

SMALL STARTUPS AND SEED FUNDING AMID COVID-19: CHALLENGES AND OPPORTUNITIES

By

Faezah Imran

ABSTRACT

This study examined developments in the seed funding landscape and the opportunities and challenges faced by SMEs during the COVID-19 pandemic, with a focus on the UK. Semi-structured interviews with investors and business owners revealed that reduced customer demand, limited supply chains and restricted start-up finance are key issues facing SMEs but epidemic provided new opportunities for entrepreneurs who quickly changed course and modified Government support schemes like Bounce Back Loan Scheme (BBLs) and Coronavirus Business Interruption Loan Scheme (CBILs) have also shown significant performance. Shortcomings of the study, however, include its small sample size, qualitative approach and limited focus on the UK. Further research should look at the long-term impact of the pandemic on corporate models, the psychological effects of entrepreneurs, and the changing preferences of investors for initial funding. This study provided insight into the resilience of unpredictable situations and helped to understand how small businesses dealt with the outbreak.

Keywords: Small startups, Seed funding, COVID-19 pandemic, Business resilience

INTRODUCTION

The COVID-19 epidemic has had a profound effect on economies around the world, upending long-standing corporate structures and forcing industries to reevaluate their strategies and operational procedures. There has been ambiguity regarding the trajectory of COVID-19 and its long-term health and economic consequences from the outset. At the time, officials were unaware of the virus's potential economic implications or the possibility of a pandemic (McKibbin and Fernando, 2023). Small firms which sometimes have few resources and rely largely on seed investment to support development, are among those most affected (Harel, 2021). It led to a number of issues, including a decline in business activity, temporary business closures, personnel issues, and supply chain interruptions. However, some business owners profited from the unrest as well. For example, it made it possible to rethink, adjust, or introduce new business

models as a means of effectively mitigating the pandemic's effects (Newman, Obschonka, and Block, 2022).

For these entrepreneurs, the epidemic has brought about a kind of paradox: although the business climate has grown more difficult, new opportunities have also surfaced, particularly for those that can innovate and react fast. Newman, Obschonka and Block (2022) claim that small firms are in danger of going bankrupt and are dealing with an unprecedented detrimental impact on their operations. Similarly, studies show that smaller companies are more susceptible to market, financial, operational, and economic risks (Shafi, Liu, and Ren, 2020). In light of the current crisis, they are also more likely to reduce innovation and R&D spending. As laid-off workers start their own businesses and entrepreneurs attempt to meet the rapidly changing needs of both individuals and companies, the coronavirus pandemic has also resulted in an increase in the number of businesses being established in many of the world's largest economies, according to Financial Times (2020). In recent months, the US, UK, France, Germany and Japan have seen impressive increases in new company shares being listed on stock exchanges despite the significant loss of global economic activity caused by Covid-19 (Mishrif, 2024).

The COVID-19 pandemic had a significant impact on small business operations, causing unheard-of challenges such as low economic activity, supply chain disruptions and limited access to seed funds. This study aims to explore how these companies overcame these challenge.

Aim

The objective of this study was to explore the barriers and opportunities that small businesses and seed investors face during the COVID-19 pandemic, as well as identify the characteristics that allowed some businesses to thrive despite the economic downturn.

Objectives

- To explore the operational issues faced by SMEs during the COVID-19 pandemic in UK.
- To analyse the impact of the epidemic on seed funding and economic policy of UK.
- To explore ways for small businesses to adapt to the changing business environment during a pandemic in UK.
- To determine the influence of supportive ecosystems in promoting small company resilience during the epidemic in UK.

LITERATURE REVIEW

The global economy has been thrown off balance, and the COVID-19 pandemic is changing the game for companies in every industry. Even if the number of deaths and injuries increases, the economic damage is already evident and represents the biggest economic shock the world has seen in decades (World Bank Group, 2020). Young entrepreneurs, known for their innovation and nimbleness, but with the usual constraints of money and resources, were especially wounded. The literature on small businesses and seed investment in the context of COVID-19 highlights several important issues: entrepreneurial challenges, financial sustainability, financial uncertainty, digital transformation, remote workers, and necessity if biologically supported. Quarantine laws, which were believed to contain the virus, particularly affected the service. Compared to the manufacturing sector, this industry depends more on micro and small businesses, and physical proximity is frequently crucial (Belitski et al., 2022). This review provides a thorough grasp of the potential and challenges facing small companies during the pandemic by synthesising previous research and theoretical approaches.

