

# Mantab Navigating Through a Global Disruption

Nicholas Vincent Gavrielatos

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This is to certify that the thesis prepared

By: Nicholas Vincent Gavrielatos

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Management

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Signed by the final examining committee:

Chair  
Dr. Navneet Vidyarthi

Examiner  
Dr. Ahmet Satir

Examiner

Thesis Supervisor(s)  
Dr. Satyaveer Chauhan

Thesis Supervisor(s)

Approved by \_\_\_\_\_

Dr. Cedric Lesage

Chair of Department or Graduate  
Program Director

Dr. Anne-Marie Croteau

May, 10, 2024

Dean of John Molson School Busine

**Abstract**  
**Mantab Navigating Through a Global Disruption**

Nicholas Vincent Gavrielatos

This paper will seek to examine as to how Mantab, a frozen fruit and vegetable importer based in Eastern Canada overcame the challenges brought upon by the Covid-19 pandemic. This case study will identify Mantab's identification, prevention, and mitigation strategies to each risk the organization is exposed to both internally and externally. Additionally, an in-depth investigation into Mantab's financial health will be conducted and how it contributed to the decision-making processes made during the pandemic. Lastly, an investigation into the company's risk tolerance and risk appetite level will be analyzed and determining whether they are in fact justifiable. The purpose of this study is to understand which decisions resulted in a positive or negative outcome and if they led to the organization gaining or losing market share. In retrospect, this will enable the organization to strengthen their overall operational resiliency and provide better insight on how to navigate through future turbulent working environments.

## Acknowledgements

“Why did you climb the mountain?”

“Because it is there.”

I included this quote in my application letter for this program, little did I know this would prove to be metaphorically, the steepest mountain and greatest feat of my life.

I am utterly grateful to finally submit my thesis, a true realization of dream that I once thought was unattainable. In May of 2012, at the age of 15 I was diagnosed with a grade 2 astrocytoma brain tumor which needed to be surgically removed, thankfully I was able to persevere through the operation. I decided to move forward with my education, and despite having a hole in my brain, I was able to earn my undergraduate degree in operations management with a minor in international business from Deree University located in Athens, Greece.

Once I returned to Canada in 2021, I wished to further my studies and obtain my master’s degree in supply chain management at John Molson School of Business. However, in February of 2022, I received distressing news that I had a recurrence of my tumor and needed to undergo emergency surgery. Thankfully I survived my second brain surgery and commenced my road to recovery. I was advised by doctors to avoid any activities that would cause cognitive stress, allowing for my brain to fully heal. It was at this point at which I did not know whether I would be able to complete my master’s program. I remained patient and continuously did everything within my power to regain my cognitive abilities.

I truly believe that life is about perseverance, facing challenges, and embracing adversity. I am currently defying the odds by completing this program, and I have stated that at my funeral I wish to have my degrees displayed as a symbol triumph and determination.

Firstly, I need to express my greatest appreciation for my neurosurgeon Dr. Kevin Petrecca, he performed two grade 2 astrocytoma resections on me thus far and without him I would not be alive today.

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Thirdly, I would like to thank Mantab for providing the necessary data to complete my research and to all of its employees who contributed to the interview process.

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## **Chapter 1: Introduction**

To begin, this research seeks to illustrate Mantab's operational strategies during to Covid-19 pandemic, which will encompass a comprehensive analysis of its pre-pandemic standing, an evaluation of its responsiveness and anticipatory methodologies throughout the pandemic and explore post-pandemic initiatives adopted by Mantab to strengthen its overall operational resilience to navigate through future global disruptions more effectively. This case study will aim to identify Mantab's managerial strategies used in addressing pivotal risks that pose the greatest threat to the organization, demonstrating which were the key decisions that resulted in positive outcomes, as well as those that had negative consequences on the company. This investigation will draw upon interviews with Mantab's executives, and departmental leaders which include, Ms. Alice Mao (Vice President of Purchasing), Ms. Thu Nguyen (Head of Logistics), Mr. Roger Vega (Director of Sales), Ms. Sophie Sarantis (Head of Accounting), Ms. Melanie Burchmore (Controller), Mr. Ibrahim Graga (Quality Control Manager), and Mr. Paul Custodio (Head of IT Department). Additionally, this research will examine Mantab's transportation data, costing sheets, and sales data through its velocity reports. Furthermore, a velocity preparedness risk heat map will be constructed for Mantab's pre, during, and post pandemic standing. By developing a heat map to evaluate risks, that display risk events on a matrix through determining its probability and consequence levels, when used effectively, allows for managers to define, identify, and measure the urgency for each respective risk (Abdel-Basset, et al, 2019). Additionally, a qualitative risk assessment tool, the bow-tie diagram will be developed for each risk identified by the company. The bow-tie method allows for managers to clearly distinguish both causes and consequences and identify actions that could potentially minimize the likeliness of occurrence of a risk (Abdel-Basset, et al, 2019). Moreover, this study will observe Mantab's strategies in identifying and prioritizing risks, which will encompass its risk avoidance, prevention, and mitigation abilities. Thus, it is imperative to understand Mantab's stance towards each risk and whether reactive or proactive approaches were adopted, this is key to further comprehending its operational agility, flexibility, and adaptability. It is noteworthy, to identify the risks that increased drastically throughout the pandemic, which posed substantial impacts on the organization in order for Mantab to devise new mitigation protocols in the event of future disruptions of a comparable magnitude. This analysis will provide Mantab's executives and department heads insights into the effectiveness of their actions, which were made in a highly turbulent working environment with limited decision-making windows and allow them to recognize which led to either positive or negative outcomes. Ultimately this case study will provide Mantab with a deeper understanding of its vulnerabilities, which should entice them to implement more proactive measures to mitigate their exposure. As a result, Mantab will enhance its operational resilience to withstand future global disruption as well as instill a culture of risk identification and correction of all operational weaknesses.

### **1.1 Company Profile**

Mantab's corporate headquarters are located in Montreal, Quebec, Canada at 1175 Trans-Canada Highway. It is now regarded as one of Canada's largest food importers, specializing in frozen fruits and vegetables, and canned products. Mantab has a long and rich history, since its

inception in 1952, it has developed partnerships across 30 countries spanning four continents, to source its diverse product range. When trading internationally it leads to global supply chains, and therefore increased risks are inherently associated, globalization and trade openness have increased overall vulnerability within the supply chain (Grutu & Johny, 2021). It should be noted that all supply chains do not have the same risks, however there are risk that are common (Grutu & Johny, 2021). Mantab is dedicated to delivering products of the highest quality and consistency at competitive prices (Mantab, 2023). Mantab delivers its imported goods across North America, achieved through developed transportation networks, comprehensive logistics coordination, and optimal warehousing solutions (Mantab, 2023). Mantab's facility includes a 100,000 square foot warehouse, for both its frozen and dry products. The company actively collaborates with distribution centers across Canada to ensure timely delivery of its products to its customers (Manta, 2023). Mantab has a diverse portfolio of proprietary brands such as Below Zero and Elara, the company also offers opportunities for private labeling to meet the needs of its customers. Mantab's primary clientele consist of food wholesalers, manufacturers, grocery retailers, and food service distributors (Mantab, 2023).

## **Chapter 2: Literature Review**

There are multiple disruptions that have occurred since the year 2000, which include fear of weapons of mass destruction, possibility of terrorist attacks, fuel issues, and outbreak of global diseases (Spekman & Davis 2004). This has in fact led to many cycles of demand instability and has significantly impacted Mantab in the past. Demand instability is often the greatest challenge for operating companies, it frequently leads to high inventory costs, decrease in customer service, and unreliable deliveries (Zhao, et al, 2013). All companies intend on delivering the best value to its customer with the greatest achievable efficiency at the lowest possible cost, communication with both their vendors and their suppliers play a critical role in reaching these objectives (Mentzer et al. 2001). As a result, Mantab has put a significant amount of value on their data, which enables them to make rational operational decisions. Data, which includes customer orders, inventory levels, production schedule information, and purchasing help firms determine the allocation of available resources and help streamline the flow of materials and information (Zhao, et al, 2013). In this case study we will explore three specific aspects as to how Mantab navigated throughout the pandemic and whether their actions proved to be beneficial post-pandemic. Firstly, we will explore Mantab's financial health and the benefits of possessing financial stability paired with a healthy level of working capital. Financial flexibility in the midst of an uncertain environment, plays a critical role in enterprise strategic adjustments and reconfigurations (Teng, et al, 2021). Organizations which are financially flexible are often able to raise capital at a lower cost for growth opportunity funding and greater access to capital markets, despite being in a crisis (Teng, et al, 2021). Financial strength and flexibility are extremely valuable, since the covid-19 pandemic essentially led to a sharp and in most cases full halt of corporate revenues (Fahlenbrach et al. 2020). Firms that possessed greater financial flexibility, on average outperformed and were less affected by the impacts of the covid-19 pandemic than those with a lower degree of financial health (Fahlenbrach et al. 2020). Secondly, the importance of Mantab's risk appetite and risk tolerance, and whether it improved or hindered their business and market share. All Companies will have to confront some degree of risks and uncertainty of varying likelihood and consequences both positive and negative, when in pursuit of achieving its business objectives and value creation (Chakraborty, 2022). Moreover, this research will examine whether the risk appetite of Mantab's executives were in fact justifiable and realistic. An organizations risk appetite and limits are often subject to modifications in order to remain relevant within the business space, responding to disruptions, and the emergence of opportunities (Chakraborty, 2022). Taking into consideration the business climate brought upon by Covid-19, Mantab often revisited their decisions and were forced to constantly re-calculate. Although it should be noted that calculating uncertainty is unquantifiable (Knight, 1921). Often organizations attempt to calculate probability of outcomes as well as calculate risks (Khan & Burnes, 2007). Lastly, we will analyze Mantab's focus on its risk management, and determine whether proactive or reactive approaches were implemented. When a firm can successfully manage its risk better than their competition it tends to lead and result in an increased market position, thus leading to increased profitability, reduced costs, and long-term growth (Fan & Stevenson, 2018). Supply chain risk management can effectively manage an organizations exposure to serious business disruptions, resulting from within or outside of the supply chain (Fan & Stevenson, 2018). Mantab is a company in which commitment to its risk management was not a top priority, and in fact the pandemic exploited various operational vulnerabilities. Risk management refers to the strategies implemented and the associated plans to

