

Adapting Food Supply Chains to COVID – 19: A Study on Supermarket Resilience in Australia and Fiji

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ABSTRACT

The study presented in this paper is based on short research carried out as a part of academic fulfillment. The research is purely based on the analysis of secondary data (qualitatively and quantitatively). The COVID-19 pandemic significantly disrupted the world's food supply systems, revealing serious weaknesses and emphasizing the need for increased resilience—especially in the supermarket store industry. The impact of the pandemic on the supply chain resilience of supermarkets in Fiji, a developing nation that depends largely on imports, and Australia, a developed nation, is examined in this study. With a mixed-methods approach, the research evaluates supermarket tactics in both countries by combining quantitative data analysis and qualitative observations. Despite Australia's and Fiji's differences in size, economic structure, technological adaption capabilities and government capacity to facilitate disruptions, both countries faced the same impacts however the reaction and ability to mitigate those challenges were different. Even when the world has advanced towards technologies aiding in the smoothing of operations, there is still space for further advancement and testing the effectiveness of those implemented technologies in real-time. The research concludes by providing valuable insights and recommendations that supermarkets must adapt to in times of any future crisis.

Keywords: COVID-19, Developed vs Developing Countries, Supply Chain Resilience, Supermarket Industry, Supply Chain Disruptions

INTRODUCTION

Background

With the more recent impact on the resilience of the supply chain, researchers are focused on providing valuable contributions to mitigate the issues and challenges associated. While there is no consensus on its definition, supply chain resilience generally refers to a supply chain's ability to prepare for, respond to, and recover from disruptions [1]. With the constant change in size and complexity of the supply chain operations, manufacturers, distributors, wholesalers, and retailers are faced with dealing with huge information with the management of supply chain resilience [2].

The Supply chain is built with players such as manufacturers, distributors, retailers, and wholesalers. These supply chains are largely dependent on just-in-time inventory models and importation, which makes them extremely vulnerable to disruptions [3]. The COVID-19 Pandemic has highlighted significant challenges that the supermarkets and the food sector have faced showing a negative impact on the food supply chain [4].

Covid-19 has highlighted loopholes in the management of the supply chain that need to be seriously reviewed to face any future crisis. Due to sudden changes in customer behavior, restrictions on mobility, and transportation bottlenecks, it seriously disrupted the industrial and retail industries. To maintain continuity in the production, pricing, and distribution of necessary food products, these difficulties required prompt and forceful solutions [5]. Strong policies that might lessen these effects and increase supply chain resilience in the event of future crises are crucial because pandemics and pandemics have the potential to have a significant impact on food supply networks. Although the existing research highlights several significant information, there are still knowledge gaps within the current existing research. The COVID-19 disruptions have received a lot of attention; however, comparative studies

comparing the resilience of food supply chains in different economic contexts—that is, developed vs developing countries—are few. Furthermore, while there has been little investigation into the long-term tactics required to improve supply chain resilience, most of the study has concentrated on immediate pandemic responses.

Significance & Application of the Research

- The COVID-19 pandemic has caused substantial disruptions to several sectors of the global economy, with the food supply chain being notably affected. Supermarkets encountered previously unheard-of difficulties during the pandemic despite their crucial role in guaranteeing the availability and security of food. This research is important due to the comparative analysis it provides comparing Australia and Fiji; one being developed and the other at a developing stage.
- The research compares how different economic structures, size of the economy, and the capacity to handle issues relating to the supply chain are mitigated by these two nations. Australia is a country with an economic capacity to handle pertaining around the supply chain and was able to handle the impact of the pandemic more effectively. However, Fiji on the other, was faced with a more significant number of challenges and its capacity to mitigate and navigate through the hurdles which Covid-19 provided was a huge encounter.
- Furthermore, the study offers recommendations for strengthening the food industry's supply chain's resilience. The results can help design more resilient supply chain plans that are better prepared to withstand disruptions in the future, whether they come from natural disasters, pandemics, or other unanticipated experiences. The research is especially driven to investigate and provide methods that supermarkets may use to handle upcoming supply chain disruptions because of their more than nine years of expertise in the business. Additionally, by filling in gaps in the literature and laying the groundwork for future research, especially in the area of understanding how various economic structures impact supply chain resilience, this study advances the discipline of supply chain management.

Research Problem

The research presented in this paper aims to understand how COVID-19 disrupted supply chains, the challenges faced by supermarkets, and how consumer behaviour changed during the pandemic. It also looks at the strategies used to overcome these challenges and improve supply chain resilience. Ultimately, the study seeks to highlight the impact of COVID-19 on supermarkets and consumers while recommending effective strategies to handle future disruptions.

