



Managing the COVID-19 Crisis: Business Strategies Adopted by Sri Lankan Manufacturing Firms

M.T.S Perera^{1*}; M.D. Pushpakumari²

^{1,2}Department of Business Administration, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Nugegoda, Sri Lanka

ABSTRACT

The COVID-19 pandemic caused an immense impact on the global economy and affected divergently to the world of work. Due to strict regional lockdowns, the food manufacturing and logistics activities have been suspended. Therefore, the firms' management had to look at threats and opportunities in the environment and have begun implementing new business strategies and actions during the COVID-19 pandemic. As a result, the companies that responded quickly to this crisis by formulating coping strategies showed strong sales growth. Hence, this study aims to uncover the coping strategies and actions adopted by Sri Lankan food manufacturing firms during the COVID-19 pandemic. This study has followed the qualitative research approach and is inspired by the interpretivism research philosophy. Five large-scale food manufacturing companies have been selected based on the purposive sampling technique. The authors were able to discern coping strategies pertaining to four core business processes. Temporary collaborations, redesigning the procurement, strategic investments in advanced technologies, introducing crisis inspiring innovations, rapid digital transformations, line simplifications and downsizing can be identified as some prominent strategies. With the Covid-19 outbreak, still there is a lack of research studies regarding the strategies adopted by different industries and none of the studies have previously investigated the crisis-coping strategies adapted by food manufacturers in developing economies like Sri Lanka. The findings of this study will be a useful insights for the management, when formulating efficacious strategies and policies to cope with inevitable future crisis and offers a groundwork for further empirical studies.

Keywords: Covid-19, Business Strategies, operation management, supply chain management, marketing and relationship management and human resource management.

Citation: M.T.S Perera & M.D. Pushpakumari (2021). Managing the COVID-19 Crisis: Business Strategies Adopted by Sri Lankan Manufacturing Firms. *International Journal of Arts, Humanities and Social Studies*, 3(6), 33-42.

INTRODUCTION

The Covid-19 pandemic first broke out in Wuhan city in Hubei province of China and has been spreading in whole the world. It caused an immense impact on the global economy and affect divergently to the world of work. The International Monetary Fund (IMF) estimates that the global economy will contract by 3 percent, much worse than during the 2008/09 financial crisis, and estimates will probably be revised down [1]. Even though recovery is expected in 2021 by the IMF, still new variant of corona virus spreading all over the world very past, impacts on business and every aspect of social life. Moreover, it caused many interruptions to our societies, increased unemployment rate and inequity of income distribution, remittances are falling rapidly and loss of lives. As a result of the travel bans and regional lockdowns enforced by governments, international and domestic transport services have been halted. Further, manufacturing and logistics activities have been suspended due to the sudden supply chain disruptions resulting from Covid-19. Governments and local authorities made a great effort to navigate the economic breakdown and provide support for the business to survive, revive and thrive [2]. Notwithstanding, during this crisis manufacturing firms had to face countless challenges including, cash flow reductions, delays happened in the recovery process, cancellation of orders, instability of supply chains and changes in customer needs and the emergence of new competitors after this crisis. This is a crucial moment for businesses to discover new ways of doing business. Hence, managers had to continuously be aware of the threats and opportunities in the environment and by doing so they have begun implementing new business strategies and actions during the Covid-19 pandemic. Under those circumstances, management has to suggest new approaches for businesses to manage and organize their limited resources [3,4]. Almost all the industries started to redesign business strategies to stabilize the business during the Covid-19 pandemic. For that, it is vital to have a deep insight into threats and opportunities posted by Covid-19. Thusly, the companies who respond the quickest to this crisis by formulating successful crisis-coping strategies, they all showed strong sales growth.

Although most businesses are struggling with the rapid outbreak of Covid-19, all businesses were not grappling to the same degree and they were not severely affected by the pandemic[5]. Most of the essential businesses remain open and others have been forced to partially function or temporarily close their business operations. Due to the travel

restrictions imposed by the authorities, people had to stay in their homes and it caused a significant reduction in demand for goods and services [6]. However, the demands for the necessities such as food, water and milk, etc. haven't declined, because people are looking for foods and they want foods that will contribute to their health and wellness in order to face this pandemic. A study conducted by Kumar and Abdin [7] concluded that there was a significant change in consumers' consumption patterns due to the Covid-19 pandemic and now they are largely spending on products and services which are essential for their day-to-day life. According to Yeganeh [8] even though traditional retailers in the food industry are suffering from the effects of lockdowns, reputed retailers were able to report a significant boost in their sales. When compared with other industries, manufacturing industry which provides necessary food items have increased their sales and their sales turnover haven't significantly affected by Covid-19[6].The number of available food products on the market has lessened due to the lockdowns and this also provides privilege to the food manufacturing companies who started to redesign their business strategies to cope with the Covid-19[8].

With the advent of the Corona virus, still there is a lack of research studies regarding what are the strategies adapted by different industries to cope with the Covid-19 pandemic and notably, most of the literature was not identified crisis-coping strategies adopted by the food manufacturing industry. According to researchers' knowledge, none of the studies have previously investigated the crisis-coping strategies adopted by food manufactures in developing economies like Sri Lanka. Therefore, the researchers hope this study will contribute to filling the knowledge and contextual gap pertaining to the highly contemporary important research area in order to survive with unforeseen and inevitable future crises.