manage supply chain networks facilitated by constant risk assessments and vulnerability reduction to establish resiliency (Grutu & Johnny, 2021). Considering Mantab sources globally and has an extensive logistics network there are an increased number of errors that could occur. Interruptions within the supply chain will have both operational and financial impacts which represent the most detrimental consequences to firms within the worldwide marketplace (Craighead, et al, 2007). Therefore, ensuring resilient supply chain networks are crucial to surviving throughout the pandemic. The overall robustness of a supply chain heavily depends on the strength of the most vulnerable member of the supply chain (Grutu & Johnny, 2021). Following the outbreak of Covid-19, Mantab was forced to make unprecedented decisions with a high level of uncertainty. Mantab's executives claim decisions needed to be made with limited time windows and therefore were essentially obliged. In the majority of cases organizations tend to adopt reactive approaches rather than proactive, due to the fact that they are more easily carried out, less time consuming, require less of a financial investment, although in most instances it is not beneficial long term (Angkiriwang, et al, 2014). A proactive approach to supply chain risk management consists of all the activities executed prior to the occurrence of a crisis, in contrast, a reactive approach consists of all activities done post-crisis (Kersten, et al, 2012). By implementing a proactive approach, it is often related to increase costs that are often unjustifiable, a focus on day-to-day operations, and the complexity of implementing supply chain risk management methods are regarded as barriers (Kersten, et al, 2012). Therefore, companies should focus on improving their overall reactive supply chain risk management processes and methods (Kersten, et al, 2012).

### **Chapter 3: Velocity and Preparedness Risk Heat Map**

In order to prioritize all threats, confront vulnerabilities, and strengthen an organization’s risk management level, it is essential to create a risk heat map analysis, this can be completed for a specific project, a particular business department, or on the entire organization (Eby, 2022). Given, Mantab’s global suppliers and international activities, it is inherently susceptible to various risks. Following a discussion with Mantab’s executives and department heads they were asked to identify the top 16 risks both internal and external that had the most significant impact on the company’s operations and those which pose the greatest threat to the organization. To comprehensively evaluate Mantab’s risk exposure, a velocity and preparedness risk heat map template provided by Smartsheet Inc. was completed. It should be noted, the company’s risk exposure was assessed in three separate phases, firstly pre-pandemic, secondly during the pandemic, and lastly post-pandemic. Furthermore, in this particular instance we are analyzing how the company’s risks had changed throughout the covid-19 pandemic, however this process could be conducted for other global disruptions such as world war, natural disaster, or economic collapse. The first phase in constructing the risk matrix involved the categorization of each risk into its respective domain identified by the executives and department heads, which include operational, financial, technological, and governmental. In order to accurately evaluate the company’s risk exposure, each risk will be measured on a scale which includes probability, impact, velocity, preparedness levels. Ratings on the scale will range from 1 to 4; these ratings will then be displayed on a risk heat map. Following the identification of the risks, the executives and department heads were kindly asked to fill in the risk matrix table, the results were then compiled, and the averages of their answers was inputted. The X value of the risk matrix will represent the impact level multiplied by the velocity, while the Y value will represent Mantab’s preparedness multiplied by the probability. Impact level depicts the range of implications a risk may pose to the company, ranging from minor to severe. Probability represents the likeliness of occurrence for each respective risk, varying from unlikely to almost certain. Velocity signifies the timeframe in which Mantab will experience the consequences of each respective risk which ranges from hours to days, to one year plus. Lastly, preparedness which gauges Mantab’s capacity to prevent and mitigate each risk, which ranges from not prepared to fully prepared. Each risk from the risk matrix table will be displayed on the risk heat map, with its corresponding X and Y values.



Figure 1: Risk Heat Map Template

**Pre-Pandemic:**

**VELOCITY AND PREPAREDNESS RISK HEAT MAP (RM1)**

MANTAB: PRE-PANDEMIC

RISK ID	RISK CATEGORY	RISK DESCRIPTION	IMPACT	PROBABILITY	VELOCITY	PREPAREDNESS	HEAT MAP X	HEAT MAP Y
1	Operations	Operational Silos	1.0	2.0	4.0	4.0	4	8
2	Operations	Labour Dependency	1.0	2.0	3.0	4.0	3	8
3	Operations	Forecasting	4.0	4.0	2.0	2.0	8	8
4	Operations	Inventory Levels	4.0	4.0	4.0	3.0	16	12
5	Operations	Risk Appetite	2.0	2.0	2.0	2.0	4	4
6	Operations	Sourcing/Supplier Selection	2.0	4.0	2.0	3.0	4	12
7	Operations	Lead Time Fluctuation	1.0	3.0	2.0	4.0	2	12
8	Operations	Transportation	3.0	3.0	2.0	3.0	6	9
9	Tehnology	Technological Infrastructure	2.0	2.0	4.0	3.0	8	6
10	Operations	Customer Requirments	2.0	2.0	2.0	3.0	4	6
11	Operations	Operational Agility	1.0	1.0	2.0	3.0	2	3
12	Government	Regulations	1.0	2.0	2.0	3.0	2	6
13	Financial	Working Capital	3.0	2.0	3.0	2.0	9	4
14	Financial	Currency Valuation	3.0	4.0	4.0	2.0	12	8
15	Financial	Pricing	3.0	4.0	4.0	3.0	12	12

Figure 2: Risk Heat Map Data Pre-Pandemic

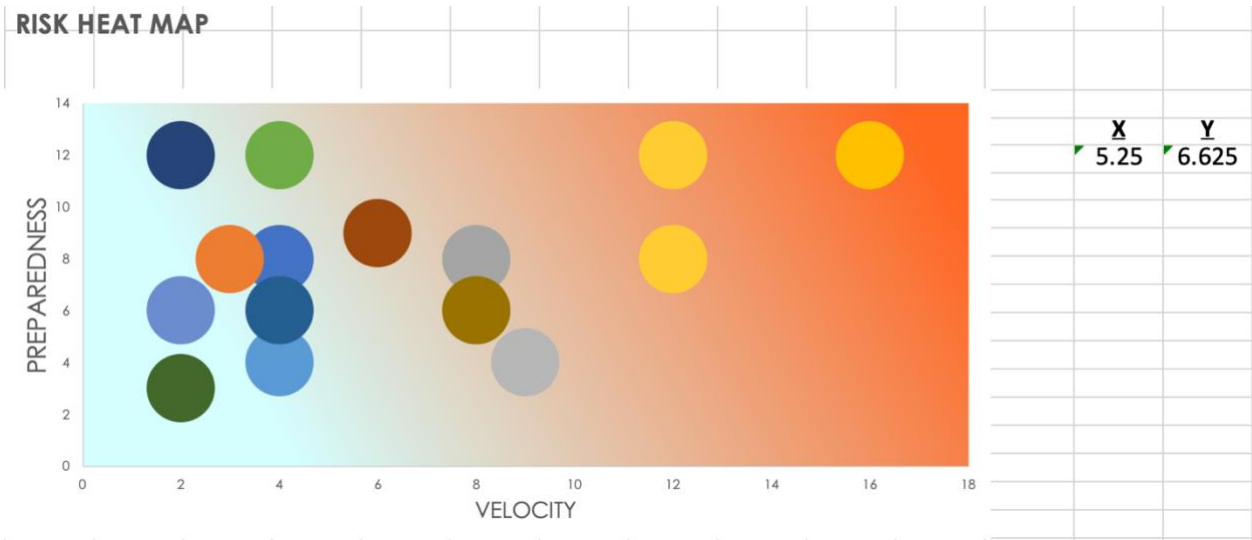


Figure 3: Risk Heat Map Pre-Pandemic

**During Pandemic:**

**VELOCITY AND PREPAREDNESS RISK HEAT MAP (RM2)**

MANTAB: During Pandemic

RISK ID	RISK CATEGORY	RISK DESCRIPTION	IMPACT	PROBABILITY	VELOCITY	PREPAREDNESS	HEAT MAP X	HEAT MAP Y
1	Operations	Operational Silos	3.0	3.0	4.0	4.0	12	12
2	Operations	Labour Dependency	4.0	4.0	4.0	3.0	16	12
3	Operations	Forecasting	4.0	4.0	3.0	2.0	12	8
4	Operations	Inventory Levels	4.0	4.0	2.0	3.0	8	12
5	Operations	Risk Appetite	4.0	4.0	4.0	1.0	16	4
6	Operations	Sourcing/Supplier Selection	4.0	4.0	2.0	2.0	8	8
7	Operations	Lead Time Fluctuation	4.0	4.0	2.0	3.0	8	12
8	Operations	Transportation	4.0	4.0	4.0	4.0	16	16
9	Tehcnology	Technological Infrastructure	4.0	4.0	4.0	3.0	16	12
10	Operations	Customer Requirments	1.0	1.0	2.0	3.0	2	3
11	Operations	Operational Agility	4.0	4.0	4.0	2.0	16	8
12	Government	Regulations	4.0	4.0	4.0	4.0	16	16
13	Financial	Working Capital	4.0	4.0	2.0	1.0	8	4
14	Financial	Currency Valuation	4.0	4.0	4.0	3.0	16	12
15	Financial	Pricing	4.0	4.0	4.0	4.0	16	16