RESEARCH OBJECTIVES AND QUESTIONS

With an emphasis on Australia and Fiji, the goals of this study are designed to give a thorough examination of how the COVID-19 pandemic affected supermarket supply networks in both developed and developing nations. By addressing these goals, the research hopes to shed light on the difficulties that supermarkets have in various economic environments and assess how successful the interruption-management techniques they use are.

Research Objectives and Research Questions

The whole study presented in this paper has been conducted keeping the research objectives and questions in mind that have been given below:

Research Objectives

- Discuss how COVID-19 impacted the resilience of supermarket supply chains.
- Look into changes in consumer behavior and how they are contributing to supply chain disruption.
- The actions of supermarkets in addressing supply chain disruptions are explored.
- Draw out the lessons learned and indicate practical ways in which better supply chains might be constructed in the future.

Research Question

How has COVID-19 affected the ability of supermarkets in Australia and Fiji to maintain resilient supply chains, and what approaches have proven most effective in overcoming these challenges?

Sub-questions:

SQ1: In what ways have global disruptions during COVID-19 transformed supply chain operations in the retail food sector?

SQ2: What specific hurdles did supermarkets encounter during the pandemic?

SQ3: How did shifts in consumer habits during COVID-19 impact the balance of supply and demand in supermarkets?

SQ4: What measures have supermarkets adopted to enhance supply chain strength during and after the pandemic?

This study is important because it sheds light on how supply chain resilience is impacted by the economy, which is crucial for creating customized plans that may be used in the event of future emergencies. Policymakers and business executives may use the practical insights from the research to fortify the food supply chains in their local areas, in addition to the findings adding to the body of knowledge on supply chain management.

LITERATURE REVIEW

The COVID-19 pandemic gave exposure to considerable vulnerabilities regarding food supply chains worldwide and required in-depth analysis in resilience strategies, especially from a supermarket sector perspective. This literature review presents major scholarly contributions toward an understanding of how COVID-19 has been influencing food supply chains; hence, disruptions and mitigation strategies with special emphasis are drawn for Australia and Fiji. It synthesizes findings from leading studies, underlining critical challenges, innovative solutions, and gaps in the existing body of knowledge. The goal is to provide a comprehensive basis on which to explore tailored resilience strategies that address the unique economic and logistical contexts of these two nations.

Liu (2023) discusses supermarket supply chain management problems, particularly in China, and looks for alternatives to increase efficiency. Some of the significant supply chain problems such as supplier problems, delayed delivery, poor inventory management, and inefficient pricing are noted by the study. Diversification of suppliers, product placement minimization, and improved pricing strategies are suggested by the study as ways to maximize customer satisfaction and prevent stockouts. Additionally, the study describes how supermarket supply chain management differs from conventional supply chain models, emphasizing real-time tracking of stock and efficient logistics. A case study of Lotte Mart offers practical applications of supply chain strategies [6]. **Burgos and Ivanov (2021)** explore digital twin technology to mitigate food retail supply chain disruptions during COVID-19. Key disruptions included lockdowns, demand fluctuations, and insufficient real-time data. The study highlights digital twins' potential for improving resilience through real-time monitoring and predictive analytics but acknowledges high implementation costs and the necessity for specialized skills as limitations [7]. Research gaps include a lack of long-term insights and comparative analysis of alternative technologies. **Barman et al. (2021)** discuss the labor shortages, logistical issues, and fluctuating demand caused by COVID-19. This study highlights the value of promoting local production and the use of blockchain and IoT in managing supply chains. However, it does not include consumer insights and comparative analyses of different regions, making it less generalizable to a wide range of situations [8]. **Nasereldin et al. (2021)** discuss the resilience in the supply chain of global food provisions, focusing on both supply-demand imbalances and labor shortages. Positive changes also include empowering local food systems and more supportive government approach; yet, the given research misses comprehensive data about the regional effects and long-term strategy for resilience [9]. The COVID-19 pandemic severely affected Fiji's tourism-dependent economy, leading to a real GDP contraction of 15.7% in 2020 [10]. The tourism sector, which contributed significantly to the economy, experienced an 84.8% revenue decline. These challenges impacted related sectors, including fisheries, aquaculture, and transportation [10]. Recovery efforts, such as fiscal stimulus and remittance resilience, provided partial relief but underscored the structural vulnerabilities of Fiji's economic model [10]. Table I depicts the severe economic impacts of COVID 19 on Fiji. Agriculture in Fiji is predominantly made up of smallholder farms, which have been severely disrupted by COVID-19-induced restrictions such as lockdowns and curfews. These disruptions impeded the supply of perishable produce from rural areas to urban markets, resulting in income loss for farmers and vendors [11].