Even though the Covid-19 pandemic situation caused enormous challenges to the food industry, the companies who respond quickly by formulating new strategies showed strong sales growth and increased their market share as well. In the short term, food manufacturing firms have recovered faster and in the longer term, they could become more resilient by creating new practices and formulating efficacious strategies in this pandemic situation. Further, most business and economic experts believe that the world after Covid-19 will never be the same again as before. Businesses, therefore, must evolve and adapt to this new normal by finding new ways of doing existing things. Therefore, the main aim of this study is to identify crisis-coping strategies and actions adopted by Sri Lankan food manufacturing firms during the Covid-19 pandemic.

Literature Review

The firm's ability to survive and prosper from unprecedented environmental changes depends on choosing and implementing good strategies. The way firms achieve their competitive advantages can also be defined as their strategies [10]. Strategic management is the process of formulating and implementing firms' strategies [9]. Due to the scarcity of resources when formulating and implementing a strategy, firms need to determine which alternative strategies will benefit the firms most by carefully analyzing the ever-changing environment. Strategy implementation means deploying the limited resources in order to put formulated strategies into action [11]. Even in previous pandemics and epidemics times also, firms who quickly respond to the challenges by formulating and implementing good strategies showed strong resilience. Because those efficacious strategies have major multifunctional consequences, enduring effects on an organisation and determines long-term competitive advantages as well. Furthermore, the Strategic management process belief that organisation should continually monitor internal as well as external environmental changes so that timely changes can be made as needed. Hence, the strategic management process and its output of efficacious strategies aim at allowing organizations to adapt effectively to unprecedented crises.

As the environment changes, firms are forced to change their ongoing strategies as well. For that time to time environment analysis is vital in order to redefine existing strategies accordingly. The challenges posted by Covid-19 is unexpected and in order to survive in such a situation, firms are required to analyze its strengths and weakness. Because distinct types of challenges demand distinct types of strategic responses. Hence, when managing and surviving such a global crisis, a business must know where they stand and their strength and weakness before choosing which actions to take or which ways to go. Successful organizations effectively manage changes happen in the environment, by continuously analyzing and evaluating its environment, strengths and weakness so that existing strategies can be redefined according to those unexpected states.

The Covid-19 pandemic caused an immense impact on all industries including the global food manufacturing industry. The food industry includes series of activities pertaining to processing, transformation preparation, preservation and packaging of food items[12]. While almost all manufacturing firms across the world have been affected by Covid-19 the demand for the necessities such as food items, sanitizers, toilet paper and medicines go up expeditiously. But the market demand for the products like sports items and garment items was drastically declined[13]. During the pandemic, there were sudden demand spikes and a decrease in raw material supply caused a dual disruption for manufactures who produce high-demand items[14].

Telukdarie et al. [15] highlight some areas in the food and beverages manufacturing sector which were challenged by Covid-19 as operation process, emergency responses, supply chain and logistics activities, digital conversion, incident management and other unexpected collisions. This industry had to study the virus and design operations accordingly. They need to implement health and safety measures to protect workers and are required to restructure operations activities in order to continue the production process in a safe, cost-effective, environmentally sensitive and sustainable manner[15]. The Covid-19 pandemic has influenced most of the manufacturing firms all over the world and some firms had to temporarily halt their operations while some firms had to curtail their production [16]. Such kinds of pandemics and epidemic outbreaks are a unique risk for all the manufactures and create a high level of uncertainty, increasing propagation and disruptions in collaborative networks negatively affecting parties such as customers, suppliers, distributors and manufacturers as well.

Covid-19 disruption scope is two-sided for manufacturing as a disruption in the whole manufacturing process and exogenous supply chain disruption causing significant shifts in demand and supply [17]. Research has found several challenges faced by manufacturing firms during the situation such as unavailability of inputs required, disruptions in distribution channels, unavailability of human resources, the surge in demand, increased machine breakdowns, increase in work pressure and the restrictions imposed by local authorities [16]. Another major consequence of Covid-19 is business relies more on intangible assets and technological improvements while reducing the number of employees [8]. During the world financial crisis 2008–2009, the demand for the good and services in many industries dropped, however, there was less disruption in the service side. Even though buyers were facing a liquidity crisis, they didn't go for new products, still there is a demand for regular services. Therefore, manufactures are still in a position to sell their complementary goods and replacement parts which provides a high-profit margin[18]. Exit strategy also considers as one of the last possible reactions if other strategies are deemed unsuccessful. A successful business's downsizes, or exit may lead to free up new resources which can utilize to strengthen existing strategies or strategic renewals [19].

An increase in the manufacturing cost is a primary challenge faced by Sri Lankan manufacturing companies. This was mainly because of China, the main raw material supplier to the country being affected firstly by the Covid-19 pandemic. As a result of that, the Sri Lankan companies had to search for new suppliers whose raw material costs are higher than the existed suppliers [20]. Lack of operational cash flow is another challenge face by Sri Lankan manufacturing firms. Therefore, they have to secure the cash flow by limiting the expenses as much as possible. Deferred payments by the retailers are an impact of Covid-19 especially on the apparel industry [21]. Cash invested in raw materials does not generate returns and buyers have rescheduled the existing orders in processing and postponed the future orders [20]. Research has revealed that the firm innovativeness supports the firms to face negative financial consequences experiencing due to the crisis. Also, it is said that high innovative firms are more efficient and profitable while they are comparatively having a chance of survival than other firms. As such the firm innovations are highly productive in rapidly changing environments rather than in stable environments [22].