Figure 4: Risk Heat Map Data During Pandemic

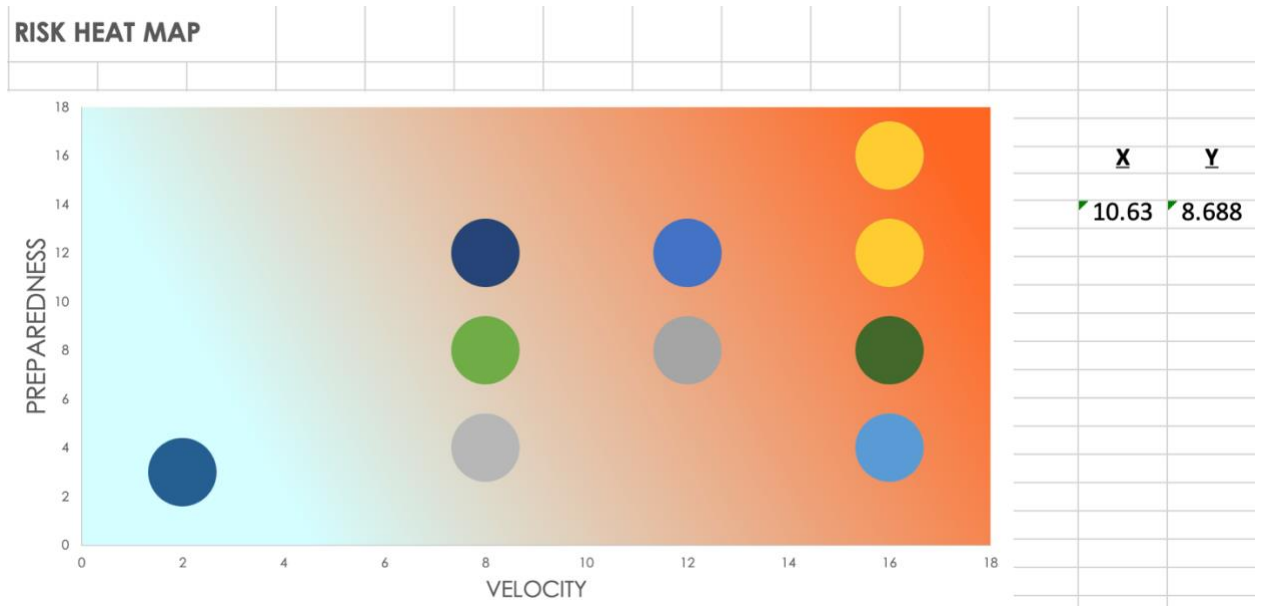


Figure 5: Risk Heat Map During Pandemic

**Post-Pandemic:**

VELOCITY AND PREPAREDNESS RISK HEAT MAP (RM3)								
MANTAB: Post-Pandemic								
RISK ID	RISK CATEGORY	RISK DESCRIPTION	IMPACT	PROBABILITY	VELOCITY	PREPAREDNESS	HEAT MAP X	HEAT MAP Y
1	Operations	Operational Silos	1.0	2.0	2.0	2.0	2	4
2	Operations	Labour Dependency	2.0	2.0	3.0	2.0	6	4
3	Operations	Forecasting	3.0	2.0	2.0	2.0	6	4
4	Operations	Inventory Levels	3.0	2.0	4.0	2.0	12	4
5	Operations	Risk Appetite	2.0	2.0	2.0	2.0	4	4
6	Operations	Sourcing/Supplier Selection	2.0	2.0	2.0	2.0	4	4
7	Operations	Lead Time Fluctuation	2.0	2.0	2.0	2.0	4	4
8	Operations	Transportation	3.0	3.0	2.0	2.0	6	6
9	Tehcnology	Technological Infrastructure	2.0	2.0	4.0	1.0	8	2
10	Operations	Customer Requirments	2.0	3.0	2.0	1.0	2	3
11	Operations	Operational Agilitty	2.0	2.0	3.0	2.0	6	4
12	Government	Regulations	1.0	2.0	2.0	2.0	2	4
13	Financial	Working Capital	3.0	2.0	3.0	2.0	9	4
14	Financial	Currency Valuation	3.0	4.0	4.0	2.0	12	8
15	Financial	Pricing	4.0	4.0	4.0	2.0	16	8

Figure 6: Risk Heat Map Data Post-Pandemic

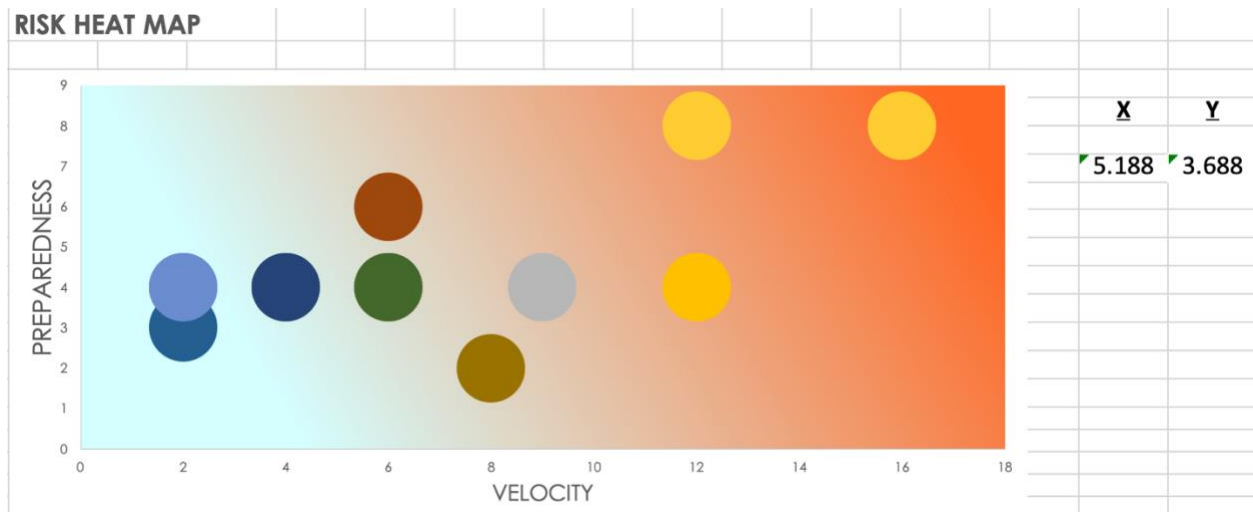


Figure 7: Risk Heat Map Post Pandemic

Upon examining the X-values differential from RM1 (5.25) to RM2 (10.63), it is noteworthy that a difference of (5.38) becomes apparent. This indicates that throughout the pandemic, the majority of the risk identified by Mantab, experience a more considerable impact and consequences were realized in a shorter time frame. It should be pointed out that when comparing RM2 (10.63) to RM3 (5.188) a decrease of (5.818) is shown, indicating a regression to pre-pandemic levels. Furthermore, comparing the results from RM1, RM2, and RM3 it becomes evident that Mantab has noticeably increased its preparedness rating following the aftermath of the Covid-19 pandemic. By contrasting the Y-values from RM1 (6.625) and RM3 (3.688), we can clearly see a substantial difference of (2.937). This indicates that the organization has successfully recognized its exposure and thus implemented various protocols and procedures to mitigate overall

exposure in the event of a future global disruption and enhanced its overall preparedness levels.

## **Chapter 4: Financials**

### **4.1 Pricing**

Mantab's places significant importance on its pricing strategies, considering that the industry is highly price sensitive. Mantab claims its pricing strategies are a contributing factor to their gain in market share and one of its primary strengths. The strategy is based on a simple principle of offering lower prices than its competitors, this is achieved through bulk purchasing, vigilant monitoring of currency exchange rates specifically USD and Euros, and its commitment to lean operations aiming to minimize unnecessary expenses. Mantab ensures that it has sufficient in CAD, USD, and Euros, which enable them to place orders to secure optimal prices provided by suppliers, this also enables the company to achieve its desired profit margin which ranges from 18-26%. Prior to the pandemic Mantab would provide pricing quotes to its customers with a generous window of 5-10 business days, however, due to supply chain disruptions and stock uncertainty Mantab's pricing quotes were only valid for 48 hours. This forced customers to make quick decisions to secure their supply, despite market volatility. Note, Mantab claims that freight rate quotes were changing at an extremely rapid pace thus securing containers at a certain price was vital. Additionally, the company's key accounts were exempt from the 48-hour quote window, which in turn strengthened the relationship between Mantab and its top customers. Given the negative impact the pandemic brought upon the industry, it was crucial that Mantab and its executives to keep a humanitarian perspective. The company claims it could have increased its profit margins by roughly 3-5%, however it would be the end-users who ultimately suffer. Mantab merely maintained its 18-26% profit margin and preserved its profitability. By incorporating increase costs into its pricing calculations, it mitigates potential loses, which sustained their overall competitiveness. Mantab provided costing sheets for five products which include, strawberries 5X1 Kg, wild blueberries 5X1 Kg, bananas slices 5X1 Kg, raspberries 5X1 Kg, and mango chunks 5X1 Kg.

