Journal of Knowledge Management Application and Practice
An International Journal

http://dx.doi.org/10.18576/jkmap/050103

From Crisis to Sustainability: Assessing COVID-19's Influence on Operations and Environment Performance

Ammar Daher Bashatweh[*]

Luminus Technical University College – Jordan – Amman.

Received: 23 April. 2022, Revised: 2 May. 2023; Accepted: 14 June. 2023
Published online: 1 Aug. 2023.

Abstract: This study aims to identify the impact of the global pandemic on Operation and Environmental al performance in Jordanian commercial sectors. The independent variable is covid-19 pandemic and the dependent variables are Operation and Environmental al performance. covid-19 pandemic was shown to impact performance (operation and Environmental). To answer the problem of the study a questionnaire was developed and distributed 150 questionnaires, 30 of which were unreturned, and 20 of which were deleted because of missing data or unsuitability for research, as a result, 100 surveys are acceptable. The study found a statistically significant impact of covid-19 on Operation and Environmental al performance
Keywords: global pandemic (Covid-19), performance, operation performance, Environmental al performance, Jordanian commercial sector.

1 Introduction

The global economy has been thrown into disarray with the emergence of COVID-19 in China. The worldwide economy has been harmed as a result of the COVID-19 epidemic (Al-Okaily, 2023; Al-Qudah et al., 2023). The comprehensive lockdown enforced by virtually all governments has greatly reduced global economic activity. According to the International Economic Organizations, the majority of nations are anticipated to have negative GDP growth in the Pandemic year of 2020. Worldwide economic growth, the global maritime sector, international trade, and economic development have all been greatly influenced as a result of COVID-19. During the epidemic, banks. (Narasimha, Jena,& Majhi,2021). The Coronavirus disease 2019 (COVID-19) outbreak has recently damaged the global supply chain of many items. The effects of COVID-19 on the global economy were significant, and various industries were devastated as a result of the disruptions.(Khan, Piprani,& Yu,2022). The pressure of enhancing corporate operations has increased due to shifting customer consumption habits in a dynamic Environmental. Increased internet sales of critical items are upsetting the demand-supply role. In response to the dynamic social and economic situations, new company strategies must be introduced. (Sharma,et al., 2021)

Businesses dependent on global sourcing are forced to make difficult decisions in crisis management as a result of COVID-19 supply chain disruptions. The influence of the coronavirus pandemic on global supply chains is similar to that of an earthquake or a tsunami. The primary goal of supply chain management is to identify and eliminate supply chain uncertainty.(Kumar,& Mishra,2020).

Supply chains are getting more dynamic in today's commercial Environmental al as corporate settings and technology advance (Natour et al., 2021; Alghazzawi et al., 2022). Because of ongoing internal and external challenges that continue to impede supply chain operations. In light of the closures during and after the Coronavirus epidemic, Jordan experienced the closure of numerous commercial firms in Jordan, hence this research aims to investigate the influence of the Coronavirus pandemic on supply chain performance in the Jordanian commercial sector. The primary study question is: is there an impact of global pandemic on supply chain performance in Jordanian commercial sector? Two sub-questions for the study have been established:

1. Is there an impact of global pandemic on operation performance in Jordanian commercial sector?
2. Is there an impact of global pandemic on Environmental al performance in Jordanian commercial sector?

[*] Corresponding author E-mail: bashatwahammar@yahoo.com

2 Literature Review:

During the COVID-19 pandemic, supply chain analysts concentrated on researching the detrimental effects of regulations enacted throughout the world to mitigate the implications of this disaster. Making optimal judgments in evaluating the level of demand for services and commodities is one of the most significant risks faced by supply chains during the COVID-19 pandemic era in numerous domains (Al-Okaily & Al-Okaily, 2022; Abu-Salih et al., 2022). It is worth mentioning that the occurrence of interruptions in supply chains leads to a drop in performance, emphasizing the need of analyzing how such disruptions are handled to ensure the effective and successful functioning of the supply stages.(Grida, Mohamed, & Zaied, 2020).