Transportation during the pandemic was also a challenge faces by the manufacturing firms in the country. Many countries restricted international flights and within the country also, border locking was imposed affecting road and rail transport as well. Such initiatives negatively affected the supply chain of the manufacturing organizations [20]. Further, the firms had to face challenges in terms of adaption of new technologies, ensure supply chain stability and minimize demand and supply mismatches. Supply chains of manufacturing firms are also affected by this pandemic significantly [23]. Several initiatives are taken by a lot of countries to minimize the spread of the virus such as closing borders and suspension of airlines negatively affected the imports and exports of manufacturing firms increasing their lead times [24]. As discussed in much literature, firms have had to deal with difficulties in constructing a sustainable supply chain. Identifying strategies to deal with this kind of pandemic is important especially for firms with complex supply chains [25].

As a consequence of the Covid-19 outbreak, large and medium scale companies looking for small companies that can gain help and assist to overcome their difficulties. When considering the past four decades, we can identify those large-scale companies have continued the acquisition of more and more small scale business in order to grow their market power. There is an increasing trend of that acquisition with the advent of Covid-19. Even in the middle of this world crisis situation, fewer large-scale companies have raised their power and market shares and become much more powerful [8]. E-commerce has drastically grown since the late 1990s, however this outbreak of Covid-19 clearly uttered the importance of online shopping. The traditional business also focused to upgrade conventional marketing divisions and enhanced distribution systems. In order to adapt to this new normality, marketers started to promote goods and services virtually. Internet and social media became more popular for virtual promotion, because of travel restrictions and consumers were spending more time on the internet and social media [8].

This crisis allowing companies to be tested new methods of working and changed the things that they were reluctant to do before. Thus, businesses focus on gradually moving to flexible, team-based, virtual organisational structures from

conventional stable organizational structures [8]. Further, Covid-19 compelled to adopt new work methods like working with social distance left the employees less productive and curtailed the level of production [5]. More companies may be inclined to take risks and embrace new work methods to cope with the unprecedented Covid-19 crisis. Many countries all over the world have employed smart lockdown strategies to overcome the problems like supply chain disruptions, closure of businesses and sales downturns [6].

Remote working is a widely adopted trend by business firms to a float business operations. There were benefits of this model to firms such as flexible schedules, the ability to work from any location, more time to spend with the family. In contrast, there are challenges as well of this model to organizations such as difficulties in team collaboration, media distractions, disturbances from family members, unavailability of reliable internet connections and less mental stimuli [16]. As such the entire manufacturing industry has been disrupted by the Covid-19 pandemic. Therefore, firms require to adopt suitable changes and precautionary measures to continue the business operations and in order to survive the post-pandemic world, they are required to analyze and redefine their existing business strategies and plans [16]. Studies highlight the importance of new models such as the transition to more service-oriented business models, continuous investment in the latest technologies and advanced services for the firms to a better position in the midst of this pandemic [26]. Flexible and advanced manufacturing technologies should have the ability to provide adaptable production capabilities which will be less affected by disruptions [27]. The collaborative approach of all the companies in finding the common solution has been highlighted in this crisis. All the stakeholders such as customers, suppliers, distributors and competitors show a desire to work together to solve a common problem, resulting in an increase in this climate of collaboration [26].

METHODOLOGY

This study has followed the qualitative research approach and is inspired by the interpretivism philosophy. Qualitative methods are more flexible and allow the interaction between the participant and the researcher. Also, it allows for the opportunity to collect more in-depth and descriptive ideas. Here, different ideas, perceptions, suggestions, attitudes, beliefs and views are taken into the study. Hence, more descriptive and in-depth data were collected using a qualitative approach. The type of research study is exploratory. The in-depth interview method is used as the primary data collection method in this research study. The interview guide focuses mainly on what are the crisis-coping strategies and actions adopted by food manufacturing companies in order to continuously operate their business during this crisis without any significant curtailment in production. Five large-scale food manufacturing companies were selected based on the purposive sampling technique and pseudonyms were utilized for companies' names. The selected companies were the manufacturers of the essential goods who have more than 10 years of experience in the food manufacturing industry and continued their operations during the Covid-19 pandemic under strict travel bans and regional lockdowns enforced by the government. During the pandemic, there were sudden demand spikes and a decrease in raw material supply caused a dual disruption for manufactures who produce high-demand items [14]. In a similar vein, all of them had a good demand for their products and had to come up with strong coping strategies to cater to such high demand. Because of the manufacture does not have any efficacious coping strategies in this crisis, the cost associated with this unmet demand is high. By formulating new strategies and redefining existing strategies, those selected companies showed strong resilience as well as sales growth with the advent of the Corona virus. The study conducted by Aftab et al., [7] revealed that when compared with other industries, the manufacturing industry which provides necessary food items has increased their sales and their sales turnover hasn't been significantly affected by the pandemic. Hence, the given profile of interviewed companies exhibits that they all have evolved and well adapted to this immense impact posed by the Covid-19 pandemic. Business development specialists and business strategy specialists of the selected companies participated in the interviews to satisfy the quest for this knowledge.