Economic Uncertainty and Funding Dynamics during pandemic

One major effect of the COVID-19 pandemic has been economic uncertainty, which has an impact on investment patterns, business operations, and consumer behaviour. According to Pak et al. (2020), the implementation of disease mitigation measures in numerous countries has led to notable declines in income, a rise in unemployment, and disturbances in the transportation, service, and industrial sectors. It is now clear that most governments around the world misjudged the risks of COVID-19 spreading swiftly and responded to the problem mostly in a reactive way. Studies Dreger (2022); Khan (2022) show that the recession brought on by the pandemic resulted in a decline in consumer spending, a decrease of economic activity, and an increase in financial market volatility.

The use of social media during the COVID-19 pandemic has had a significant impact on small businesses that often rely on face-to-face communication and community engagement. Newman, Obschonka and Block (2022) also emphasised the fact that a crisis is an unforeseen circumstance that presents a serious risk to people, businesses, and the economy. A crisis will not affect every business or entrepreneur, but those that do are typically characterised by challenging macro-level outcomes and a range of micro-level ramifications. These factors have forced companies to

rapidly adapt new strategies, such as switching to online communications or changing their service offerings to align with healthcare guidelines. These changes have changed business culture, and speed and digital transformation have become essential for survival. The need to innovate quickly within the limits of social distance created an environment of uncertainty, especially for small businesses that tend to operate on tight budgets and rely on cash flows permanent and external investment on the large scale.

Seed funding was a vital source of capital for entrepreneurs prior to the epidemic, allowing them to create teams, develop products, and penetrate markets. Additionally, Guckenbiehl and Corral de Zubielqui (2022) said that many start-ups were facing financial difficulties as a result of nearly stagnant markets, declining sales, and difficulties finding finance since investors were less willing to make investments. But investment objectives and risk tolerance changed as a result of the pandemic. Additionally, Dash and Maitra (2022) recommended that policymakers consider this matter from the perspective of financial market stability because the pandemic's uncertainty and the sentiment implications that go along with it could be a credible cause of the market's increased volatility and illiquidity.

Operational Challenges and Strategic Adaptation for entrepreneurs

The pandemic's operational difficulties have compelled entrepreneurs to quickly adjust to new circumstances. The greatest economic downturn since the Great Depression was brought on by pandemic-related lockdowns (Chaturvedi and Karri, 2021). Lockdowns, social distancing policies, and supply chain interruptions have made major changes to the way firms run necessary. By the end of March 2020 nearly 4 months after significant coronavirus infections were first discovered in China the majority of developed economies had implemented policies limiting people's activities and movements within their borders, tightened border controls, and enforced social distancing norms. Governments came to the conclusion that limits were necessary to lower the disease's human cost, albeit only gradually (Bodenstein, Corsetti and Guerrieri, 2022). Numerous studies on the impact of these shocks on small businesses (Katsaliaki, Galetsi and Kumar, 2022; Williams Jr. et al., 2020) have highlighted the importance of strategic adaptation and agility.

During the COVID-19 pandemic, many small businesses faced unprecedented operational challenges due to lockdown policies and market disruption. In handling operational issues,

Hazaa, Almaqtari and Al-Swidi (2021) highlight the importance of crisis management and contingency planning. They claimed that in addition to controlling the problem, a prompt, constructive, and successful response to the crisis can enhance market share, enhance employee relations, and enhance public perception. Numerous studies (Kuckertz *et al.*, 2020); (Guckenbiehl and Corral de Zubielqui, 2022) indicate that companies with strong crisis management systems were better equipped to deal with the disruptions caused by the epidemic. Numerous creative startups were in danger of ceasing to exist due to the lockdown measures implemented in reaction to the recent coronavirus outbreak. Startups are effectively responding to the crisis by making the most of their existing resources, but this puts their potential for growth and innovation at jeopardy. Therefore, policy actions should include both first aid measures that alleviate the strain caused by restricted cashflow for startups and long-term measures that are incorporated into and supported by the larger entrepreneurial ecosystem in order to assure speedy recovery and growth. However, many new start-ups were at risk of closure due to the financial constraints of the announced plans. While these businesses have been shown to be resilient by augmenting existing resources, this type of acquisition often threatens their growth and innovation and is therefore necessary that systemic action addresses financial constraints and includes immediate assistance and long-term assistance. These findings are consistent with the broader literature on organizational resilience, which emphasizes the importance of adaptability and resilience in coping with external aggression.