Supplier	CHINA/PERU/EGYPT					
Port	CNF					
Customer or Mantab	MANTAB					
City container delivery	DORVAL					
Product	STRAWBERRIES 5X1KG (6540)					
Ocean Freight Buffer						
Actual Ex of the day						
Container size	40'					
		EGYPT	EGYPT	CHINA	PERU	EGYPT
		2019	2020	2021	2022	2023
		M12029	M12488	M14215	M14435	M15233
Exchange rate						
<b>USD</b>		1.34	1.36	1.3	1.3	1.37
Cases per container		4350	4350	4800	4800	4400
Foreign Price	USD	\$ 7.40	\$ 7.40	\$ 10.30	\$ 11.50	\$ 8.35
Foreign Value	USD	\$ 32,190.00	\$ 32,190.00	\$ 49,440.00	\$ 55,200.00	\$ 36,740.00
Freight						
USD Exchange rate for freight						
Value	CND	\$ 43,134.60	\$ 43,778.40	\$ 64,272.00	\$ 71,760.00	\$ 50,333.80
freight	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Duty	CND	\$ 5,391.83	\$ 5,472.30	\$ 8,034.00	\$ -	\$ 6,291.73
Ctge	CND	\$ 375.00	\$ 375.00	\$ 375.00	\$ 400.00	\$ 600.00
Broker	CND	\$ 32.00	\$ 32.00	\$ 32.00	\$ 32.00	\$ 34.00
Storage	CND	\$ -	\$ -	\$ 3,360.00	\$ 6,000.00	\$ 5,500.00
Mics	CND	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00	\$ 400.00
Lumpers	CND	\$ 200.00	\$ 200.00	\$ 300.00	\$ 300.00	\$ 300.00
Bank charges	CND	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00
Insurance	CND	\$ 80.00	\$ 80.00	\$ 80.00	\$ 80.00	\$ 80.00
	Total:	\$ 49,763.43	\$ 50,487.70	\$ 77,003.00	\$ 79,122.00	\$ 63,689.53
	<b>CND Cost Per Case:</b>	<b>\$ 11.440</b>	<b>\$ 11.606</b>	<b>\$ 16.042</b>	<b>\$ 16.484</b>	<b>\$ 14.475</b>
Special Instructions	24,000 KG per container					

Figure 8: Costing Sheet Strawberries (5X1 KG) 2019-2023

Notably, minimal changes were observed from 2019-2020, although a significant increase in cost per case is shown in 2021. Mantab provided CNF pricing (Cost and Freight), therefore freight rates are not shown, however it is included by the supplier as they are responsible for those charges. Moreover, in 2022 prices did not return to pre-pandemic levels, it is only in 2023 where a slight regression can be seen.

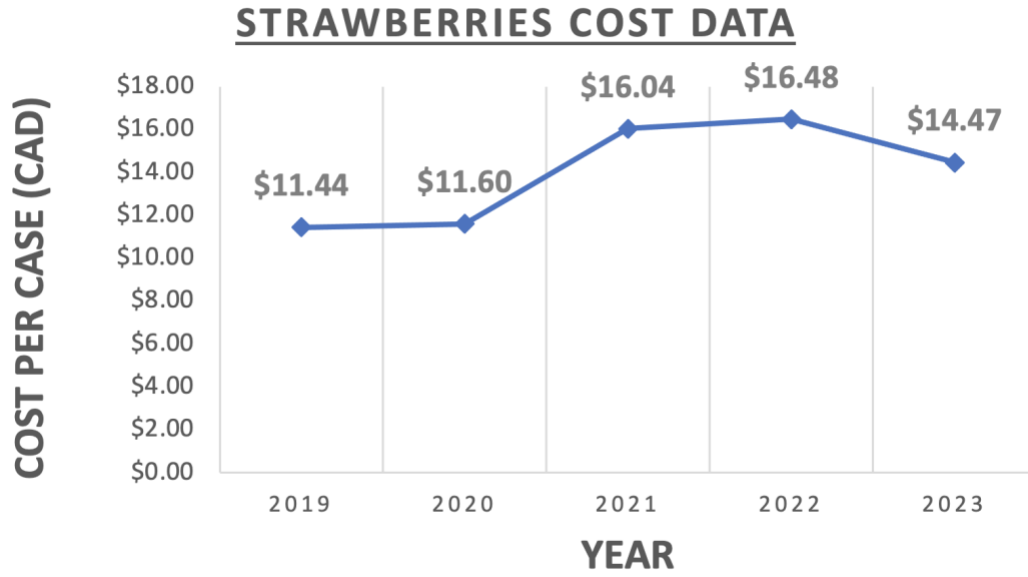


Figure 9: Cost Per Case (Strawberries 5X1Kg) 2019-2023

Supplier	OXFORD (CANADA)					
Port	CNF					
Customer or Mantab	MANTAB					
City container delivery	DORVAL					
Product	WILD BLUEBERRIES 5X1KG (6420)					
Ocean Freight Buffer						
Actual Ex of the day						
Container size	40'	CANADA	CANADA	CANADA	CANADA	CANADA
		2019	2020	2021	2022	2023
Exchange rate		M12076	M13210	M14751	M16177	M17964
<b>USD</b>		1	1	1	1	1
Cases per container		1544	4760	3142	2543	2500
Foreign Price	USD	\$ 15.27	\$ 16.09	\$ 25.90	\$ 25.90	\$ 17.31
Foreign Value	USD	\$ 23,576.88	\$ 76,588.40	\$ 81,377.80	\$ 65,863.70	\$ 43,275.00
Freight						
USD Exchange rate for freight						
Value	CND	\$ 23,576.88	\$ 76,588.40	\$ 81,377.80	\$ 65,863.70	\$ 43,275.00
freight	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Duty	CND	\$ -	\$ -	\$ -	\$ -	\$ -
	12.50%					
Ctge	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Broker	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Storage	CND	\$ -	\$ 2,380.00	\$ 2,199.40	\$ 3,178.75	\$ 3,125.00
Mics	CND	\$ -	\$ -	\$ -	\$ -	\$ 173.13
Lumpers	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Bank charges	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Insurance	CND	\$ -	\$ -	\$ -	\$ -	\$ -
Total:		\$ 23,576.88	\$ 78,968.40	\$ 83,577.20	\$ 69,042.45	\$ 46,573.13
<b>CND Cost Per Case:</b>		<b>\$ 15.270</b>	<b>\$ 16.590</b>	<b>\$ 26.600</b>	<b>\$ 27.150</b>	<b>\$ 18.629</b>
Special Instructions	24,000 KG per container					

Figure 10: Costing Sheet Wild Blueberries (5X1 KG) 2019-2023

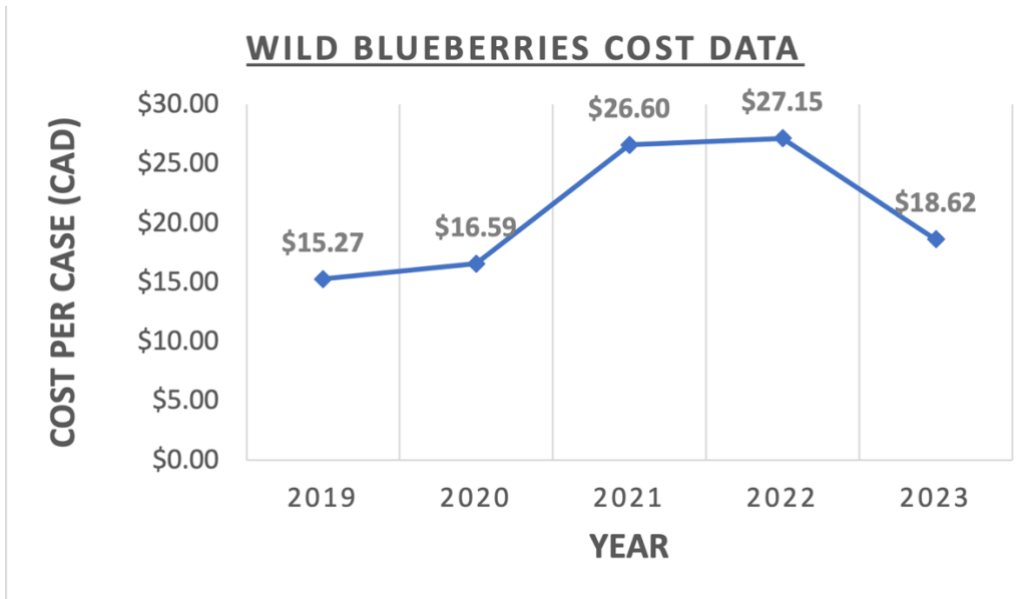


Figure 11 : Cost Per Case (Wild Blueberries 5X1 Kg) 2019-2023

Supplier MASSON (BROKER) / AGRICOLA OFICIAL (ECUADOR)  
 Port CNF  
 Customer or Mantab MANTAB  
 City container delivery DORVAL  
 Product BANANA SLICED 5X1KG (6410)

Ocean Freight Buffer

Actual Ex of the day

Container size 40'

	MASSON 2019 M11768	MASSON 2020 M13102	ECUADOR 2021 M14013	ECUADOR 2022 M16058	ECUADOR 2023 M17485
Exchange rate					
<b>USD</b>	1.325	1.34	1.3	1.35	1.39
Cases per container	2937	2937	4300	4300	4300
Foreign Price	USD \$ 7.05	\$ 7.10	\$ 7.90	\$ 8.80	\$ 8.35
Foreign Value	USD \$ 20,705.85	\$ 20,852.70	\$ 33,970.00	\$ 37,840.00	\$ 35,905.00
Freight					
USD Exchange rate for freight					
Value	CND \$ 27,435.25	\$ 27,942.62	\$ 44,161.00	\$ 51,084.00	\$ 49,907.95
freight	CND \$ -	\$ -	\$ -	\$ -	\$ -
Duty	CND \$ -	\$ -	\$ -	\$ -	\$ -
	0.00%				
Ctge	CND \$ -	\$ -	\$ 375.00	\$ 400.00	\$ 600.00
Broker	CND \$ -	\$ -	\$ 32.00	\$ 32.00	\$ 36.50
Storage	CND \$ -	\$ -	\$ 3,010.00	\$ 5,375.00	\$ 5,375.00
Mics	CND \$ 419.57	\$ 419.57	\$ 400.00	\$ 400.00	\$ 600.00
Lumpers	CND \$ -	\$ -	\$ 300.00	\$ 300.00	\$ 650.00
Bank charges	CND \$ 104.89	\$ 104.89	\$ 150.00	\$ 150.00	\$ 150.00
Insurance	CND \$ 55.94	\$ 55.94	\$ 80.00	\$ 80.00	\$ 80.00
Total:	\$ 28,015.65	\$ 28,523.02	\$ 48,508.00	\$ 57,821.00	\$ 57,399.45
<b>CND Cost Per Case:</b>	<b>\$ 9.539</b>	<b>\$ 9.712</b>	<b>\$ 11.281</b>	<b>\$ 13.447</b>	<b>\$ 13.349</b>