The purposive sampling method enables the researcher to select the most relevant manufacturing businesses that have survived and revived from this unprecedented crisis in order to meet research objectives, as per the understanding and judgment of the researcher's subject knowledge. Hence, by utilizing the purposive sampling method researcher was able to select a suitable target sample who have formulated and implemented efficacious coping strategies in this pandemic situation. Due to the prevailing crisis and regional lockdown, the purposive sampling technique aided to obtain the required data and information time and cost-effectively. The researcher obtained direct consent from all the participants before participating in the interview and they also had the opportunity to raise questions if they need any clarifications. The researcher promised the protection of privacy and the confidentiality of the information provided by the participants and fully informed them about the research, its objectives, expected duration and procedures. Thematic analysis was used to analyze the gathered qualitative data in order to arrive at a comprehensive understanding of the research objectives. The researcher has identified four themes under crisis coping strategies pertaining to core business processes namely, operation management, supply chain management, marketing and relationship management, human resource management.

FINDINGS AND DISCUSSION

This chapter includes an analysis and explanation of the data that have been collected from the sample. The basic objective in data analysis was getting a feel for the data [28]. In qualitative research, thematic analysis and coding were used in data analysis [29]. According to [29], identifying the relevant theory relating to research questions and analyses those data according to that analysis is called thematic analysis. The collected data has been analyzed and discussed incorporating on the thematic analysis and using related findings of similar studies from other scholars in order to achieve the overall objectives of the research study.

Operation Management

Operations management can be identified as a critical business process where the raw materials and labor are converted into a final product or service and design business practices to achieve the highest possible efficiency level within a firm. The Covid-19 outbreak may encourage businesses to rethink about the inherent weakness and fragility associated with their current operations[8]. Manufacturing firms have faced various problems in relation to operations and the main problem faced in the manufacturing process was the increasing production cost due to the problems associated with the procurement of raw materials. Moreover, some business has to reconsider about their extensive collaboration networks like outsourcing decisions and others have to redesign research and development strategies previously adapted by them. Replacement of inputs required for production, rapid digital transformations of the businesses is another problem posed by the Covid-19 pandemic. Hence, the manufacturing business had to adopt various measures to cope with these problems and the following is discussed some strategies used by them. Company A has carried out continuous cost analysis to make the most profitable decision.

“First we do a cost analysis to evaluate which is more advantageous between procuring kernel of coconut or coconut milk. Earlier, we did this once a month. But now we decided this once a week with evaluating economic scenarios more closely in order to make purchase-related decisions.”

Redesigning the procurement process is another strategy adopted by Company A to drive operational excellence in the pandemic situation. This company had to redesign the procurement plan by discussing with the marketing department and other departments on what orders they need to be completed on an urgent basis. The supply chain of the firms were affected by the pandemic and therefore, the firms had to make decisions regarding the production in situations where supplies reduce. Hence, Company B has given priority to the profitability of the firm, Cash Cows which provide a high margin of profit, in such circumstances. The production manager emphasized that *“Those days, if the raw material supply got decreased, we firstly ran the most profitable product line.”*

Businesses, therefore, had evolved and adapted to these new work methods such as frequent cost analysis, redesigning of the procurement process to make the most profitable decisions in order to cope with the problems relating to the minimization of the manufacturing cost. Accordingly, it could be stated that this study contemplates the findings of the study conducted by Yeganeh [8] revealed that more companies may be inclined to take risks and embrace new work methods to cope with the unprecedented Covid-19 crisis.

In this pandemic situation also, some businesses focused on strategic investments in new assets. Company A has re-evaluated the outsourcing decisions and decided to bring the processing activity back to in-house considering the costs and benefits involved during the pandemic. Moreover, it shows that the company is relying on fixed assets, as they continuously invest in them even in the pandemic situation and increased their resilience in business process by horizontally integrating their business processes without relying on the third parties which are vulnerable by covid-19. These findings further support the literature that the Covid-19 pandemic was led to an increase in tech-centered companies while obsolescence of traditional businesses that rely on human resources [8].

It is assumed that there would be able to see significant ongoing innovations throughout the society with many innovations which will have a long-term societal impact [27]. Research and development are a process intended in introducing new products and services. Manufacturing firms bring crisis inspiring innovations during the Covid-19 times and bounce back stronger. Company A also has identified an opportunity prevailing in the market and addressed it as a new product. Even though they had five new products to be released out, they only introduced a vegan coconut milk powder during the pandemic situation. Because consumers were more focusing on healthier products in this Covid-19 pandemic situation [7].

The workplaces are undergoing rapid digital transformation and full automation to cope with crisis and is expected to continue in more digital transformation in the future [30]. As such company A has automated one of its production processes so as to cope with the pandemic situation. The major reason for that is company faced difficulties to get back employees to work and social distancing caused to reduce productivity. Previous literature in this area of research reports that social distance practices and guidelines left the employees less productive and curtailed the level of production [5].

“One development took place in the canning process. It required a larger man workforce. We automated this process because we had an issue with labor supply those days. Therefore, we automated this to manage the situation.”