Research gaps

The literature on small businesses and seed investment during COVID-19, whilst emphasising important topics, nevertheless has a number of significant gaps, especially when it comes to the UK context. Without sufficiently examining the long-term consequences on startups and small firms, such as changes in business models and survival rates over time, the majority of research (Chaturvedi and Karri, 2021) has concentrated on the pandemic's immediate repercussions, such as financial limitations and operational difficulties. For instance, research specific to the UK (Mason and Hruskova, 2021) demonstrates a notable drop in startup funding in the early phases of the pandemic, but it does not provide a thorough examination of how these companies have modified their approaches to maintain operations and obtain funding over the long run.

Furthermore, although several studies (Jallow, Renukappa and Suresh, 2021) have examined the negative consequences of social distancing on the UK service industry, less is known about how other industries particularly those that depend less on physical proximity have handled the pandemic's difficulties. Furthermore, there has not been a lot of research done in the literature on the effectiveness of specific UK government support initiatives, including the Coronavirus Business Interruption Loan Scheme (CBILS) and the Bounce Back Loan Scheme (BLS), in helping small businesses during the crisis.

Furthermore, despite the focus on remote work and digital transformation, the ways in which UK small businesses deal with these changes have not been fully explored, including performance, organisational culture and employee wellbeing. How they can change, than to focus on the initial changes in the economic recovery brought about by the pandemic. Finally, the psychological effects such as stress and burnout among UK business owners are still little understood although they are important for understanding and determining resilience throughout the pandemic. This gap suggests that it further research is needed to understand the opportunities and challenges faced by small businesses in the post-pandemic UK presence.

METHODOLOGY

The present study examines the opportunities and challenges of small business and seed finance in the context of COVID-19 through a qualitative approach including thematic analysis and semi-structured interviews. Combining in-depth data from multiple approaches, this approach aims to provide a better understanding of the experiences and strategies used by SMEs during the pandemic. Details include research design, data collection methods, sampling procedures and feedback. The following provides a summary of the research methods used in this study.

Research Design

A qualitative study design was chosen to better reflect the complex experiences of SMEs during the COVID-19 pandemic. Applied and scholarly qualitative research is essential to explore human experiences. Qualitative research is particularly valuable for capturing the multidimensional experiences of individuals and is crucial for understanding complex phenomena. It requires subjective experience to develop knowledge that is often not possible in quantitative studies (Hall and Liebenberg, 2024). By looking at the possibilities, challenges and implications encountered in understanding the participants' conceptual understanding, this

framework facilitates a deeper analysis of the process. The aim of this study is to create a correct narrative based on the actual experiences of investors and business owners during this historical period. An attempt has been made to compile a comprehensive story based on the actual experiences of traders and investors during the COVID-19 pandemic. The aim of the study is to focus on these intimate experiences and better understand the opportunities, problems and strategies they face at this particular point in time. This approach allows for a comprehensive examination of how small businesses and seed ventures have responded to the impact of the pandemic, adding important insights to the broader debate about economic resilience and adaptability.

Data Collection Method

Key data were collected using semi-structured interviews with investors and entrepreneurs involved in seed finance and small businesses in the UK. Semi-structured interviews have been conducted for this study. There is a continuum of qualitative interviews, from structured interviews to free-flowing, exploratory exchanges. Unstructured interviews are extreme and use techniques such as phenomenology, grounded theory, and ethnography. These interviews involve dynamic processes that vary from participant to participant and change according to their responses (Magaldi and Berler, 2020).

Sampling Strategy

Participants who had firsthand knowledge of small companies and seed financing during the COVID-19 pandemic were selected using a purposive sample technique. A relatively small and properly selected sample may be used in a qualitative study to enhance the depth (rather than the breadth) of understanding. By finding and choosing situations that would maximise the utilisation of the limited research resources available, purposeful sampling seeks to "select respondents that are most likely to yield appropriate and useful information" (Campbell et al., 2020). The sample consists of entrepreneurs and the founders or co-founders of small businesses of UK that have been in operation for two years or more and have dealt with the pandemic's effects. Furthermore, investors that have actively supported entrepreneurs throughout the pandemic in UK. Five participants were chosen out of a total of those who were recruited through professional networks, online startup communities, and referrals.