The Covid-19 crisis has enormous social, and significant effects on corporate, and individual consequences. The pandemic has clearly altered the way business is done, emphasizing the significance of effectively managing operations and supply chains not just for researchers and professionals, but also for the public. Significant interest has been shown, as well as in the inability of retail supply chains to meet unprecedented demand from and customers.(Micheli,Johnson, &Godsell,2021)

Supply chain managers, according to (Pakurár et al.219), have a complete view of key actions of the supply chains and attempt to increase performance by combining their operations to satisfy consumers (Tan et al., 2002, Yousuf et al., 2019). As supply chain integration improves, an enterprise's performance improves (Al-Okaily, 2022; Frohlich & Westbrook, 2001).

Due to severely low demand at the outset of the virus, several firms ceased operations. As a result, many people were laid off, the company lost a large market share, and it went bankrupt. However, other firms took advantage of the circumstances and expanded their services and market share. Furthermore, the pandemic drove firms to reduce operational expenses by offering work-from-home options. In addition, corporations used electronic meetings and collaboration technologies to get the finest services from geographically scattered staff in different time zones (Al-Okaily et al., 2022; Farooq, et al., 2021). (Navavongsathian, et al. 2020) The term "Environmental" refers to actions that include the recycling and recovery of goods, and another advantage is that product chain operation, both forward and reverses logistics, is considered part of the chain. Green supplies are required for upstream, midstream, and downstream operations in the development of green logistics. However, all of these actions must lead to the green standard practice on three levels:

1. All departments and activities in the supply chain must transition to a green standard.
2. should establish a joint project across departments within the business to develop greens in order to generate a green supply chain throughout the firm.
3. converting operations to green manufacturing and maximizing reverse logistics to achieve efficiency and effectiveness in the reverse mechanism.

3 Methodologies:

This study depends on the descriptive analytical method; Descriptive research focuses on acquiring data on current circumstances or conditions in order to describe and interpret them. This form of research methodology includes accurate analysis, interpretation, comparisons, trend and relationship discovery, and more than just gathering and tabulating facts. Analytical research is a particular kind of research that calls for the use of critical thinking abilities and the assessment of data and information pertinent to the project at hand. Analytical research is used by a range of professionals, including psychologists, doctors, and students, to identify the most pertinent material during investigations. One learns crucial information from analytical study that helps them contribute fresh concepts to the work they are producing (SALARIA, 2012).

Conceptual framework

Figure 1 illustrates the conceptual framework of the study, which determines the connection of variables that are used. The independent variable of the research is covid-19, as shown in Figure 1. The study's dependent variable is performance. This demonstrates how the covid -19 might affect the Jordanian commercial sector's performance. The framework is as follows:

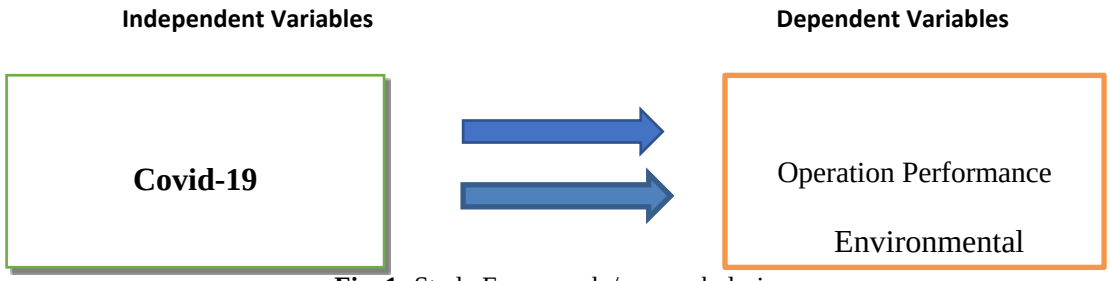

Fig. 1: Study Framework / research design.

Hypothesis:

HO1: There is no statistically significant at the (0.05) level for Covid-19 Pandemic on operation performance in Jordanian commercial sector

HO2: There is no statistically significant at the (0.05) level for Covid-19 Pandemic on Environmental al performance in Jordanian commercial sector

Population and samples:

The Jordanian commercial sector is the study's population. All managerial and non-managerial levels are included in the unit of analysis (managers and employees). The authors of the study distributed 150 questionnaires, 30 of which were unreturned, and 20 of which were deleted because of missing data or unsuitability for research, as a result, 100 surveys are acceptable for further study.