Table 1. Key Insight on Economic and Social Impacts of COVID – 19 on Fiji's Tourism and Economic Sectors [10]

Indicator	Value
Fiji's GDP contraction in 2020	-15.70%
Fiji's fiscal deficit in 2020/21	13.7% of GDP
Fiji's debt-to-GDP ratio increase (2019–2021)	From 49% to 80%
Tourism contribution to GDP in Pacific SIDS (2019 vs. 2020)	18% to 7%
Fiji's tourism earnings decline in 2020	84.80%
Decline in visitor arrivals to Fiji (2020 compared to 2019)	80%
Loss per tourism MSME compared to non-tourism MSME during COVID-19	FJD 21,000 vs. FJD 3,000
Remittance inflows to Fiji (First half of 2021)	USD 389.1 million
Fiji's COVID-19 fiscal stimulus package	5.6% of GDP
Tropical Cyclone Harold damages (2020)	FJD 29 million
Tropical Cyclone Yasa damages (2020)	FJD 25 million
Job losses in Fiji's tourism sector	100,000 workers
Reduction in working hours during the pandemic	59% of businesses
Increase in digital remittances via M-PAiSA Mobile Money app (Feb–Aug 2020)	4x
Subsidies provided to informal sector workers who tested positive for COVID-19	FJD 1,000
Free inshore fishing licenses provided to Fijians during COVID-19	100%

Besides, the pandemic brought out the fragile backward linkages between agriculture and tourism, further compounding challenges in food security and rural livelihoods [11]. The insights provided by [11] have been provided in table 2 which highlights the significant impact of COVID-19 on Fiji's agricultural sector and market vendors. The article by Desai et al., (2021) discusses the impacts of COVID-19 on Fiji's niche agricultural exports, focusing on ginger, papaya, and kava. It brings to light the pandemic-induced disruptions in global trade, while the resilience of key markets, such as the USA, which retained a high import share-for example, 96.64% for kava-and Australia, which showed strong demand for papaya at 73.89%, are noted. Challenges include competition from countries like China and Tonga and the need for supply chain stabilization. The study recommends policy interventions to enhance resilience, stabilize production, and diversify markets to sustain Fiji's agricultural export growth. Export-oriented production of niche crops such as ginger and kava showed mixed resilience. Stable importers like the USA maintained their shares, but markets like Australia showed a decline due to COVID-19 restrictions [12]. The disruption thus underlined the need for macroeconomic governance and sustainable supply chain management to support these high-value crops [12]. Figure 1 below highlights Fiji's economic reliance on tourism and agriculture along with the strong export retention.

Table 2. Impact of COVID-19 on Fiji's Agricultural Sector and Market Vendors [11]

Indicator	Value
Agriculture's contribution to Fiji's GDP in 2019	6.8% (5.9% from non-sugarcane agriculture)
Increase in agricultural production (crops and livestock) in 2020	5.6% (volume), 2.9% (value)
Increase in fresh/chilled agricultural exports in 2020 compared to 2019	25.80%
Share of farmers selling produce to middlemen	37%

Farmers selling directly to consumers in municipal markets	30%
Percentage of farmers impacted by travel restrictions and curfews	26% (large impact)
Farmers whose income was negatively affected by the pandemic	93%
Market vendors reporting reduced incomes due to the pandemic	95%
Market vendors reporting a large impact due to tourism industry closure	67%
Share of total agricultural exports accounted for by crops and livestock in 2020	7.1% increase
Share of urban food expenditure on vegetables and fruits	22%
Market vendors impacted by reduced municipal market hours	80%
Average expenditure by Coral Coast hotels on local agricultural produce annually	FJD 10 million

The pandemic exposed systemic vulnerabilities in Fiji's supply chains, characterized by dependency on international trade and "Just-In-Time" practices. Shipping disruptions and increased freight costs compounded the challenges, necessitating a shift towards resilient and digitally integrated supply chain systems [13]. Additionally, the crisis underscored the disproportionate impacts on MSMEs and women-led businesses within the informal economy [13]. The findings of [13] i.e., significant disruptions in pacific island supply chain during COVID-19, have been provided in table 3