Data Analysis

A thematic analysis approach has been used to undertake data analysis, which entails finding, examining, and summarising patterns (themes) within the data. Thematic analysis is one "kind of qualitative analysis" that is used in the process of "presenting themes (patterns) that relate to the data" and "analysing classifications." Accordingly, "thematic analysis" refers to a pattern-finding technique that comprises closely examining and rereading the text to identify key themes, sometimes known as "theories" or "approaches" (Sovacool, Iskandarova, and Hall, 2023).

Ethical Considerations

The entire study procedure has been guided by the highest ethical standards. Before being interviewed, all participants provided informed consent confirming that they understood the purpose of the study, their rights, and the confidentiality of their responses. Ensure that participants are informed of study the purpose, potential benefits and drawbacks, and how to make an informed and participatory decision on whether to intervene. The goal is also to protect welfare (Arellano, Alcubilla, and Leguízamo, 2023).

RESULTS AND ANALYSIS

Results of semi-structured interviews with investors and entrepreneurs involved in seed finance and small and medium-sized enterprises (SMEs) in the UK during the COVID-19 program are arranged in this part based on major themes. The study's goals, which are to create a thorough grasp of the opportunities and difficulties SMEs experienced during the epidemic, align with the goals of.

Theme 1: Operational Challenges Faced by Small Enterprises During the COVID-19 Pandemic

The first theme that emerged from the interviews highlights the challenges facing small business operating throughout the epidemic. Participants detailed obstacles, such as supply disruption, reduced customer demand, challenges in sustaining business activity due to withdrawal orders between people and for the sake of systems of engagement.

One businessperson (Participant 1) mentioned,

"Our supply chain has been badly hurt. Many of our suppliers were overseas, and international trade and travel restrictions caused significant delays in receiving our products."

These problems often forced companies to look for new suppliers at higher costs or to modify their supply chains. Additionally, Panwar, Pinksey, and De Marchi (2022) contended that a number of factors, such as an unexpected spike in demand for particular products, unexpected shifts in demand points, supply shortages, a logistical crisis, and an exceptionally rapid recovery in major economies, have contributed to the COVID-19 pandemic-related supply-chain disruptions of a scale never seen before.

Participant 2, a small business owner, shared his experience,

"We faced severe cash flow issues when our sales plummeted overnight. Fixed costs still needed to be paid, so we were forced to make tough decisions, including what it includes reducing staff hours and letting some employees go. It was unfortunate but to maintain it. It was important to keep the business running."

Theme 2: Impact on Seed Funding Dynamics and Investment Patterns

The impact of the epidemic on seed economy growth and economic policy is a secondary issue. Interviews indicate that the COVID-19-related economic uncertainty has changed investor behaviour, which has impacted SMEs' access to start-up funding. Many entrepreneurs and investors said risk aversion increased greater in investors during the epidemic. The unstable state of the economy made many investors reluctant to make significant investments in new businesses.

An investor (Participant 3) stated,

"We witnessed a lot of investors turning back in the early months of the pandemic. They desired to postpone making any new investments in order to observe how events unfolded."

This conservative attitude caused seed investment to slow down, which made it harder for entrepreneurs to get the funding they required to stay alive and expand. Huber, Huber, and Kirchler (2021) further underlined how unique the stock market crash and global financial crisis linked to the COVID-19 pandemic are, combining concerns about the pandemic's possible appearance with a global financial crisis (a stock market meltdown). Like each previous major economic downturn, a number of factors are influencing behaviour simultaneously.

Participant 5, an entrepreneur, shared his experience,

"During the pandemic, we saw a clear shift in investor interest towards technology-driven solutions and healthcare innovation. Traditional business models faced a tough time attracting capital unless they pivoted to digital or another medium that obviously fits the new market."

Theme 3: Strategies for Adapting to the Changing Business Climate

The third theme looks at the tactics used by small companies to adjust to the pandemic's quickly shifting business environment. A lot of people stressed the importance of adaptability and creativity in order to survive and prosper in the new setting. Numerous business owners stated that in order to adjust their business models to the changing market conditions, they had to make a pivot. For instance, several companies created new goods and services that were in demand during the pandemic or switched to internet sales platforms.