Manufacturing firms can focus on line simplifications and line extensions strategies in their product lines in this kind of crisis. According to Ren et al.,[19] a successful business downsizes, or exit may lead to free up new resources which can utilize to strengthen existing strategies or strategic renewals. Company C has trimmed their unclean seafood line to a manageable size and extended the clean seafood product line identifying the increasing demand in the market for the particular product line.

Sheth [31] stated that technological, demographic and public policy changes were the major factors that create new consumer habits as well as giving up old habits. Consequently, high demand for healthier products can be identified during Covid-19 [7]. While the pandemic has changed consumer habits, Company E has adopted line extension in frozen food items after identifying the increasing demand for the product by consumers. Health concern among people has been increased with the prevailing Covid-19 pandemic. As a result, the demand for healthy food items also has been increased. Company E has conducted the trend research accurately and identified the demand trend.

“Consumers tend to think more about their health well-being (family health, healthier meals, healthier minds, and healthier bodies) because of the Covid-19 pandemic. They think that having a better health will support quick recovery from Covid-19. Therefore, the demand increased for healthier options such as yoghurt, fresh fruits and vegetables.”

Replacement of inputs has been implemented as a method of sustaining the manufacturing process by company D as a threat occurred for them in obtaining packing materials. They faced an issue in packing materials relating to the import of materials such as plastic and polythene. They had to find an alternative as they had to supply customer orders because they had already accepted those orders. Therefore, they have shifted to bio-degradable packaging materials to continue their manufacturing process. Previous literature in this area of research reports that maintaining buffer inventory or safety stock and alternative input sourcing as disruption recovery strategies can be utilized [32]. Employing a safety stock inventory is another strategy used by company B to sustain their manufacturing process during the Covid-19 pandemic. There can be sudden disruptions in the supply of raw materials due to unprecedented travel restrictions and other regulations. Therefore, maintaining a safe stock inventory is useful in delivering customer orders continuously.

According to Anderson et al.,[33] as a result of the Covid-19 pandemic, business have increased their reliance on advanced technological platforms in order to cope up with this pandemic and speed up their technological adoptions which previously encountered resistance. As suggested by researchers, interviewed companies have experienced a drastic transformation of their operations with the introduction of Teams, Zoom and Cloud computing facilities and they have established work from home methods even before the government imposed travel restrictions and regional lockdowns. Thereby, adapting proactively to the new communication and collaboration platforms, they were able to satisfy the customer requirements continuously.

Supply Chain Management

Supply chain management is a critical process in a manufacturing firm that involves the flow of goods and services from raw materials to the final product and eventual delivery to the end-user. This Covid-19 pandemic has suddenly created new challenges to this process and supply chain managers had to address for this under extreme uncertainty. As to food manufacturing firms, many problems were recorded in supply chain management including the shortage of raw materials, supply chain disruptions, seeking temporary collaborations to maintain stability, ensuring the protection of the permanent suppliers from Covid-19 pandemic and delivery of final products to the consumers. Following is discussed some strategies adapted by manufacturing firms to overcome these identified problems. Supply chain disruptions as well as the reduction in the raw material supply caused a rough time for the manufactures [34].

In order to mitigate the inherent risk associated with supply chains, researchers have suggested various recovery plans and coping strategies. Among those coping strategies, information sharing and supply chain collaborations can be identified as the most commonly used strategies [35]. Supply chain collaboration has been renewed through temporarily collaborating with new suppliers by Company A to ensure continuous production.

“We took significant measures to maintain the stability without disrupting the supply chain in the pandemic situation...We went to temporary collaborations with new suppliers because we wanted to supply raw materials for continuous production. Also, we were highly concerned about the delivery time as there were travel restrictions. We went to temporary collaborations in which raw materials could be supplied at a lower delivery time.”

Providing necessary facilities to supply chain partners is also a measure taken by company A in order to ensure the continuous supply of raw materials and to protect the suppliers from the Covid-19 pandemic. For that reason, in order to maintain a continuous supply of raw material and to safeguard the permanent suppliers from the new virus variants, they all have been freely provided necessary Covid-19 Hygiene Kits. Moreover, Company E has reduced the repayment period for their suppliers and settled before the agreed due date to maintain a continuous supply of raw materials. *“For some suppliers, we paid money even before the due date because we needed to maintain the stability of the supply chain.”* Thereby, they believe that permanent suppliers will be able to manage their financial difficulties at least up to some extent and will help them to maintain the stability of the supply chains in times of crisis.

Delivering final products to the customers is one of the salient elements in the supply chain and all the manufactures had to encounter an issue in delivering their final products to the consumers due to disruptions in the supply chains. In previous turbulent times also, manufactures have survived and revived their business by moving from a complete product-centric business model to a service-centric business model[36]. Company D has identified the opportunity existing in the market with Covid-19 and has implemented own home to delivery services by adapting a new service strategy.

Marketing and Relationship Management

Marketing is a vital process that creates value for customers and builds strong customer relationships. With the advent of the Covid-19 pandemic, manufacturing firms had altered their marketing strategies more wisely than ever before by identifying the changes that happen in customer needs and the external environment. However, revising existing marketing plans, retaining existing consumer and customer base, adapting themselves for virtual promotion, keep in touch with customers with the advent of the Covid-19 are some problems faced by food manufactures and the rest of the discussion part is focused on providing an in-depth analysis of strategies adopted by them to mitigate such problems.