Special Instructions 24,000 KG per container

Figure 12 : Costing Sheet Bananas Sliced (5X1 KG) 2019-2023

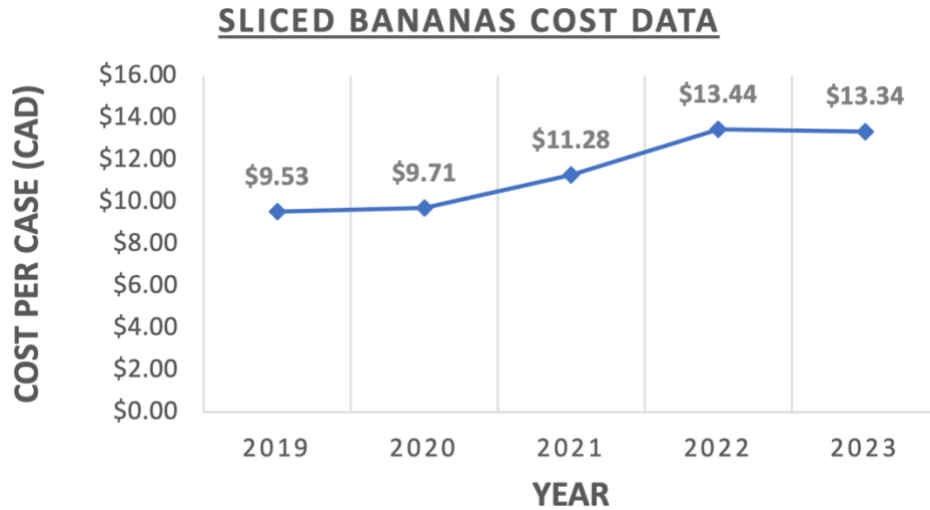


Figure 13: Cost Per Case (Sliced Bananas 5X1 Kg) 2019-2023

<i>Supplier</i>	MASSON (BROKER) / ELIXIR (SERBIA) / NANTONG (CHINA) / FRUCOM (AUSTRIA) / HAPPY GREEN (CHINA)					
<i>Port</i>	CNF					
<i>Customer or Mantab</i>	MANTAB					
<i>City container delivery</i>	DORVAL					
<i>Product</i>	RASPBERRY 5X1KG (6525)					
<i>Ocean Freight Buffer</i>						
<i>Actual Ex of the day</i>						
<i>Container size</i>	40'	MASSON	ELIXIR	NANTONG	FRUCOM	HAPPY
		2019	2020	2021	2022	2023
		M11070	M12753	M14382	M15918	M16968
<i>Exchange rate</i>						
<b>USD</b>		1.325	1.38	1.28	1.39	1.36
<i>Cases per container</i>		3200	4370	4000	3520	4000
<i>Foreign Price</i>	USD	\$ 14.00	\$ 14.75	\$ 25.00	\$ 29.30	\$ 18.90
<i>Foreign Value</i>	USD	\$ 44,800.00	\$ 64,457.50	\$ 100,000.00	\$ 103,136.00	\$ 75,600.00
<i>Freight</i>					\$ 8,475.00	
<i>USD Exchange rate for freight</i>					1.35	
<i>Value</i>	CND	\$ 59,360.00	\$ 88,951.35	\$ 128,000.00	\$ 143,359.04	\$ 102,816.00
<i>freight</i>	CND	\$ -	\$ -	\$ -	\$ 11,441.25	\$ -
<i>Duty</i>	CND	\$ -	\$ 5,369.08	\$ 7,712.00	\$ -	\$ 5,729.68
<i>Ctge</i>	CND	\$ -	\$ 375.00	\$ 375.00	\$ 600.00	\$ 600.00
<i>Broker</i>	CND	\$ -	\$ -	\$ -	\$ 34.00	\$ -
<i>Storage</i>	CND	\$ -	\$ -	\$ 2,800.00	\$ 4,400.00	\$ 5,000.00
<i>Mics</i>	CND	\$ 600.00	\$ 600.00	\$ 400.00	\$ 400.00	\$ 600.00
<i>Lumpers</i>	CND	\$ -	\$ -	\$ 300.00	\$ 300.00	\$ 650.00
<i>Bank charges</i>	CND	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00	\$ 150.00
<i>Insurance</i>	CND	\$ 80.00	\$ 80.00	\$ 80.00	\$ 80.00	\$ 80.00
<b>Total:</b>		\$ 60,190.00	\$ 95,525.43	\$ 139,817.00	\$ 160,764.29	\$ 115,625.68
<b>CND Cost Per Case:</b>		<b>\$ 18.809</b>	<b>\$ 21.859</b>	<b>\$ 34.954</b>	<b>\$ 45.672</b>	<b>\$ 28.906</b>

Figure 14: Costing Sheet Raspberry (5X1 KG) 2019-2023

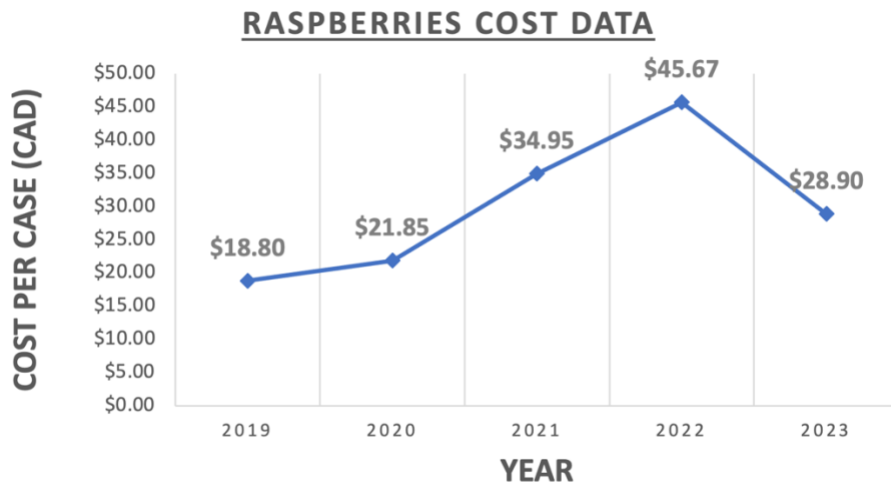


Figure 15: Cost Per Case (Raspberries 5X1 Kg) 2019-2023

Supplier MASSON / MB GLOBAL (BROKER) / GODALLS (VIETNAM) / AGROFROST (PERU)  
 Port CNF  
 Customer or Mantab MANTAB  
 City container delivery DORVAL  
 Product MANGO CHUNKS 5X1KG (6475)

Ocean Freight Buffer  
 Actual Ex of the day

Container size	2019	2020	2021	2022	2023
40'	MASSON 2019 M11254	MB GLOBAL 2020 M12370	GODALLS 2021 M14146	AGROFROST 2022 M14985	AGROFROST 2023 M16383
Exchange rate	1.3352	1.4	1.3	1.29	1.34
USD					
Cases per container	4599	3600	4100	4800	4800
Foreign Price	USD \$ 9.36	\$ 9.38	\$ 10.65	\$ 11.40	\$ 9.80
Foreign Value	USD \$ 43,046.64	\$ 33,750.00	\$ 43,665.00	\$ 54,720.00	\$ 47,030.21
Freight					
USD Exchange rate for freight					
Value	CND \$ 57,475.87	\$ 47,250.00	\$ 56,764.50	\$ 70,588.80	\$ 63,020.48
freight	CND \$ -	\$ -	\$ -	\$ -	\$ -
Duty	CND \$ -	\$ -	\$ -	\$ -	\$ -
Duty	0.00%				
Ctge	CND \$ -	\$ -	\$ 375.00	\$ 400.00	\$ 600.00
Broker	CND \$ -	\$ -	\$ 32.00	\$ 32.00	\$ 34.00
Storage	CND \$ -	\$ -	\$ 2,870.00	\$ 6,000.00	\$ 6,000.00
Mics	CND \$ 600.00		\$ 400.00	\$ 400.00	\$ 400.00
Lumpers	CND \$ -		\$ 300.00	\$ 300.00	\$ 300.00
Bank charges	CND		\$ 150.00	\$ 150.00	\$ 150.00
Insurance	CND		\$ 80.00	\$ 80.00	\$ 80.00
Total:	\$ 58,075.87	\$ 47,250.00	\$ 60,971.50	\$ 77,950.80	\$ 70,584.48
<b>CND Cost Per Case:</b>	<b>\$ 12.628</b>	<b>\$ 13.125</b>	<b>\$ 14.871</b>	<b>\$ 16.240</b>	<b>\$ 14.705</b>