As one person (Participant 4) put it,

"We realised very soon that we had to go to digital. In a matter of weeks, we launched an online store and began providing home delivery services. Although difficult, it assisted us in gaining new clients."

Maintaining revenue sources and reaching customers who couldn't visit physical stores required these pivots. Businesses that are handling the Covid-19 pandemic and the ensuing recession well, according to HBR (2020), have often switched to a corporate strategy that is supportive of both short-term survival and long-term resilience and growth. These companies range in size from local eateries to multinational conglomerates like Unilever and Spotify. But not every pivot results in profitable outcomes for the business. Three requirements need to be fulfilled: First, pivots must align the organisation with one or more of the long-term trends that the pandemic has made worse. Second, pivots ought to be a lateral extension of the business's present competencies, bolstering its strategic objective rather than undermining it. Thirdly, pivots must offer a sustainable path to profitability that preserves and enhances the brand's perceived value in the eyes of consumers.

Participant 3 shared his experience in this regard,

"We had to start making decisions every week instead of the usual quarterly reviews. It was about agility responding to changes in customer needs, adjusting to changes in inventory levels."

Theme 4: Role of Supportive Ecosystems in Promoting Small Business Resilience

The last theme looks at how ecosystems that support small enterprises can help them be resilient during a pandemic. The significance of external support networks such as government initiatives, business affiliations, and community initiatives was deliberated by the participants. Peer networks and industry associations also offered crucial assistance by serving as platforms for exchanging crisis management techniques and best practices.

One person (Participant 5) said,

"One excellent resource was our industry association. They hosted webinars and disseminated details on the adjustments being made by companies similar to ours. Knowing we weren't alone was comforting."

These networks made it easier for companies to get resources, gain knowledge from the experiences of others, and keep up with changing market trends and obstacles. Acquiring technology or information, utilising networking, collaborating with other parties on product creation, etc. are all examples of open innovation. Businesses can use the Open Innovation model to use both external and internal channels while also learning from outside sources (Harel, 2021).

Participant 2 shared an example of how local government policies helped sustain their business:

"The local council initiated a support program specifically for small businesses affected by COVID-19. The funding helped cover our rent and utilities during the months of our sale in terms of money. It was recognition that our community values our contributions."

Discussion

The study's conclusions show that during the COVID-19 epidemic, small businesses had substantial operational difficulties as well as changes in the financing landscape. The main obstacles that the companies had to deal with were financial problems, inadequate technology, government infrastructure assistance, and organisational preparedness. In order to overcome organisational preparedness and budgetary restrictions, the founders strongly emphasised marketing, strategic networking, product and service offers, and digitalisation (Chaturvedi and Karri, 2021). Declining customer demand, disrupted supply chains and limited access to finance are major challenges for many entrepreneurs. There were serious risks associated with the COVID-19 pandemic for all vendors, businesses, and industries. According to Younis et al.

(2023), these risks are associated with finance, supply and demand, deteriorating sales, and loss of profitability. The crisis did, however, also significantly speed up digital transformation and lead to the adoption of new business models, demonstrating the flexibility and tenacity of small enterprises. There were also changes in the seed economy during the contagion, with investor input highlighted sectors that have proven resilience and flexibility, taking extra precautions to avoid risk.

CONCLUSION

Global small startups and seed funding have never-before-seen opportunities and challenges because to the COVID-19 epidemic. The present study investigates the operational challenges that small enterprises have encountered, including but not limited to supply chain interruptions, decreased consumer demand, and limited access to seed money. These companies have had to manage an unstable economic environment at the same time that is being made worse by quickly changing consumer expectations and market dynamics. However, despite these challenges, there have also been opportunities, particularly for startups that can quickly innovate, pivot, and adapt to new business models and procedures. The need of resilience, adaptability, and strategic adaptation in the face of outside shocks is highlighted by this contradiction of increased risk and opportunity.

This study provides useful information, but it should be highlighted that it has several limitations that could restrict how broadly relevant the findings are. First off, because the study is qualitative and mostly relies on semi-structured interviews, its conclusions are necessarily context- and subject-specific. This approach may not fully reflect the variety of factors influencing small firms and seed funding dynamics across various areas or industries, even while it does allow for an in-depth analysis of individual experiences and strategies. Second, because the study was mostly conducted in the UK, its findings might not be as applicable in other nations with different legal frameworks, economic systems, or attitudes towards entrepreneurship. Additionally, the sample size is still rather small, even though it is adequate for qualitative analysis. This could imply the exclusion of other perspectives that could provide a more complete understanding of the pandemic's implications on seed funding and small businesses.