Data collection:

To achieve the study's aim, descriptive and analytical methodologies were applied. The study gathered data from two major sources: prior studies, books, periodicals, scientific journals, and publications related to the subject of the investigation were used for secondary data. In terms of primary data, the study relied on a questionnaire designed to gather the information required for the inquiry.

Data Analysis Methods

The authors applied the Statistical Software Package for Social Sciences (SPSS) to assess and evaluate hypotheses with the following statistical techniques: Cronbach alpha, Descriptive Statistics, and Regression.

Goodness of Data

Before analyzing the research hypotheses, it is critical that the data gathered be examined for validity and reliability. The content validity of the instrument was validated by collecting expert views from numerous Jordanian university academics.

Reliability of Measurement:

According to Nunnally (1978), the inter-item analyses could be utilized to evaluate the validity of a questionnaires. As a result, Cronbach's alpha is thought to be an adequate measure of the survey instrument's internal consistency (Sekaran & Bougie, 2010).

Table 1: Reliability Statistics.

Variables	Cronbach's Alpha	N of Items
Covid-19	0.772	5
Operation Performance	0.773	5
Environmental al performance	0.863	5

Cronbach's alpha ranges between 0.772 to 0.863, which is more than the lowest allowable value of 0.60. This shows that the approaches used to measure the variable were suitable (Sekaran & Bougie, 2010).

Sample Characteristics:

To define the characteristics of the study's sample, the frequency and percentage of the demographic variables were identified for the study's sample as follows:

Table 2: Frequencies analysis.

	Response	Frequency	Percentage %
Gender	Male	51	51
	Female	49	49
	Response	Frequency	Percentage %
Experience	1 – 4 Years	25	25
	5 – 9 Years	20	20
	10 – 19 Years	33	33
	20 Years or above	22	22

	Response	Frequency	Percentage %
Qualification	Bachelor	74	74
	Master	17	17
	PhD	9	9
	Response	Frequency	Percentage %
Job Position	Logistics Specialist	20	20
	Purchasing manager	35	35
	Logistics manager	20	20
	Procurement Specialist	25	25

Table 2 shows the frequencies analysis for the study sample:

1. shows that 51% of the sample a male. and 49% female.

2. In relation to experience, Table 2 shows that 33% of the sample had 10-19 years of work experience, and 22% had experienced over 20 years.

3. shows that 74% of the sample held a Bachelor's degree. Those with a master's degree were only 17 %, and Ph.D. degree 9%.

4. In relation to Position, Table 2 shows that 35% of the sample had Purchasing manager Position, 20 % had Logistics manager Position, a Procurement Specialist Position 25%, and 20% of the sample had Logistics Specialist Position

Hypothesis Testing:

Table (3) Hypothesis testing.

Variables	Operation Performance		Environmental al Performance	
	t	Sig -t	t	Sig -t
C	5.558	0.000	6.058	0.000
Covid-19	8.120	0.000	4.312	0.000
R^2	0.402		0.224	
F	65.933		28.219	
Sig F	0.000		0.000	
D-W	1.646		1.949	

Table 3 displays the results for the two models.

Model 1 (operation performance) shows covid -19 outcomes on operation performance, indicating that covid -19 had a significant influence on operation performance in Jordanian commercial sectors. According to Table 3, the Significant model has a F (65.933) value and a R square of (40.2%). The variation in operation performance may be explained by the variation in the variables in total while holding all other factors constant. In terms of regression coefficients, the value of T for the covid-19 was 8.120 with a significance of sig= 0.000, confirming the aspect's positive relevance.

Model 2 (Environmental al performance) shows covid -19 outcomes on Environmental al performance, indicating that covid -19 had a significant influence on Environmental al performance in Jordanian commercial sectors. According to Table 3, the Significant model has a F (28.219) value and a R square of (22.40%). The variation in Environmental al performance may be explained by the variation in the variables in total while holding all other factors constant. In terms of regression coefficients, the value of T for the covid-19 was 5.312 with a significance of sig= 0.000, confirming the aspect's positive relevance.