Special Instructions 24,000 KG per container

Figure 16: Costing Sheet Mango Chunks (5X1 KG) 2019-2023

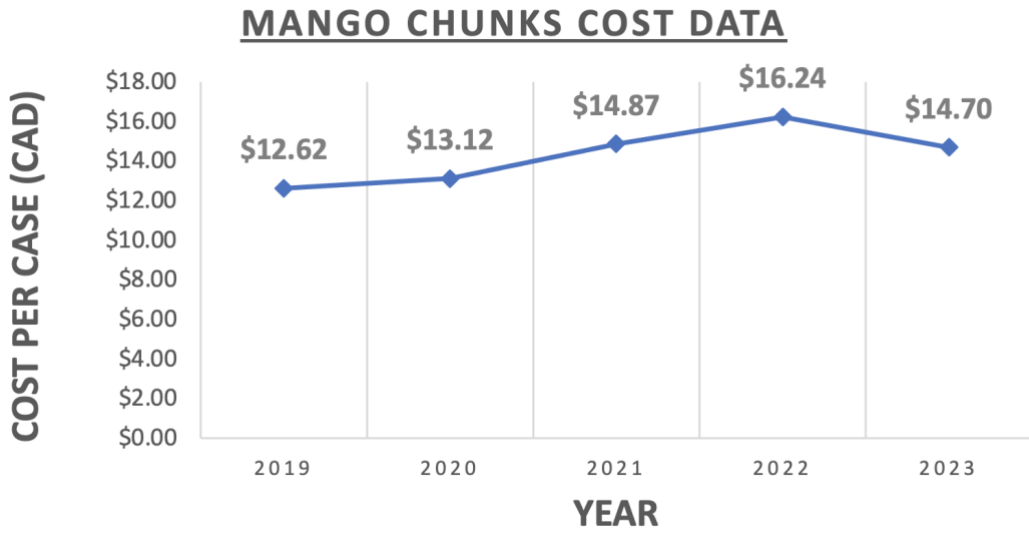


Figure 17: Cost Per Case (Mango Chunks 5X1 Kg) 2019-2023

Furthermore, the company provided its domestic transport costing data, which include Camscott and MTL Transport from 2020 to 2023. Industry standards for transportation options are 4 skids, 10 skids, or full truck loads (FTL), although it is subject to exceptions. For both of its service providers a significant increase in 2021 can be identified in comparison to 2020. From 2021 to 2022 quotes remained relatively similar, attributed mainly to increase fuel prices, it is only in 2023 in which we the quotes began to decline, Mantab claims that in 2024 prices are further decreasing.

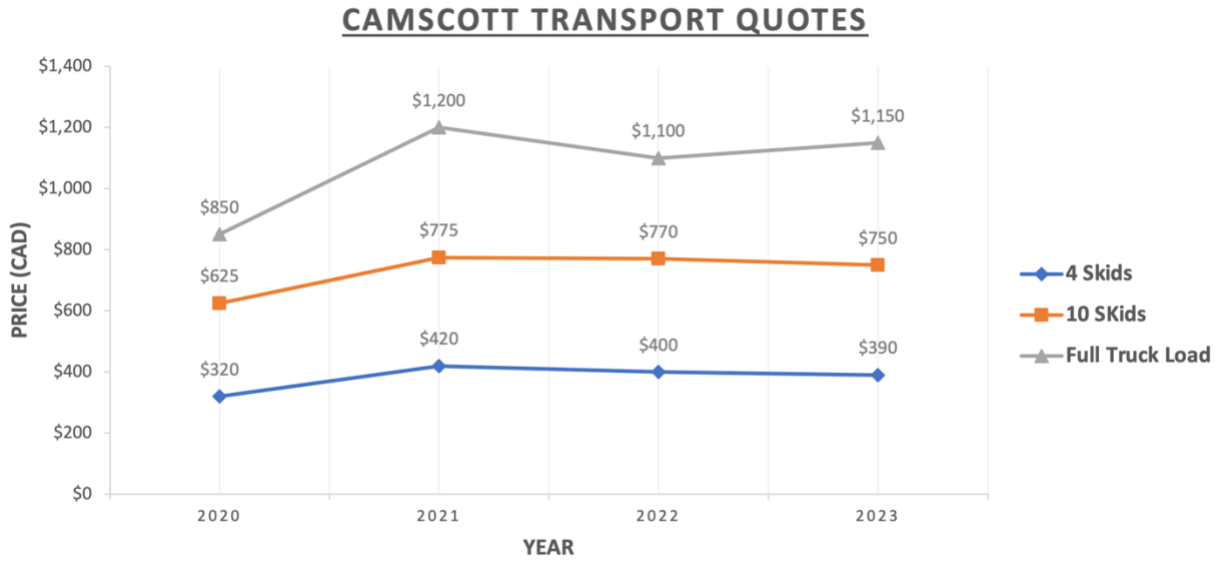


Figure 18: Camscott Transport Quotations

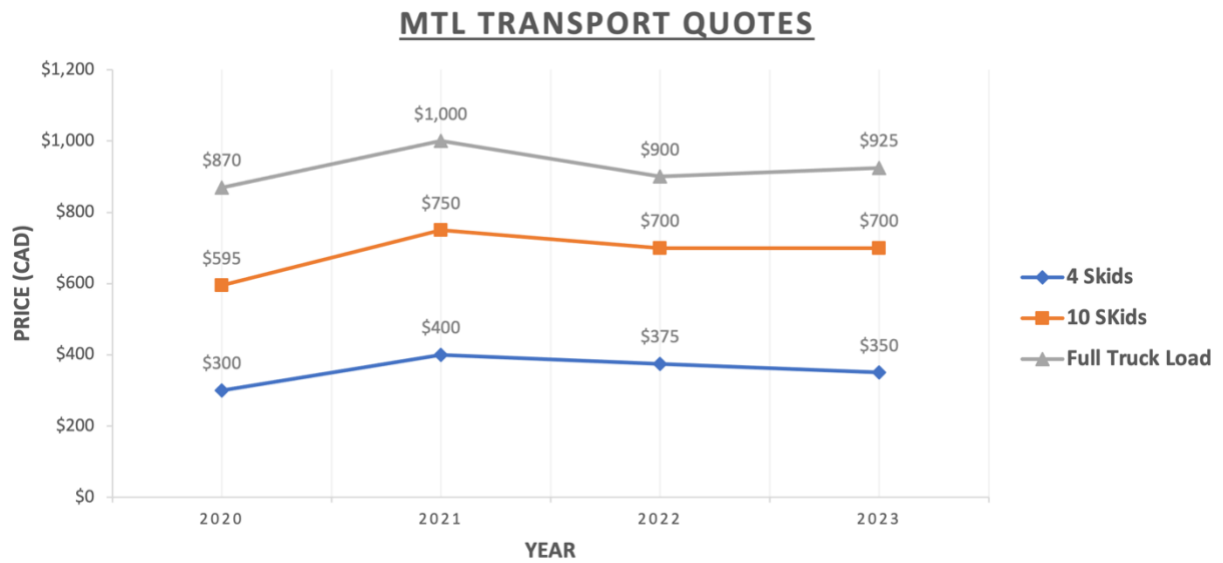


Figure 19 : MTL Transport Quotations

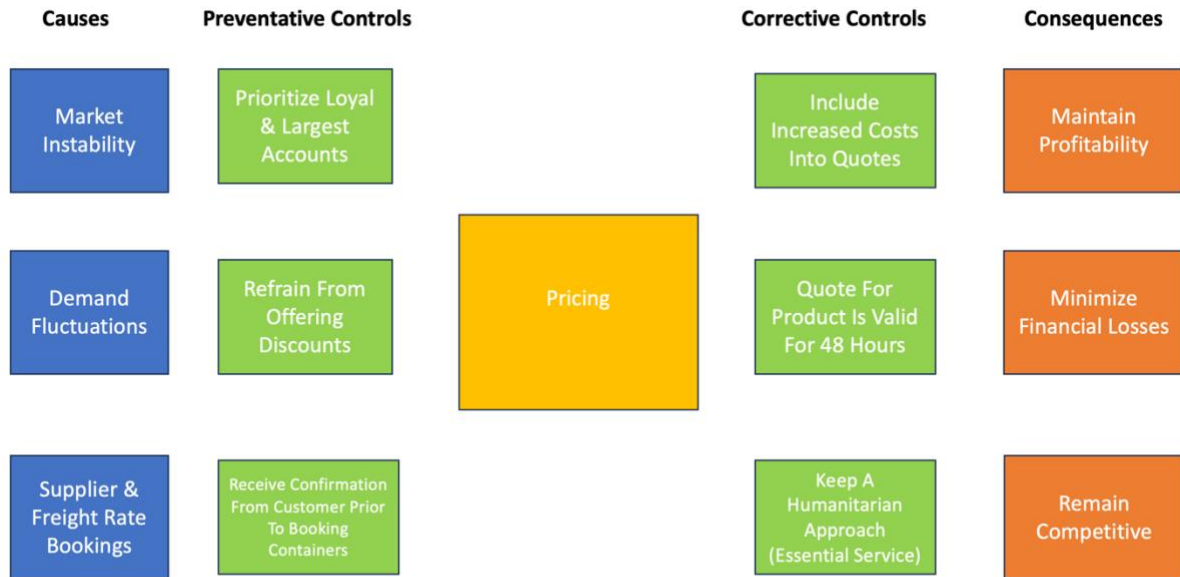


Figure 20: Pricing Bow-Tie Diagram

## 4.2 Currency Valuation

Monitoring currency valuation is crucial for companies like Mantab, particularly due to its global sourcing, and the majority of its transactions which are conducted in USD and Euros. Mantab holds funds in both currencies, although the amounts fluctuate, their Euro account cannot have a negative balance whereas their US account can be negative which are the terms set by their bank. While their US account may occasionally enter the negative, Mantab aims to minimize these occurrences. The purchase of foreign exchanges is based on market trends, financial expert opinions specifically CIBC Mid-Market Solutions group updates & Exchange bank of Canada, although there are instances in which Mantab must purchase USD or Euros to settle supplier invoices when the balances in the accounts are insufficient. Avoiding this is essential for Mantab, as purchasing currencies at unfavorable exchange rates directly impacts the product costs and affects their profit margins. It should be noted that accurately predicting exchange rates is an extremely difficult task, therefore when quoting its customers, it uses a higher exchange rate. This creates a buffer, in order to ensure their target profit margin can be achieved protecting them from significant currency fluctuations. Throughout the pandemic, their process remained relatively unchanged, although there were added layers of complexity in the forecasting process. Post-pandemic the forecasting process has become less volatile and is marginally easier to follow, they continue to monitor market trends as well as the opinions of financial experts.