There exist several avenues for future research to further elaborate on the findings of this study. One topic worth looking into is how the COVID-19 epidemic has affected small business

survival rates over the long run and how business models have changed over time. Such studies could shed light on how entrepreneurs are adjusting to life after the epidemic and whether the tactics they used to get through the crisis have led to resilience and continuous growth. Future studies may also examine the extent to which government programs like as the Bounce Back Loan Scheme (BBLs) and the Coronavirus Business Interruption Loan Scheme (CBILs) aided in the recovery and resilience of small businesses both during and after the epidemic.

References

- Arellano, A.L., Alcubilla, P. and Leguizamo, L. (2023) 'Ethical considerations in informed consent', in. Available at: <https://doi.org/10.5772/intechopen.1001319>.
- Belitski, M. et al. (2022) 'Economic effects of the COVID-19 pandemic on entrepreneurship and small businesses', *Small Business Economics*, 58(2), pp. 593–609.
- Bodenstein, M., Corsetti, G. and Guerrieri, L. (2022) 'Social distancing and supply disruptions in a pandemic', *Quantitative Economics*, 13(2), pp. 681–721.
- Campbell, S. et al. (2020) 'Purposive sampling: complex or simple? Research case examples', *Journal of research in Nursing*, 25(8), pp. 652–661.
- Chaturvedi, R. and Karri, A. (2021) 'Entrepreneurship in the Times of Pandemic: Barriers and Strategies', *FIIB Business Review*, 11(1), pp. 52–66. Available at: <https://doi.org/10.1177/23197145211043799>.
- Dash, S.R. and Maitra, D. (2022) 'The COVID-19 pandemic uncertainty, investor sentiment, and global equity markets: Evidence from the time-frequency co-movements', *The North American Journal of Economics and Finance*, 62, p. 101712. Available at: <https://doi.org/https://doi.org/10.1016/j.najef.2022.101712>.
- Dreger, C. (2022) 'Economic impact of the Corona pandemic: Costs and the recovery after the crisis', *Asia and the Global Economy*, 2(1), p. 100030. Available at: <https://doi.org/https://doi.org/10.1016/j.aglobe.2022.100030>.
- Financial Times (2020) 'Pandemic triggers surge in business start-ups across major economies'. Available at: https://www.ft.com/content/3cbb0bcd-d7dc-47bb-97d8-e31fe80398fb?trk=article-ssr-frontend-pulse_little-text-block.
- Guckenbiehl, P. and Corral de Zubielqui, G. (2022) 'Start-ups' business model changes during the COVID-19 pandemic: Counteracting adversities and pursuing opportunities',

- International Small Business Journal, 40(2), pp. 150–177. Available at: <https://doi.org/10.1177/02662426211055447>.
- Hall, S. and Liebenberg, L. (2024) ‘Qualitative Description as an Introductory Method to Qualitative Research for Master’s-Level Students and Research Trainees’, International Journal of Qualitative Methods, 23, p. 16094069241242264. Available at: <https://doi.org/10.1177/16094069241242264>.
- Harel, R. (2021) ‘The Impact of COVID-19 on Small Businesses’ Performance and Innovation’, Global Business Review, p. 09721509211039145. Available at: <https://doi.org/10.1177/09721509211039145>.
- Hazaa, Y.M.H., Almaqtari, F.A. and Al-Swidi, A. (2021) ‘Factors Influencing Crisis Management: A systematic review and synthesis for future research’, Cogent Business & Management. Edited by A.W.K. Tan, 8(1), p. 1878979. Available at: <https://doi.org/10.1080/23311975.2021.1878979>.
- HBR (2020) ‘How Businesses Have Successfully Pivoted During the Pandemic’. Available at: <https://hbr.org/2020/07/how-businesses-have-successfully-pivoted-during-the-pandemic>.
- Huber, C., Huber, J. and Kirchler, M. (2021) ‘Market shocks and professionals’ investment behavior – Evidence from the COVID-19 crash’, Journal of Banking & Finance, 133, p. 106247. Available at: <https://doi.org/https://doi.org/10.1016/j.jbankfin.2021.106247>.
- Jallow, H., Renukappa, S. and Suresh, S. (2021) ‘The impact of COVID-19 outbreak on United Kingdom infrastructure sector’, Smart and Sustainable Built Environment, 10(4), pp. 581–593.
- Katsaliaki, K., Galetsi, P. and Kumar, S. (2022) ‘Supply chain disruptions and resilience: a major review and future research agenda’, Annals of Operations Research, 319(1), pp. 965–1002. Available at: <https://doi.org/10.1007/s10479-020-03912-1>.
- Khan, S.U. (2022) ‘Financing constraints and firm-level responses to the COVID-19 pandemic: International evidence’, Research in International Business and Finance, 59, p. 101545. Available at: <https://doi.org/https://doi.org/10.1016/j.ribaf.2021.101545>.
- Kuckertz, A. et al. (2020) ‘Startups in times of crisis – A rapid response to the COVID-19 pandemic’, Journal of Business Venturing Insights, 13, p. e00169. Available at: <https://doi.org/https://doi.org/10.1016/j.jbvi.2020.e00169>.