4 Conclusion and Recommendations:

This study aims to identify the impact of the global pandemic on performance in Jordanian commercial sectors. The independent variable is covid-19 pandemic and the dependent variables are Operation Performance and Environmental al performance. Covid-19 pandemic was shown to impact performance (operation and environmental). This shows that covid -19 is one most of problem to be tackled and this virus enhances corporate failure, which shows a significant challenge to the operation and Environmental al performance. Therefore, the state must provide opportunities to avoid this epidemic more, allowing companies to continue to work and not be exposed to failure increasing their market share and strengthening market competitiveness.

This study has certain limitations. This study's conclusions cannot be generalized beyond the Jordanian commercial Sector, and this study recommends researchers prepare this study for other sectors and use new variables of performance

References

[1] Abu-AlSondos, I. (2023). An empirical study of critical success factors in implementing knowledge management systems (KMS): The moderating role of culture. Uncertain Supply Chain Management, 11(4), 1527-1538.

[2] Abu-AlSondos, I. (2023). The impact of business intelligence system (BIS) on quality of strategic decision-making. International Journal of Data and Network Science, 7(4), 1901-1912.

[3] Abu-Salih, B., Wongthongtham, P., Morrison, G., Coutinho, K., & Huneiti, A. (2022). Short-term renewable energy consumption and generation forecasting: A case study of Western Australia. Heliyon, 8(3), e09152.

[4] Alghazzawi, R., Alkhwaldi, A.F. and Al-Okaily, A. (2022). The effect of digital accounting systems on the decision-making quality in the banking industry sector: a mediated-moderated model", Global Knowledge, Memory and Communication, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/GKMC-01-2022-0015.

[5] Al-Okaily, A., Al-Okaily, M., & Teoh, A. P., and Al-Debei, M. (2022). An Empirical Study on Data Warehouse Systems Effectiveness: The Case of Jordanian Banks in the Business Intelligence Era. EuroMed Journal of Business. Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/EMJB-01-2022-0011.

[6] Al-Okaily, M. (2023). Does AIS usage matter in SMEs performance? an empirical investigation under digital transformation revolution. Information Discovery and Delivery. Vol. and No. ahead-of-print. https://doi.org/10.1108/IDD-08-2022-0072.

[7] Al-Okaily, M., & Al-Okaily, A., (2022). An Empirical Assessment of Enterprise Information Systems Success in a Developing Country: The Jordanian Experience. The TQM Journal, Vol. 34 No. 6, pp. 1958-1975. https://doi.org/10.1108/TQM-09-2021-0267.

[8] Al-Qudah, A. A., Hamdan, A., Al-Okaily, M., & Alhaddad, L. (2023). The impact of green lending on credit risk: Evidence from UAE's banks. Environmental Science and Pollution Research, 30(22), 61381-61393.

[9] Al-Okaily, M. (2022). Toward an integrated model for the antecedents and consequences of AIS usage at the organizational level. EuroMed Journal of Business. Vol. and No. ahead-of-print. https://doi.org/10.1108/EMJB-05-2022-0100.

[10] Farooq, M. U., Hussain, A., Masood, T., & Habib, M. S. (2021). Supply chain operations management in pandemics: a state-of-the-art review inspired by COVID-19. Sustainability, 13(5), 2504.

[11] Frohlich T. M., & Westbrook R. (2001). Arcs of Integration: An International Study of Supply Chain Strategies. Journal of Operations Management, 19(1), 185-200. https://doi.org/10.1016/S0272-6963(00)00055-3

[12] Grida, M., Mohamed, R., & Zaied, A. N. H. (2020). Evaluate the impact of COVID-19 prevention policies on supply chain aspects under uncertainty. Transportation Research Interdisciplinary Perspectives, 8, 100240.