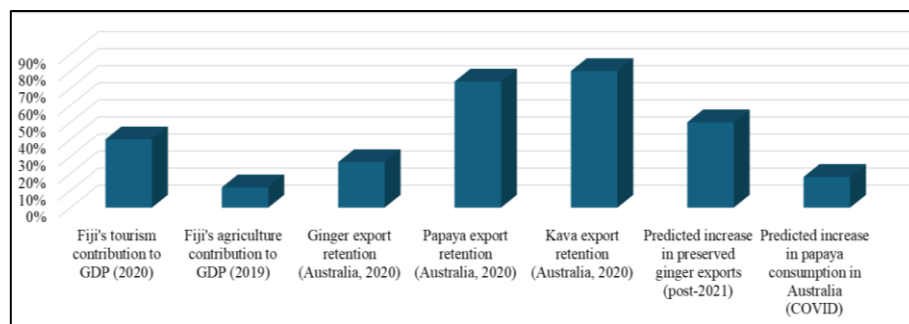


Figure 1. Key Contributions and Export Trends in Fiji's Tourism and Agriculture Sectors During COVID-19 [13]

Table 3. Impacts of COVID-19 on Supply Chains and MSMEs in Pacific Island Countries [13]

Indicator	Value
Percentage of goods transported by ships in Pacific Island Countries (FICs)	90%
Negative impacts reported by MSMEs in FICs due to COVID-19	75%
MSMEs in FICs reporting decreased profitability	84%
Reduction in vessel calls at Suva port from 2019 to 2021	14 calls per year
Reduction in vessel calls at Lautoka port from 2019 to 2021	30 calls per year
Average global freight rate increases during the pandemic (2021)	50%
Average global freight rate for 40' containers (March 2020 to peak in 2021)	From \$1,446 to \$10,361

Freight subsidy grants provided by Pacific Trade Invest to exporters in the Pacific region	NZD 102,000 across 45 businesses
Average gross tourism earnings per visitor in Fiji	USD 863
Personal remittances as a percentage of GDP in Tonga (2019)	40%
Increase in charter rates for container vessels during the pandemic	Over 300%
Women-led businesses in FICs reporting revenue decline during the pandemic	77%
Percentage of staple food reliance on imports for daily household meals in atoll nations	80%
Average cost increase in bunker fuel (Marine Gasoil) due to new MARPOL regulations	30–40%

Across the studies, the need for diversification of the economic base of Fiji and enhancement of the local supply chains has been emphasized. Policy measures range from support to smallholder farmers, logistics infrastructure, and value addition in agricultural exports. There is also a strong call for leveraging digital tools to enhance supply chain transparency and efficiency [13], [14]. The table 4 highlights significant challenges faced by Fiji's farmers and market vendors during COVID – 19 as researched by [13].

All these reviewed articles reveal that COVID-19 has caused massive disruptions within Fiji's economy, more specifically in tourism, agriculture, and trade, yet there is niche agricultural resilience for ginger, papaya, and kava on important markets. These various methods include case studies, time-series analysis, survey methods, and predictive modelling to provide data-driven results about economic impact and how recoveries were implemented or must be employed.

Table 4. Effects of COVID – 19 on Farmers and Market Vendors in Fiji's Agricultural Sector [14]

Indicator	Value
Percentage of farmers selling produce to middlemen before COVID-19	37%
Percentage of farmers selling directly to consumers in municipal markets before COVID-19	30%
Farmers reporting low demand for produce as the main factor affecting income (last month)	80%
Farmers reporting low demand for produce as the main factor affecting income (last 12 months)	87%
Market vendors reporting large impacts from the closure of the tourism industry	67%
Market vendors reporting large impacts from reduced municipal market operation hours	52%
Percentage of farmers impacted by travel restrictions and curfews during the lockdown	10%
Coral Coast hotels' annual expenditure on local agricultural produce (in Fijian Dollars, Million)	10

Although previous research has produced beneficial knowledge regarding supply chain resilience, it has predominantly concentrated on developed and developing countries separately, without a comparative approach that considers the disparate economic circumstances. Furthermore, a large portion of research has been reactive, emphasizing short-term fixes for disruptions rather than the long-term tactics required to strengthen resilience. By comparing supply chain resilience in supermarkets in developed Australia and developing Fiji, this study aims to close these gaps. It focuses on how the economic environment affects the efficacy of resilience methods. Also, a thorough strategy that incorporates both quantitative and qualitative data is frequently absent from the literature's current approaches.

