefficients are composite reliability and Cronbach's alpha), and AVE was also measured. According to table 1, the instruments' alpha and CR scores are acceptable; because the alpha and CR values are more than 0.7, the tools' dependability will be confirmed. Meanwhile, convergent validity will be acceptable and strong when all construct AVE values are more than 0.5.

Table 1. Quality of Measurement Variables

| Variables | Cronbach's Alpha | Composite Reliability | AVE |
|-------------------------|------------------|-----------------------|-------|
| Human Resource | 0.684 | 0.809 | 0.519 |
| Marketing | 0.784 | 0.839 | 0.510 |
| Finance | 0.561 | 0.772 | 0.532 |
| Supply chain management | 0.792 | 0.840 | 0.522 |
| Services | 0.752 | 0.835 | 0.507 |
| Performance | 0.869 | 0.896 | 0.521 |

Source: Authors

This study compared the correlation coefficients between the paired variables. Table 2 shows the correlation coefficients between the paired variables. All correlations were less than 0.80, and square root AVEs were greater than correlations for all

constructs. The original publication contains detailed findings for the confirmatory analysis (Pappas, Kourouthanassis Giannakos & Chrissikopoulos, 2016).

Table 2. Correlation between the Variables

| Variables | Human Resource | Finance | Supply chain management | Marketing | Performance | Services |
|-------------------------|----------------|---------|-------------------------|-----------|-------------|----------|
| Human Resource | 0.720 | | | | | |
| Finance | 0.514 | 0.729 | | | | |
| Supply chain management | 0.371 | 0.403 | 0.722 | | | |
| Marketing | 0.392 | 0.358 | 0.453 | 0.714 | | |
| Performance | 0.495 | 0.435 | 0.263 | 0.426 | 0.715 | |
| Services | 0.524 | 0.407 | 0.384 | 0.351 | 0.411 | 0.712 |

Source: Authors

The markers for the items of questionnaire validity that Smart PLS has evaluated include significant t-values (t-tests), factor loadings, and the GoF measure. All item factor loadings must be greater than 4.0. When an item's factor loading is less than 0.4, it must be removed or modified, and the model must be rerun. The analysis of factor loadings and significant t-value tests is given in Table 3. The t-value coefficients are computed; to achieve a sufficient degree of validity, the T-value must be greater than 1.96. As shown in Table 3, all of the items have high t coefficients ($t > 1.96$).

The markers for the items of questionnaire validity that Smart PLS has evaluated include significant t-values (t-tests), factor loadings, and the GoF measure. All items of factor loading must be greater than 4.0. When an item's factor loading is less than 0.4, it must be removed or modified, and the model must be rerun. Thus, 20 questionnaire questions with a T-value of less than 1.96 or a

factor loading of less than 0.4 were deleted. Table 3 shows factor loadings analysis and significant t-value tests. Of course, all factor loadings are greater than 0.4. Some items are under 0.4 and hence deleted. The t-value coefficients are computed; to achieve a sufficient degree of validity, the T-value must be greater than 1.96. As shown in Table 3, all of the items have high t coefficients ($t > 1.96$).

Table 3. Factor Loading and T-value

| Constructs | Sub-constructs | | Factor loading | T-value |
|-------------------------|-------------------|-----|----------------|---------|
| Human Resource | Human Resource 5 | Q1 | 0.806 | 137.167 |
| | Human Resource 6 | Q2 | 0.809 | 103.351 |
| | Human Resource 7 | Q3 | 0.637 | 42.026 |
| | Human Resource 10 | Q4 | 0.604 | 42.278 |
| Marketing | Marketing 2 | Q5 | 0.693 | 42.739 |
| | Marketing 3 | Q6 | 0.695 | 47.793 |
| | Marketing 8 | Q7 | 0.696 | 44.233 |
| | Marketing 11 | Q8 | 0.753 | 64.591 |
| | Marketing 13 | Q9 | 0.733 | 66.685 |
| Finance | Finance 1 | Q10 | 0.793 | 72.144 |
| | Finance 3 | Q11 | 0.648 | 31.638 |
| | Finance 8 | Q12 | 0.741 | 45.260 |
| Supply chain management | SCM1 | Q13 | 0.843 | 84.613 |
| | SCM2 | Q14 | 0.654 | 29.340 |
| | SCM3 | Q15 | 0.744 | 54.069 |
| | SCM4 | Q16 | 0.845 | 105.530 |
| | SCM5 | Q17 | 0.456 | 14.913 |