Product development strategy is a process of bringing innovations to existing products. This helps in expanding new market segments and diversifying target customer groups. Company A has done new product developments during the pandemic by successfully revising its existing marketing plans. Because they identify that it was not a good strategic move to increase their market share or volume by marketing non-essential goods in this pandemic situation. Kumar and Abdin [7] have concluded that there was a significant development in the consumption habits of consumers and when considering pre-Covid 19 and post-Covid 19 consumption patterns they were spending largely on essential goods. Hence, Company A was able to successfully identify the changes that happened in customer demand and has redesigned its marketing strategies during the Covid-19 outbreak. Advertisement costs for the less demanding items have been lowered and that resources have been reallocated to the new product development process.

Company E has changed the strategies relating to credit management to retain its existing customer base. Because retaining the existing customer base is very important in times of crisis in order to maintain a healthy customer retention rate as well as to increase order frequency. Hence, Company E has granted an extended repayment period for their customers even though it caused an extra burden.

“Company has to retain the customer and the consumer, therefore the company had to change the credit strategy...Reseller tries to buy essential goods more these days. But we also need to sell non-essential goods. Therefore, had to increase the credit period given for non-essentials. The credit period kept the same for essentials. The credit period of 30 days had to increase up to 60 days. If not the reseller or customer discontinues the purchase from us. They think it is useless to buy and stock non-essentials. Credit strategy also comes under marketing strategy. After the pandemic, we cannot lose customers. Therefore, need to use this as a flexible strategy.”

Yeganeh [8] identified that due to lockdown and travel restrictions imposed by the governments, the time spent by the customers on social media and the internet has increased. As a result of that marketers have changed their conventional marketing strategies and started virtual marketing campaigns by adapting themselves to the changing environment. Company C has identified the trend in the use of technology by consumers and introduced an app to retain the existing customers and attract new customers in this crisis situation. As a result of that their customers can order via a phone call or via the app and a special discount of 10% was given for orders made via the app. Because Company C has identified that customers don't know about their entire product range when ordering via phone and they only order the essentials via a phone call. *“But when using the app, they see our whole menu, because of that more can be attracted through the app. We were able to go for an increased sales volume through that.”*

Company C has brought a technology driven innovation to gain a competitive advantage within the manufacturing industry which faces a crisis. Because, the app innovated has brought many benefits to the company, proving the success of moving to advanced technologies. By collecting orders via the app, they were able to correctly forecast the short-term

demand, reduce the wastage and holding cost, can keep up consumers' awareness of the full product range and also was able to easily reach their customers via the app.

The internet and social media became as a more popular virtual marketing methods during the Covid-19 pandemic. Marketers started to promote their products and services virtually by adapting themselves to the new business environment [8]. Accordingly, Company C also has identified this trend and invest more in e-marketing platforms like Facebook promotions to increase the customer base.

Human Resource Management

Human resource management practices have been drastically changed with the Covid-19 pandemic and finding labor has become one of the major problems to manufacturing firms. Most of the interviewed businesses agreed that it was more challenging for them to maintain social distancing, to get employees back at work during the pandemic situation and to keep their factories free from the threat of spreading the virus. More companies may be inclined to take risks and embrace new work methods to cope with these identified problems. Businesses had to implement new work methods and techniques in order to normalize the manufacturing process while complying with the government's Covid-19 prevention policies. Maintaining social distancing and a flexible work environment have been explored by most of the business to control the labour cost and to normalize their operations [5]. Hence, almost all manufacturing firms have employed different strategies to maintain social distancing among employees. Grouping employees into separate teams, duty rosters and all the coordination done through phone calls, emails, MS Teams, zoom platform, etc. can be identified as some of the strategies. All the unnecessary movements were restricted and even the lunchroom was split, and movements were restricted in there also.

After the lockdown, when businesses resume their operations, employees show some reluctance to go out for work[30]. Hence, Manufacturing firms had to provide various facilities for their employees in order to ensure the continuous manufacturing process. From time to time manufactures had to redefine those human resource management strategies by analyzing the cost and benefits of those strategies.

Firstly, we gave transport for employees during the Covid-19. We had to bear a huge cost for that. Then the management decided to provide lodging facilities to employees. To keep them all in one place to offer them employment. We went for such a strategy.

We arranged for them a boarding house nearby the factory. Our admin and HR departments negotiate lesser rates for them and get them a place to stay. Basically, the company paid the portion of the rent on behalf of them.

Company B has effectively utilized their under-performing job roles to prevent the spread of Covid-19 in factories. For that special frequent cleaning services have been conducted by utilizing non-manufacturing staff in areas like the cafeteria in order to minimize the spread of corona virus in factory premises and thereby they were able to continuously do the production. Every 3 hours they conducted special cleaning and disinfection procedures on the surface of an instrument and high touch surfaces etc. Employees also have been adopted to these new changes quickly and normalized in the situation.