METHODOLOGY

The purpose of this study's approach is to fully investigate and comprehend how resilient Australia's and Fiji's retail supply networks were to the COVID-19 pandemic. This section provides an outline of the research design used in this study.

Research Approach

A mixed-method approach was adopted due to the complexity of the subject matter and the requirement to record both quantitative data and qualitative observations.

Qualitative Method

Secondary Data Analysis

The qualitative analysis mainly focuses on analyzing secondary data sources, such as literature of other researchers, government publications, and reports from the supermarket and food industries. Using secondary data, a more comprehensive understanding of the impacts, disruptions and challenges that sectors were faced with would be gained.

Content Analysis

With content analysis, the research is able to provide the pattern and trends that were highlighted in the qualitative data that had been obtained which is focused on literature review for this particular context.

Narrative Analysis

Narrative analysis is used, to understand different perspectives on the impacts of Covid-19, particularly, on the views of consumers. Through this analysis, an understanding was attained if the change in consumer behavior had a direct impact on the supply chain resilience.

Quantitative Method

Secondary Data Analysis

Changes in consumer behaviour has been analysed through this analysis. Through this approach, a better understanding needs to be gained on consumer trends and patterns focusing on the behaviours of consumers and their significance on the supply chain.

Type of Data (Secondary Data)

A huge portion of the research comes from secondary sources. Using secondary data such as existing literature provides a platform to gain an in-depth understanding of the impacts of COVID-19 on the supply chain, the challenges that need to be addressed, and how previous research has comprehended the issues around supply chain resilience.

Data Collection Methods

Literature Review

A comprehensive literature search was conducted from online journal search engines to acquire relevant research articles to assist in the compiling of information for the research. The available research studies provide significant information highlighting the issues, challenges and strategies adopted for supply chain resilience. Knowledge Gaps were also identified from these literatures as over time factors like technological innovations turn the need to redesign and readjust the needs of the advancement.

Ethical Considerations

Ensuring that proper citations and referencing of the used literature/articles/sources are used in the research.

Rationale for Methodology

The mixed-method approach comprehensively analyses disruptions and resilience while enabling a comparison between developed and developing contexts. This study is intended to provide actionable strategies for supermarket sector stakeholders in how to respond to future supply chain challenges.

Comprehensive Analysis:

Integrating qualitative and quantitative methodologies sets the stage for the research to be able to provide a comprehensive picture of supply chain resilience. The use of quantitative data provides proof of disruptions and resilience; however, more context-meaningful evidence is highlighted with the qualitative method.

Comparative Analysis:

Comparison between Australia and Fiji is easier with the adoption of the chosen approach. Understanding the difference in region, geographical location, economic size and structure when dealing with the impacts of the pandemic on a developed and a developing country in relation to the supply chain.

Practical Relevance:

The main goal of the research is to provide food industry stakeholders, in particular the supermarket sector relevant adaptable and implementable resolutions that would provide them assistance in mitigating similar issues in any future given crisis.

RESULTS & DISCUSSIONS

This section presents the discussion on the findings from the analysis of secondary data as outlined in the methodology section. The research question of the present study on the supply chain resilience in the supermarket industry of Australia and Fiji is answered through the significant understanding of the review of literatures. The discussion has been provided on different aspects of the research. Below discussed are the overall results and effects of the research.

Outputs: Findings in Response to Research Questions

Supply Chain Disruptions: Australia vs. Fiji

Australia: Even after being a developed country like Australia, with capable infrastructure, diversified networks and upgraded logistical system had to deal with the impacts of COVID-19 on its supply chain. Some of the major impacts which disrupted the supply chain of the food industry in Australia were due to changes in consumer behavior due to panic buying, limited but shortages of imported products and delays of shipments with logistical issues as well [4]. With the available capacity to be able to investment and implement new strategies, Australian supermarkets soon adjusted to the impacts on the supply chain by expanding local sourcing and diversifying their supplier base locally [15].

Fiji: Heavy reliance on imported goods was one of the major setbacks for a developing country like Fiji which resulted in an extended and severe impact on its supply chain. Some of the issues that impacted the resilience of the supply chain were due to delays in shipments, increased cost of transportation, increase in product cost and unavailability of local substitute suppliers led to challenges for the economy to cope with the disruptions [16]. Fijian supermarkets were faced with shortages of imported products and a longer recovery period due to the lack of updated infrastructure restrictions on the capacity to rely on local manufacturing and production.