← Continue the table 3

| Constructs | Sub-constructs | | Factor loading | T-value |
|-------------|-----------------|-----|----------------|---------|
| Services | Services 1 | Q18 | 0.700 | 58.000 |
| | Services 2 | Q19 | 0.767 | 74.113 |
| | Services3 | Q20 | 0.802 | 111.350 |
| | Services 4 | Q21 | 0.540 | 36.651 |
| | Services5 | Q22 | 0.723 | 50.873 |
| Performance | performance 1 | Q23 | 0.790 | 123.145 |
| | performance 2 | Q24 | 0.799 | 129.573 |
| | performance 3 | Q25 | 0.607 | 45.570 |
| | l performance 4 | Q26 | 0.622 | 46.778 |
| | performance 5 | Q27 | 0.701 | 59.502 |
| | Performance 6 | Q28 | 0.798 | 127.544 |
| | Performance 7 | Q29 | 0.747 | 192.647 |
| | Performance 8 | Q30 | 0.681 | 64.412 |

Source: Authors

Finally, this study calculated the Goodness of Fit (GoF) using the formula below. $GoF = \sqrt{com} \times \overline{R^2} = \sqrt{0 / 518 \times 0 / 351} = 0 / 426$

To assess the overall predictive power of PLS-SEM, the Goodness of Fit (GoF) index is defined as the geometric mean of the average communality and mean R² for all endogenous components of the model and its dimensions (Akter, D'Ambra & Ray, 2011). The entire validation of the model will be authorized if the GoF value is greater than 0.36. In this research, the overall validation of the model is high.

Table 4 illustrates the hypothesis test and assessment of the current state of the entrepreneurial environment during COVID-19

(the standard deviation, coefficient of variation, and examination of research hypotheses). On a five-point Likert scale, the mean score of the entrepreneurial ecosystem components has been estimated at lower than 3. All of the theories have been accepted, as shown in the table. As a result, all aspects of the entrepreneurial ecosystem have an impact on performance during COVID-19.

Table 4. Coefficient of variation and examination of research hypotheses
(Structural Model Evaluation Result)

| | Hypothesis | Standard Deviation (STDEV) | Coefficient of variation | T-value | Result |
|----|--|----------------------------|--------------------------|---------|----------|
| H1 | Actions planned and adaptive for finance during COVID-19 will have a positive effect on performance. | 0.016 | 0.188 | 11.942 | Accepted |
| H2 | Actions planned and adaptive for human resources during COVID-19 will have a positive effect on performance. | 0.018 | 0.256 | 14.470 | Accepted |
| H3 | Actions planned and adaptive for marketing during COVID-19 will have a positive effect on performance. | 0.015 | 0.240 | 15.932 | Accepted |
| H4 | Actions planned and adaptive for supply chain management Actions during COVID-19 will have a positive effect on performance. | 0.015 | 0.271 | 4.707 | Accepted |
| H5 | Actions planned and adaptive for services management actions during COVID-19 will have a positive effect on performance. | 0.017 | 0.143 | 8.206 | Accepted |

Source: Authors

4. Discussion and Concluding Remarks

Corporate resilience refers to an organization's ability to quickly respond to interruptions without a halt in its operation. As a result, resilience is referred to as business continuity and performance that helps policymakers and planners to alleviate unemployment in the face of economic and cultural crises. This study extends previous research on the resilience and performance of small firms under uncertain conditions after the COVID-19 pandemic. The findings indicated the positive effect of planned and adaptive measures encompassing the five dimensions of resilience on a firm's performance during COVID-19. Having confirmed the research hypotheses, our study additionally demonstrated that appropriate changes in Porter's value chain components (Human Resources, Marketing, Finance, Supply Chain Management, and Services) under the COVID-19 influence have a positive effect on performance.