- Magaldi, D. and Berler, M. (2020) 'Semi-structured Interviews BT - Encyclopedia of Personality and Individual Differences', in V. Zeigler-Hill and T.K. Shackelford (eds). Cham: Springer International Publishing, pp. 4825–4830. Available at: https://doi.org/10.1007/978-3-319-24612-3_857.
- Mason, C. and Hruskova, M. (2021) 'The impact of Covid-19 on entrepreneurial ecosystems', in Productivity and the Pandemic. Edward Elgar Publishing, pp. 59–72.
- McKibbin, W. and Fernando, R. (2023) 'The global economic impacts of the COVID-19 pandemic', *Economic Modelling*, 129, p. 106551. Available at: <https://doi.org/https://doi.org/10.1016/j.econmod.2023.106551>.
- Mishrif, A. (2024) 'COVID-19 Effects on the Global Economy: An Overview BT - Economic Effects of the Pandemic: Implications for the Economy, Finance and Tourism', in A. Mishrif (ed.). Singapore: Springer Nature Singapore, pp. 3–23. Available at: https://doi.org/10.1007/978-981-97-4367-4_1.
- Newman, A., Obschonka, M. and Block, J. (2022) 'Small Businesses and Entrepreneurship in Times of Crises: The Renaissance of Entrepreneur-Focused Micro Perspectives', *International Small Business Journal*, 40(2), pp. 119–129. Available at: <https://doi.org/10.1177/02662426211063390>.
- Pak, A. et al. (2020) 'Economic Consequences of the COVID-19 Outbreak: the Need for Epidemic Preparedness.', *Frontiers in public health*, 8, p. 241. Available at: <https://doi.org/10.3389/fpubh.2020.00241>.
- Panwar, R., Pinkse, J. and De Marchi, V. (2022) 'The Future of Global Supply Chains in a Post-COVID-19 World', *California Management Review*, 64(2), pp. 5–23. Available at: <https://doi.org/10.1177/00081256211073355>.
- Shafi, M., Liu, J. and Ren, W. (2020) 'Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan', *Research in Globalization*, 2, p. 100018. Available at: <https://doi.org/https://doi.org/10.1016/j.resglo.2020.100018>.
- Sovacool, B.K., Iskandarova, M. and Hall, J. (2023) 'Industrializing theories: A thematic analysis of conceptual frameworks and typologies for industrial sociotechnical change in a low-carbon future', *Energy Research & Social Science*, 97, p. 102954. Available at: <https://doi.org/https://doi.org/10.1016/j.erss.2023.102954>.

- Williams Jr., R.I. et al. (2020) 'Small business strategic management practices and performance: A configurational approach', *Economic Research-Ekonomska Istraživanja*, 33(1), pp. 2378–2396. Available at: <https://doi.org/10.1080/1331677X.2019.1677488>.
- World Bank Group (2020) 'The Global Economic Outlook During the COVID-19 Pandemic: A Changed World'. Available at: <https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world>.
- Younis, H. et al. (2023) 'The impact of COVID-19 on supply chains: systematic review and future research directions', *Operational Research*, 23(3), p. 48. Available at: <https://doi.org/10.1007/s12351-023-00790-w>.