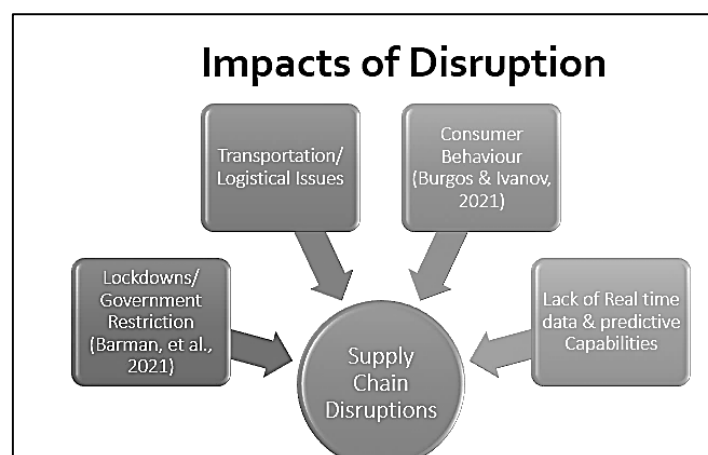


Figure 2. Supply Chain Disruptions

Resilience Strategies: Comparative Analysis

Australia: Initiatives such as implementing and encouraging online buying which ensured to meet the government restrictions, using digital platforms to understand the movement of holding stocks to address inventory management and building a close relationship with the local suppliers to mitigate the issue of diversifying the supply network. With the employment of these strategies, the Australian supermarket chain was able to address the issue of shortage of stock while maintaining its control over the supply chain [4, 5].

Fiji: With the lack of investments in digital platforms and updated technology, supermarkets in Fiji face significant problems in addressing the issues of the impacts of COVID-19 on the supply chain. Their demand control tactics, such as limiting purchases of necessities per consumer, increasing demands with suppliers to hold adequate stock which would assist in stockout issues and looking into regional trade agreements to secure other supply pathways, were the main focuses of their resilience plans. The techniques didn't work well for the Fijian market as limiting consumer purchases would only solve the issue in the short term however a longer-term strategy would be more viable in addressing issues revolving around the supply chain which again highlights the need to be able to invest in cutting edge infrastructure and technology [17].

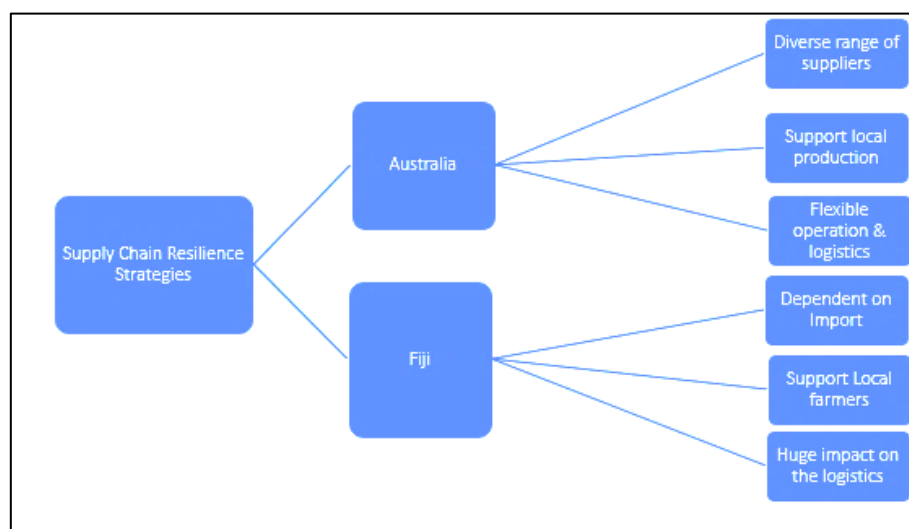


Figure 3. Supply Chain Resilience Strategies

Economic Context and Supply Chain Resilience

The research highlights that the economic structure and regions play a significant role in the management of supply chain resilience. Australia being in a developed country setting, outlined that the resilience tactics adopted were complimented by the availability of logistical and financial resources [18]. However, the sustainability of the supply chain for a developing country like Fiji, was heavily impacted due to the lack of investments in infrastructure and heavy dependence on imported products. These challenges find the need for stakeholders, government agencies, and political leaders of the world to address such issues and provide customized plans and strategies that suit the needs of each business sector [19].

Consumer Behavior and Supply Chain Impact

Australia: Panic buying was one of the major impacts on the change in consumer behaviour worldwide and Australia was no different. However, Australian supermarket industry was able to mitigate these issues with its ability to react adequately on the issues to improve communication and stock management. The initiative that played a huge role in controlling the impacts on the supply chain was the implementation of Click and Collect an Online purchasing platform [20].