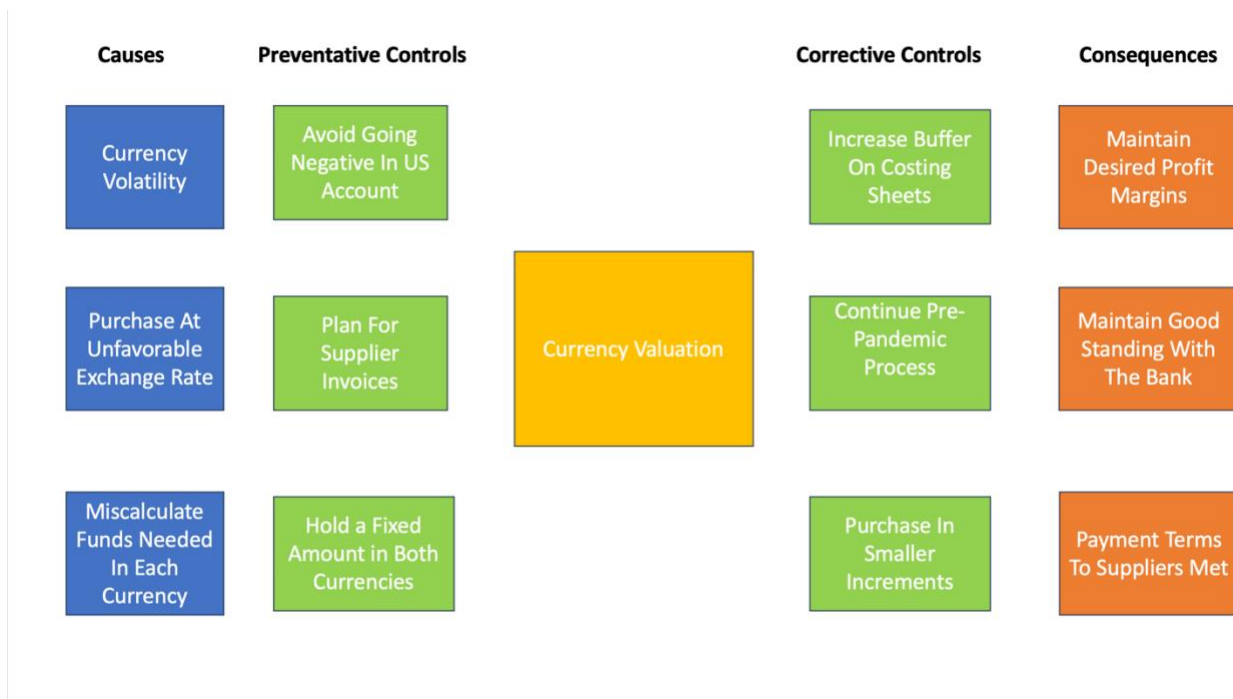


Figure 21: Currency Valuation Bowtie Diagram

### 4.3 Working Capital

Mantab’s strong financial position was a determining factor in its ability to navigate the challenges ensued by the pandemic; Mantab was able to seize market opportunities, while leveraging strategic decision making to mitigate risks in the uncertain climate of the pandemic. Mantab meticulously manages its short and long-term debt, and ensures it meets its supplier payment terms, thus avoiding penalties and additional fees. Mantab is a profitable and operationally efficient company; this is made evident when analyzing their fiscal year-end financing statements from 2019 to 2022. Given the fact that it has not been audited internally, note 23 is to be excluded for the purpose of this analysis as it could potentially skew the financial assessment. Given the global nature of Mantab’s operations, it should be noted that a significant portion of supplier payments are conducted in foreign currencies such as \$USD and Euro, which are then converted to \$CDN for internal bookkeeping. To show the strength of their financial position, the following metrics will be calculated: firstly, the current ratio (CR), secondly the quick ratio (QR), and lastly the day sales outstanding (DSO). The current ratio is used as a metric to calculate a company’s ability to cover its short-term liabilities with its short-term assets. The quick ratio is a more definitive measure of a company’s liquidity, as it excludes inventory from current assets and focuses mainly on a company’s ability to meet its short-term obligations using its more liquid assets. A low DSO figure signifies efficient capital utilization, which Mantab has, due to its strict account receivable terms and strong relationships with its customers. Mantab’s low DSO values .00038, .00036, .00030, and .00017 from 2019-2022 displays strong working capital capabilities, and minimal dependence on its accounts receivables for its operational needs and expenses.

Mantab’s strong liquidity position proved essential in navigating the pandemic-induced business climate, given that customers were requesting extended payment terms on their invoices. Mantab would surely have suffered during the pandemic if it had relied on its ability to collect receivables to operate its business. Mantab’s ability to provide its customers with lenience and support proved important in strengthening customer relationships, shown primarily in its lack of bad debt expenses from FYE19 to FYE22. Between 2020 and 2021, Mantab experienced a significant increase in its inventory levels, from 4,848,269\$ to 5,961,834\$ a gain of 1,112,565\$. Mantab’s balance sheet between 2020 and 2021 showed material increases (22.9%) to inventory levels; FYE20 showed inventory figures of \$4,848,269, versus that of \$5,961,834. Mantab firstly attributes this increase to its sharp decline in demand in the first six months of the pandemic, combined with a delay in product arrivals. In pre-pandemic environments, product arrivals were said to be approximately 10-12 weeks on average, versus that of 12-20 weeks during the initial phase of the pandemic. Mantab’s warehouse manager and upper management were faced with a significant storage challenge along with increased carrying costs. When comparing the year-end income statements between 2020 to 2021, prepaid expenses remained relatively constant, which shows management’s decisiveness in maintaining its product imports, anticipating eventual demand recovery. This strategic decision making positioned Mantab as one of the primary food importers in Eastern Canada with available inventory. Mantab was able to grow its order book as a consequence, with its ability to fulfill orders that its competitors were unable to deliver on. This is displayed in its increased revenue per day of \$82,777 to \$113,285, a material increase of \$30,508 or 36.9%. Moreover, increased inventory levels from 2021 (\$5,961,834) to 2022 (\$8,636,213) were directly related to the acquisition of new customers and strengthening its market share, as well as new business agreements made throughout Eastern Canada. As a result, the company’s daily revenue increased above 200% between 2019 (\$77,040) and 2022 (\$176,448).

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory} - \text{Prepaid Expenses}}{\text{Current Liabilities}}$$