CONCLUSION

The Covid-19 pandemic caused an immense impact on the global economy and business, eventually it impacted on every aspect of human lives. During this crisis manufacturing firms had to face countless challenges including, handling increasing production cost, managing an extensive collaboration network, cash flows reductions, cancellation of orders, safety stock management, issues in labor supply, supply chain disruptions, changes in customer demand as well as developing new habits, etc. Hence, almost all the food manufactures had to look at industry challenges as well as new environmental opportunities created by the Covid-19 pandemic and have begun implementing new business strategies and actions. Most of the manufacturing firms started to redesign business strategies to stabilize the business as a response to the Covid-19. Thusly, the companies who respond the quickest to this crisis by formulating new coping strategies as well as redefining existing strategies, they all showed strong resilient ability. All in all, from time to time revisit of existing strategies and quickly aligning them with environmental changes is vital for the survival of future businesses.

The diverse crisis coping strategies adapted by Sri Lankan manufacturing firms have been categorized under four major themes namely, operation management, supply chain management, marketing and relationship management and human resource management. The manufacturing business had to adopt the following measures in order to cope with the problems pertaining to operation management. Businesses had evolved and adapted to new work methods such as frequent cost analysis, redesigning of the procurement process to handle their manufacturing cost. Business process outsourcing decisions have been revealed to increase their resilience in businesses by horizontally integrating their business processes without relying on the third parties which are vulnerable by Covid-19. Some manufacturing firms bring crisis-inspiring innovations during the Covid-19 crisis by continuously investing in research and development

processes and bounce back stronger in the time of crisis. Rapid digital transformations and automation can be uncovered as another strategy adapted by manufacturing firms, because of social distancing practices and guidelines created the employees less productive. Further, replacement of input materials has been implemented as a method of sustaining the manufacturing process by companies as a threat occurred for them in obtaining input materials. Various recovery strategies have been adapted by companies, when concerning the stability of the supply chain namely, temporary collaborations, suppliers were freely provided necessary hygiene kits to protect themselves, quick creditor settlement and moving towards service-centric business models. Moreover, almost all the manufacturing firms started to strategically amend their people management practices and marketing strategies to cope up with the unprecedented Covid-19 pandemic.

Although most businesses are struggling with the Covid-19, all businesses were not grappling to the same degree and they were not severely affected by the pandemic[5].Hence, formulating efficacious strategies and policies to cope with the inevitable future crisis is a must for the survival of every business. These findings can be utilized for other industries to gain awareness about how manufacturing firms survived and revived in a Covid-19 world. Business managers are able to get a deeper understanding of the strategies and actions implemented by manufacturing firms. This information also contributes and assists all other businesses to become more resilient in the long term.

Most of the previous literature was not identified crisis-coping strategies and actions adopted by food manufacturing firms during the corona virus Covid-19 pandemic. Hence, this study will contribute to the existing literature relating coping strategies adopted by food manufacturing firms in Sri Lanka with the Covid-19 crisis. The paper has limited its' scope into five Sri Lankan food manufacturing companies due to the prevailing pandemic situation within the country. The present study has only investigated four business processes, including human resource management, supply chain management, marketing and customer relationship management and operation management. Future studies could investigate the other business process and other industries like health care, apparel manufacturing, tourism, agriculture, baking and finance to obtain more diverse insights about coping strategies. Indeed, future explorations could consider the role of strategic leadership of top managers for surviving and coping this manufacturing firms.

REFERENCES

1. UNICEF. (2020). Tackling the COVID-19 economic crisis in Sri Lanka: providing universal, lifecycle social protection transfers to protect lives and bolster economic recovery.
2. Yang, M.,& Han, C. (2021). Revealing industry challenge and business response to Covid-19: a text mining approach. *International Journal of Contemporary Hospitality Management*.
3. Budhwar, P.,& Cumming, D. (2020). New directions in management research and communication: lessons from the COVID-19 pandemic. *British Journal of Management*, 31(3), p.441.
4. Verbeke, A. (2020). Will the COVID-19 pandemic really change the governance of global value chains?. *British Journal of Management*, 31(3), 444.
5. Robinson, J.,& Kengatharan, N. (2020). Exploring the effect of Covid-19 on small and medium enterprises: Early evidence from Sri Lanka. *Journal of Applied Economics & Business Research*, 10(2), pp.115-124.
6. Aftab, R., Naveed, M.,& Hanif, S. (2021). An analysis of Covid-19 implications for SMEs in Pakistan. *Journal of Chinese Economic and Foreign Trade Studies*.
7. Kumar, R.,& Abdin, M.S. (2021). Impact of epidemics and pandemics on consumption pattern: evidence from Covid-19 pandemic in rural-urban India. *Asian Journal of Economics and Banking*.
8. Yeganeh, H. (2021). Emerging social and business trends associated with the Covid-19 pandemic. *critical perspectives on international business*.
9. Carpenter, M., & Sanders, G. (2013). *Strategic Management: Pearson New International Edition PDF eBook: Concepts and Cases*. Pearson Higher Ed.
10. Barney, J. B.,& Hesterly, W. S. (2015). *Strategic Management and Competitive Advantage: Concept and Cases, Global Edition*. Pearson Education Publishing.
11. David, F., & David, F. R. (2017). *Strategic management: A competitive advantage approach, concepts, Global Edition*. Pearson Education Publishing.
12. Malagié, M., Jensen, G., Graham, J.C.,& Smith, D. L. (2021). "Food Industry Processes", available at:<http://www.ilocis.org/documents/chpt67e.htm>(accessed on 05 July 2021).
13. Bagshaw, E.,& Powell, D. (2020). Super markets stockpile, toilet paper production runs 24 hours. *The Sydney Morning Herald*, 3.
14. Ivanov, D.,& Dolgui, A. (2020). Viability of intertwined supply networks: extending the supply chain resilience angles towards survivability. A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*, 58(10), pp.2904-2915.
15. Telukdarie, A., Munsamy, M.,& Mohlala, P. (2020). Analysis of the Impact of COVID-19 on the Food and Beverages Manufacturing Sector. *Sustainability*, 12(22), p.9331.