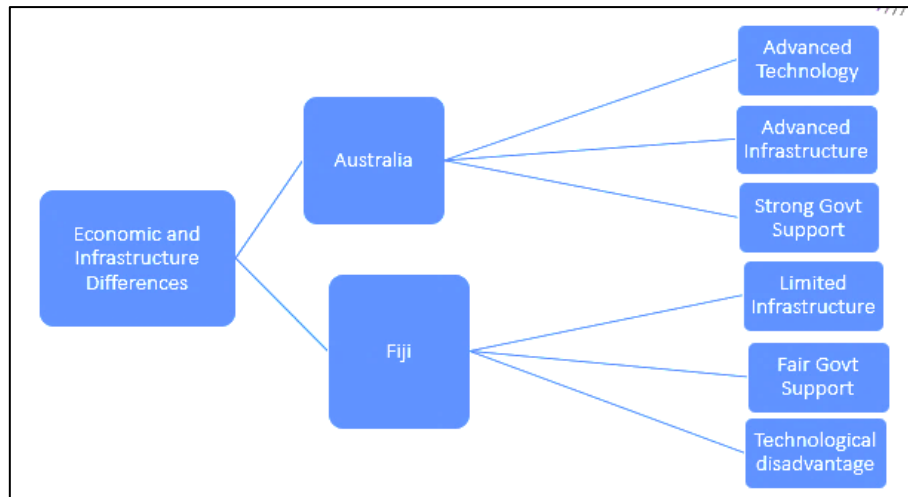


Figure 4. Economic Context and Supply Chain Resilience

Fiji: The consumer behavior in Fiji was no different from the rest of the world. Panic buying during the first outbreak rose, leading to stock shortages and limiting the supply chain. The restraint on imported products and a significant impact, was due to the change in the consumers' purchasing behavior.

Outcomes: Contribution to the Research Problem

Supply Chain Resilience Enhancement

An understanding of how different economies operate and how their supply chain reacts to the smallest disruptions so that resilience can be achieved. A comparative analysis of different economic sizes, regions, geographical locations, and infrastructure capacity can assist leaders and policymakers in developing more efficient, effective and context-specific strategies for the enhancement of supply chain resilience in developed and developing countries like Australia and Fiji. To be able to achieve this, investments in infrastructure, development of local supply chain, adoption of artificial intelligence, technology and IoT [3, 21].

Realistic Consequences for the Supermarket Sector

The research provides a platform for supermarket industry to significant information on the efficacy of various resilience tactics. Supermarkets must plan and have an emergence strategy set up to mitigate any future disturbances to the supply chain. Each sector must have a customized resilience procedure back up which can be used during the times such as COVID-19 Pandemic. Supermarkets in developed nations like Australia can concentrate on improving digital infrastructure and data-driven decision-making, while those in developing nations like Fiji might profit from regional trade agreements and investments in local production capabilities [1, 2].

Policy Implications

Governments of developing countries like Fiji should focus on investing into advancing technologies, infrastructure, and logistics to improve and maintain a healthy supply chain which is stable in times of crisis. For a country like Fiji, which heavily depend on imports for the movement of the supply chain must look to build trade agreements and increased international collaboration to maintain a stable supply chain [15], [17]. Region specific agreements that is countries in the Pacific should have a strategic plan to face any future disruptions. Governments should provide incentives and tax evasions plans to support businesses and industries which promote the improvement and building of strategies which will benefit the country in times of crisis as huge as the COVID-19 Pandemic.

Broader Implications

Social

Food Safety: The findings have significant implications for food security, especially in developing nations. Research can help develop ways to guarantee a steady supply of necessities during emergencies by identifying the weaknesses in supply networks and the elements that contribute to resilience. The developed strategies must be utilized to mitigate the issue of shortages [18].

Customer Behaviour: Through the understanding of the behaviors of consumers affecting the supply chain during the pandemic, supermarkets, and government stakeholders can design a more customized and effective plan to mitigate the issue of panic buying [22]. The use of such tactics can reduce the burden of the supply chain networks as well as equal distribution of products.

Economic

Economic Resilience: The research highlights the relevance of the supply chain to the operations of an economy. Having a resilient and stable supply chain plays a crucial role in maintaining a healthy economic structure, promoting recovery and reducing the risk of job loss. A critical aspect of economic resilience lies in the need to use such results to constantly promote investments and upgrading of policies [19].