[13] Hatamlah, H., Allahham, M., Abu-AlSondos, I., Al-Junaidi, A., Al-Anati, G., & Al-Shaikh, M. (2023a) The Role of Business Intelligence adoption as a Mediator of Big Data Analytics in the Management of Outsourced Reverse Supply Chain Operations, , Applied Mathematics & Information Sciences. 17 (5) 897-903

[14] Hatamlah, H., Allahham, M., Abu-AlSondos, I., Mushtaha, A., Al-Anati, G., Al-Shaikh, M., & Ali, B. (2023) Assessing the Moderating Effect of Innovation on the Relationship between Information Technology and Supply Chain Management: An Empirical Examination, Applied Mathematics & Information Sciences. 17(5) 889-895.

[15] Hatamlah, H., Allan, M., Abu-AlSondos, I., Shehadeh, M., & Allahham, M. (2023). The role of artificial intelligence in supply chain analytics during the pandemic. Uncertain Supply Chain Management, 11(3), 1175-1186.

[16] Khan, S. A. R., Piprani, A. Z., & Yu, Z. (2022). Supply chain analytics and post-pandemic performance: mediating role of triple-A supply chain strategies. International Journal of Emerging Markets, (ahead-of-print).

[17] Kumar, R., & Mishra, R. S. (2020). COVID-19 global pandemic: impact on management of supply chain. International Journal of Emerging Technology and Advanced Engineering, 10(4), 132-139.

[18] Micheli, P., Johnson, M. and Godsell, J. (2021), "Editorial How the Covid-19 pandemic has affected, and will affect, operations and supply chain management research and practice", International Journal of Operations & Production Management, Vol. 41 No. 6, pp. 773-780. https://doi.org/10.1108/IJOPM-06-2021-902

[19] Narasimha, P. T., Jena, P. R., & Majhi, R. (2021). Impact of COVID-19 on the Indian seaport transportation and maritime supply chain. Transport Policy, 110, 191-203.

[20] Natour, A. R. A., Shishan, F., Al-Dmour, A., Alghazzawi, R., & Alsharairi, M. (2021). Sustainable FinTech Innovation Orientation: A Moderated Model. Sustainability, 13(24), 1-12.

[21] Nunnally, J. C. (1978). Psychometric theory (2nded.). New York: McGraw-Hill.

[22] Pakurár, M., Haddad, H., Popp, J., Khan, T. & Oláh, J. (2019). Supply chain integration, organizational performance and balanced scorecard: An empirical study of the banking sector in Jordan. Journal of International Studies, 12(2), 129-146. doi:10.14254/2071-8330.2019/12-2/8

[23] Rehman, S. U., Al-Shaikh, M., Washington, P. B., Lee, E., Song, Z., Abu-AlSondos, I. A., ... & Allahham, M. (2023). FinTech Adoption in SMEs and Bank Credit Supplies: A Study on Manufacturing SMEs. Economies, 11(8), 213.

[24] SALARIA, N., 2012. International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS). [online] Ijbpas.com. Available at: <https://ijbpas.com/archive/archive-detail-pdf/VOLUME-10-ISSUE-1>

[25] Salhab, H., Allahham, M., Abu-AlSondos, I., Frangieh, R., Alkhwaldi, A., & Ali, B. (2023). Inventory competition, artificial intelligence, and quality improvement decisions in supply chains with digital marketing. Uncertain Supply Chain Management, 11(4), 1915-1924.

[26] Sekaran, U., & Bougie, R. (2010). Research methodology for business: A skill building approach (5th ed.). Australia: Wiley & Sons.

[27] Sharma, M., Luthra, S., Joshi, S., & Kumar, A. (2021). Accelerating retail supply chain performance against pandemic disruption: adopting resilient strategies to mitigate the long-term effects. Journal of Enterprise Information Management.

[28] Tan K. C., Lyman S. B., & Wisner D. (2002). Supply chain management: A strategic perspective. International Journal of Operation and Production Management, 22(6), 614-631. doi: https://doi.org/10.1108/01443570210427659

[29] Yousuf, A., Haddad, H., Pakurár, M., Kozlovskyi, S., & Felföldi, J. (2019). The Effect of Operational Flexibility on Performance: A Field Study on Small and Medium-sized Industrial Companies in Jordan. Montenegrin Journal of Economics, 15(1), 47-60. doi: http://dx.doi.org/10.14254/1800-5845/2019.15-1.4