16. Dar, M.A., Gladysz, B., & Buczacki, A. (2021). Impact of COVID19 on Operational Activities of Manufacturing Organizations—A Case Study and Industry 4.0-Based Survive-Stabilise-Sustainability (3S) Framework. *Energies*, 14(7), p.1900.
17. Okorie, O., Subramoniam, R., Charnley, F., Patsavellas, J., Widdifield, D., & Salonitis, K. (2020). Manufacturing in the time of COVID-19: An Assessment of Barriers and Enablers. *IEEE Engineering Management Review*, 48(3), pp.167-175.
18. Kowalkowski, C., & Ulaga, W. (2017). *Service strategy in action: A practical guide for growing your B2B service and solution business*. Service Strategy Press.
19. Ren, C.R., Hu, Y., & Cui, T.H. (2019). Responses to rival exit: Product variety, market expansion, and preexisting market structure. *Strategic Management Journal*, 40(2), pp.253-276.
20. Kavindi, B. G. et al. (2021). The effect of the Covid-19 on overall firm performance in Sri Lankan Apparel Companies. *International Journal of Business, Economics and Law*, 24(3).
21. Sen, S., Antara, N., Sen, S., & Chowdhury, S. (2020). The Unprecedented Pandemic 'COVID-19' Effect on the Apparel Workers by shivering the Apparel Supply Chain. *Journal of Textile and Apparel, Technology and Management*, 11(3), pp.1-20.
22. Ali, H.S. (2021). The role of firm innovativeness in the time of Covid-19 crisis: Evidence from Chinese manufacturing firms. *Asian Journal of Technology Innovation*, pp.1-26.
23. Zhu, G., Chou, M.C., & Tsai, C.W. (2020). Lessons learned from the COVID-19 pandemic exposing the shortcomings of current supply chain operations: A long-term prescriptive offering. *Sustainability*, 12(14), p.5858.
24. Guan, D., Wang, D., Hallegatte, S., Davis, S.J., Huo, J., Li, S., Bai, Y., Lei, T., Xue, Q., Coffman, D.M., & Cheng, D. (2020). Global supply-chain effects of COVID-19 control measures. *Nature human behaviour*, 4(6), pp.577-587.
25. Sharma, A., Adhikary, A., & Borah, S.B. (2020). Covid-19's impact on supply chain decisions: Strategic insights from NASDAQ 100 firms using Twitter data. *Journal of Business Research*, 117, pp.443-449.
26. Rapaccini, M., Saccani, N., Kowalkowski, C., Paiola, M., & Adrodegari, F. (2020). Navigating disruptive crises through service-led growth: The impact of COVID-19 on Italian manufacturing firms. *Industrial Marketing Management*, 88, pp.225-237.
27. Zimmerling, A., & Chen, X. (2021). Innovation and possible long-term impact driven by COVID-19: Manufacturing, personal protective equipment and digital technologies. *Technology in Society*, 65, p.101541.
28. Sekaran, U. (2003). *Research Methods for Business, A Skill Building Approach*, John Wiley & Sons. Inc. New York.
29. Mason, J. (2002). *Qualitative Researching (2nd ed.)*. London: Sage Publications
30. Goswami, T. (2020). Reconcieve HR Practices: Post-COVID-19 Era. In Pankaj, P., Jain, P., & Vijayvargy, L. *Envisioning Business for a Better Tomorrow*. New Delhi: Bloomsbury Publishing India.
31. Sheth, J. (2020). Impact of Covid-19 on consumer behavior: Will the old habits return or die?. *Journal of business research*, 117, pp.280-283.
32. Paul, S.K., & Chowdhury, P. (2020). A production recovery plan in manufacturing supply chains for a high-demand item during COVID-19. *International Journal of Physical Distribution & Logistics Management*.
33. Anderson, C., Bieck, C., & Marshall, A. (2020). How business is adapting to COVID-19: Executive insights reveal post-pandemic opportunities. *Strategy & Leadership*.
34. Handfield, R.B., Graham, G., & Burns, L. (2020). Corona virus, tariffs, trade wars and supply chain evolutionary design. *International Journal of Operations & Production Management*.
35. Chen, H.Y., Das, A., & Ivanov, D. (2019). Building resilience and managing post-disruption supply chain recovery: Lessons from the information and communication technology industry. *International Journal of Information Management*, 49, pp.330-342.
36. Kwak, K., & Kim, W. (2016). Effect of service integration strategy on industrial firm performance. *Journal of Service Management*.