Investing in Infrastructure: Through the research, it was highlighted that to have a resilient supply chain, it is highly significant to invest in new technologies that provide support to supermarkets during a crisis like the pandemic. Developing nations like Fiji need to understand that current investments in cutting-edge technologies, building diversified transportation networks, multiple supplier networks and infrastructure will provide the most needed support during the disruptions caused by disturbances to the supply chain [17].

Technological

Digital Advancement: With the world striving towards technological advancement, it is extremely important that the food industry starts adopting new technologies that would provide added benefit in maintaining a resilient supply chain. Developed countries like Australia, understood the important role of these advancements and the use of digital technologies like data analytics, IoT, artificial intelligence and computerized inventory management systems helped reduce the impacts of COVID19. Both a developing country and a developed country would benefit from adapting to the investments in digitization's [4].

Business Implications

Strategic Planning and Collaboration: Anticipating future disruptions, the supermarket industry should create customized and sector-centred strategies, increase supplier diversification, and invest in updated technologies to maintain a healthy supply chain resilience [3]. To maintain a healthy and clean supply chain it is crucial to collaborate with the key stakeholders and players of the supply chain

RECOMMENDATIONS

For Developed Countries (Australia)

- **Investment in Advanced Digital Technologies:** While already having invested in modern technology to aid in the decision-making process with regards to the supply chain, Australia should continue to invest in innovation to strive to achieve a supply chain that is not impacted by any future crisis as huge as the COVID-19 Pandemic. With the rise in Artificial intelligence, supply chains could gain and achieve a whole new level to facilitate a speedier reaction and recovery times during any future events impacting the supply chain.
- **Strengthening of Supplier Networks:** Australia should focus on implementing ways to manufacture products on which it had to rely on import for during the pandemic. Having a local manufacturer for all the products would tend to provide more support during the times of a crisis and mitigate the issue of out of stock. Also building relationships with the pacific countries and contribute to promoting a pacific region support plan for any future disruptions impacting the supply chain resilience.

For Developing Countries (Fiji)

- **Infrastructure Investment:** For a developing nation like Fiji, it is extremely important in trying to promote local production of products to reduce the reliance on imported goods. This would only be achieved by having proper facilities with highly relevant infrastructure which would aid in the building of supply chain and management of operations by providing support. Increase capacities to building a strong transportation and logistics, diversify suppliers and build a pacific region bond to support each other with the necessary shortages issues faced. The investments in infrastructure will also increase the rate of employment which would eventually lead to a boost in the economy and resilient supply chain.

- **Government Support:** The Fijian Government should provide support to businesses that venture into the local production of products for which the Fijian market usually relies on imports. This could be done by providing incentives, reducing tariffs, tax free the importation of plants and equipment to set up factories. Government assistance in the food industry would not only provide a country with resilient supply chain but also strengthen its capacity to mitigate the future crisis

CONCLUSION

The research highlights the challenges that supermarkets in Australia and Fiji face through the impact of the COVID-19 Pandemic. Further on an understanding of economic structure and consumer behavior and its roles in adversely impacting the supply chain resilience. A strong technological background, diverse supplier network and capacity to invest into infrastructure was some of the significant reasons as to why Australia faced a brief impact on the supply chain and on the other hand, Fiji had collapsed at the stage where import reliance was high. To mitigate the issue of supply chain resilience, it was outlined that international collaboration, digitization into advanced technologies and having a wide range of suppliers.

The comparison of supply chain resilience in a developed vs a developing country makes this research different. This provides a platform for the food industry, particularly the supermarkets, in trying to build a customized plan which would work in the long-term operations and having to maintain a resilient supply chain. Also, by offering a sophisticated knowledge of how supply networks are affected differently by global disruptions depending on the economic environment, this research closes gaps in the body of literature.

Undertaking this research was worthwhile since it adds to the body of knowledge regarding supply chain resilience while also providing actionable suggestions that can be used to strengthen supply chains in both developed and developing nations. The effects of the findings extend beyond the food business, as supply chain resilience concepts may be applied to a variety of industries that are confronting disturbances from around the world.

Future studies should examine the long-term effects of digital solutions on the robustness of supply chains, especially in developing nations. Further insights into the weaknesses and advantages of various supply chain configurations can come from a more detailed examination of certain food-related sectors. Contributions to the topic might also be made by improving the research by integrating real-time data and investigating the application of cutting-edge technologies like blockchain and artificial intelligence in supply chain management.

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