This research noticed some changes in consumer spending attitudes following the outbreak of COVID-19, which tended to be more cautious and resulted in a significant drop in firms' revenue. Data analysis shows that finance can support SMEs' survival by executing new policies and that some firms' actions, such as decreasing unnecessary expenses, positively affect firms' resilience and performance improvement. Therefore, the H1 is accepted, as demonstrated by Wang et al. (2020) and Indriastuti and Fuad (2020). Implementation of strategies to maintain business cash-flow level, analyzing business obligations and emergency cases, delaying debt repayments, increasing access to financial support options such as loans, stopping investing in low-priority projects, and reducing unnecessary expenses is suggested to counter the detrimental effects of the pandemic. All these measures can be

helpful to increase the business's financial resilience and lead to higher business performance. Human resource management is a necessary action when encountering crises. The COVID-19 pandemic has a noticeable effect on altering employee management and structure in different ways. As the results have demonstrated, making these changes has a positive impact on firm performance and, at the next level, on its resilience. Consequently, H2 is accepted and is shown to be consistent with previous studies (Donthu & Gustafsson, 2020; Carnevale & Hatak, 2020; Lee & Warner, 2005; Harvey & Haines Iii, 2005). We suggest SMEs implement their strategies in three separate parts for human resource management: using prevention strategies, utilizing maintenance policies, and implementing employee empowerment.

When a crisis occurs, one of the business managers' tasks is to decide how to improve their business models and adapt their marketing strategies to overcome environmental uncertainty. Similar to Seetharaman (2020) and Wang et al. (2020), and according to H3 acceptance, using appropriate marketing strategies for encountering COVID-19 uncertainty will support the improvement of the firms' performance. According to the results, we recommend firms use suitable scenarios and marketing strategies that help them concentrate on the core segment of their market, prioritize valuable customers, and understand their problems.

As mentioned above, the spread of COVID-19 across the world has increased uncertainty among the different parts of the business supply chain. As the two hypotheses were accepted, it can be stated that services and supply chain management in the supply chain can facilitate safe purchasing as well as comfortable delivery and therefore enhance firm performance. This conclusion is consistent

with previous studies (Golan et al., 2020; Sheth, 2020, Sherman, 2020; Donthu & Gustafsson, 2020; Ivanov, 2020). Thus, using new technologies, digital skills, and identifying new ways of delivering businesses' products and services with minimal physical contact and safely to the customers is appreciated and will sustainability improve SME during and after the COVID-19 pandemic.

As a suggestion for future research on the topic discussed, it is possible to evaluate in more detail the extent to which each level of finance, human resources, marketing, SCM, and services leads to performance. This investigation will explore an aspect of organizational resilience that could result in high performance levels and will be considered a method for representing the process performance of that particular aspect. The results demonstrate that actions planned and adaptive for resilience (finance, human resources, marketing, SCM, and services) during COVID-19 will have a positive effect on performance. Furthermore, future studies should be developed that utilize the same concept as the present study but use a qualitative approach. As a result, new and groundbreaking knowledge about the linkages between the dimensions investigated here will possibly emerge, each of which might be based on comparative case studies, single case studies, or even unique types of action research. This study indicates several implications for managers as well. First, the model provides additional insight into the area of performance. Managers can use this process knowledge to increase performance during COVID-19. Second, managers are encouraged to examine finance, human resource, marketing, SCM, and service connectedness to ensure enhanced performances. New methods for evaluating performance during COVID-19 could additionally be deployed.

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