$$\frac{\text{Average Accounts Receivable}}{\text{Revenue Per Day}}$$

### **Fiscal Year 2019**

$$1.51 = \frac{7,605,990}{5,050,329}$$

$$0.66 = \frac{7,605,990 - 4,266,097 - 44,158}{5,050,329}$$

$$0.00038 = \frac{30}{77,040}$$

### **Fiscal Year 2020**

$$1.69 = \frac{10,727,747}{6,357,780}$$

$$0.92 = \frac{10,727,747 - 4,849,269 - 47,761}{6,357,780}$$

$$0.00036 = \frac{30}{82,777}$$

### **Fiscal Year 2021**

$$1.31 = \frac{9,943,839}{7,585,842}$$

$$0.52 = \frac{9,943,839 - 5,961,834 - 52,556}{7,585,842}$$

$$0.00030 = \frac{35}{113,285}$$

### **Fiscal Year 2022**

$$1.61 = \frac{14,980,195}{9,315,133}$$

$$0.68 = \frac{14,990,195 - 8,636,213 - 69,735}{9,315,133}$$

$$0.00017 = \frac{30}{176,448}$$

## MANTAB SALES REVENUE

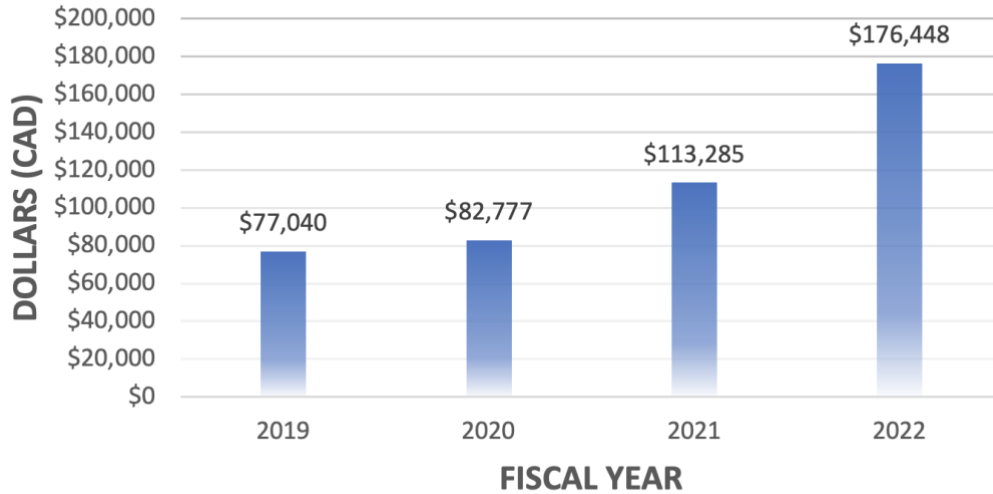


Figure 22: Mantab Sales Revenue 2019-2022

## MANTAB INVENTORY VALUE

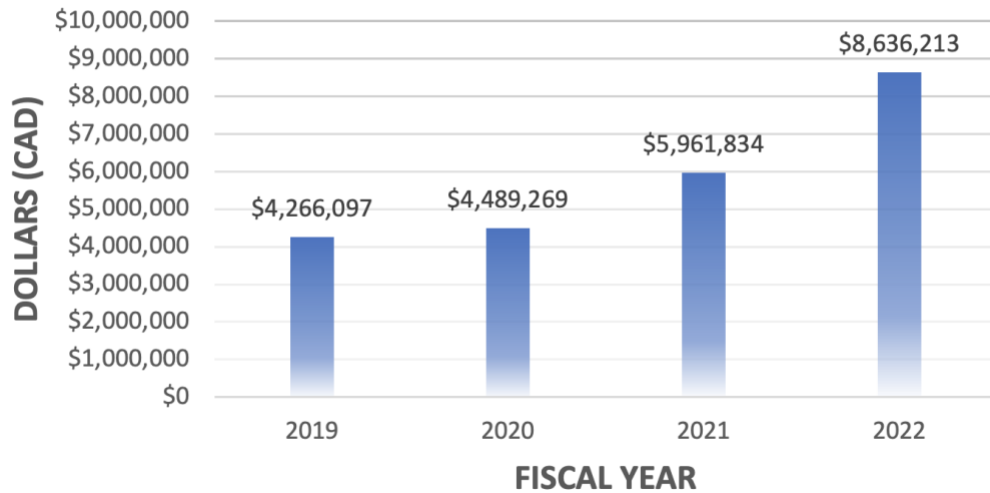


Figure 23: Mantab Inventory Value 2019-2022

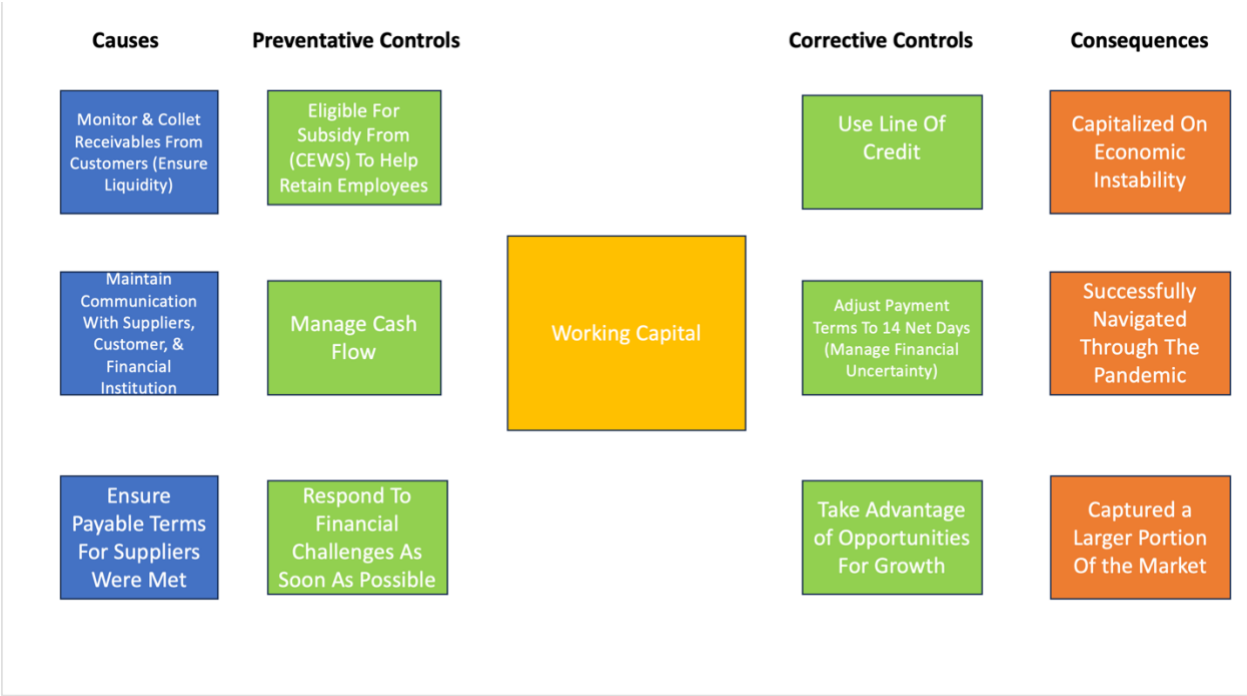


Figure 24: Working Capital Bowtie Diagram

Chapter 5: Technological Infrastructure

Before the pandemic Mantab's technological infrastructure was fairly dependable, the company's internal IT department was tasked with ensuring the software were running smoothly and regular updates were made. However, once the provincial government enforced social distancing and vaccine mandates, Mantab was forced to adapt. The company allowed its employees to work remotely, this was a true challenge and measure of the resiliency of its technological infrastructure. As per the head of Mantab's IT department, the company had to increase both its internet bandwidth and deploy more secure firewalls in order to support virtual private networks (VPN's) which would enable the employees to work remotely and protect Mantab's sensitive information. Additionally, the company needed to secure allocations of laptops and printers for its employees to be able to properly work remotely. Throughout this transitional phase, it was imperative to educate the employees about certain security protocols, such as be vigilant of suspect e-mails, create secure passwords, and change them on a weekly or bi-weekly basis. The credit for this proactive approach can be given to the head of Mantab's IT department, as he understood the challenges that the company would encounter. For instance, he along with Mantab's upper management took initiative and secured allocations of laptops and printers for its employees to be able to properly work remotely. Mantab's warehouse system currently uses PowerGui ERP software, it runs over Postgress SQL, this system uses warehouse locations and lot tracking which is completed with Motorola MC90 series SKU guns. Note they are currently in the process of upgrading the PowerGui software as well and the SKU Guns which will use the MC930 devices which run on Android and no longer use windows millennium systems. Additionally, Mantab uses SAP crystal reports for all custom reporting, which allows them to retrieve sales data either by customer or by product, it should be noted that the servers holding the database has remained unchanged.

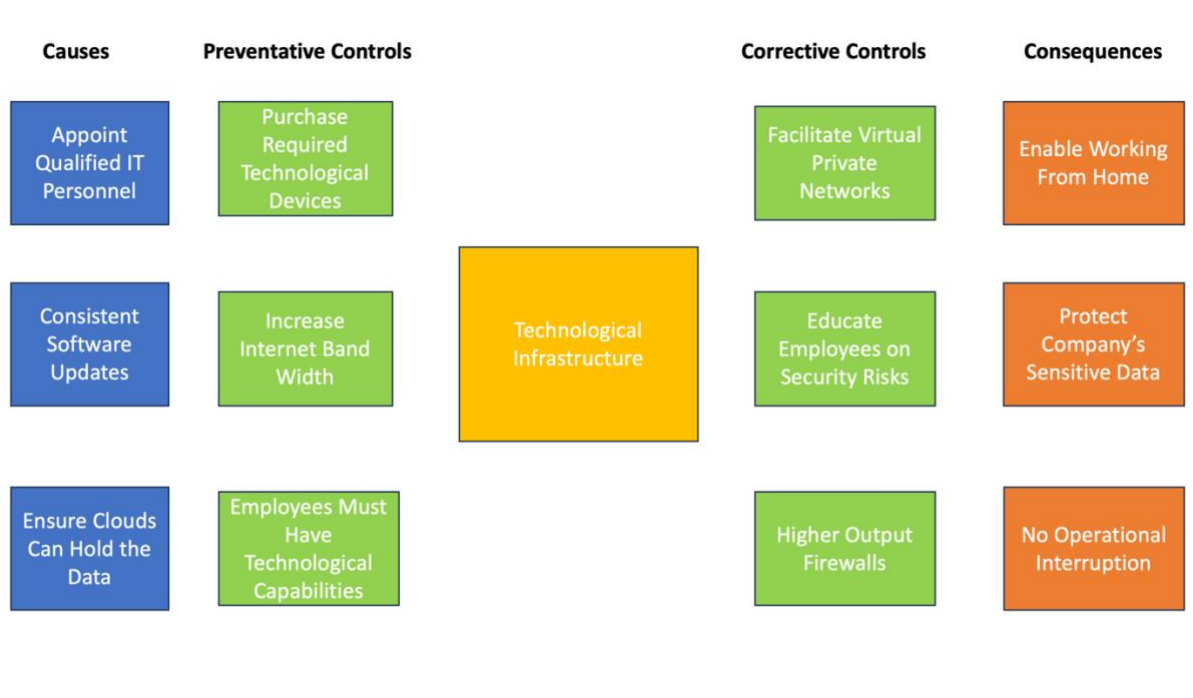


Figure 25: Technological Infrastructure Bow-Tie Diagram

## 5.1 Labour Dependencies

Prior to the pandemic Mantab, did not struggle to recruit competent, qualified, and willing personnel for both its front office staff and warehouse workers. The company consistently received job applications and rarely encounter significant labour challenges. However, there are rare instances in which the Mantab would reach out to third-party agencies to hire temporary workers. This would only be the case in instances where the arrival of containers would be floor loaded and require palletization, an increase in order volume, or a substantial order was placed. During the pandemic, labour became one of the company's biggest obstacles, in large part due to a decline in the willingness to work, the fear of being in close proximity to others, and vaccines being mandatory. Fortunately, front office workers were understanding and working remotely was an adjustment for them however did not have any major impact on the productivity level. The company experienced a significant impact in its warehouse, a shortage of truck drivers, lumpers, and forklift drivers caused an urgent obstacle which needed to be resolved immediately. Labour emerged as one of the biggest challenges Mantab had to deal with throughout the pandemic. The primary reason was concerns over close proximity, lack of motivation for its current employees, a decrease in willingness to work, positive covid tests, and difficulty dealing with the added problems to their current tasks. The front office adapted relatively well in comparison to the warehouse workers, they were able to work remotely which did not affect productivity. However, the warehouse staffed faced a greater impact, a shortage of truck drivers, lumpers, and forklift operators posed an urgent threat to Mantab which needed an immediate resolution. Drastic measures were taken, and its existing employees worked overtime on a daily basis to receive, store,

and prepare orders. Additionally, there were instances in which front office workers would help the warehouse workers with certain tasks such as assembling boxes, dealing with the paperwork when containers would arrive, and preparing orders. Post pandemic the company has developed and created a secondary contact list with licensed forklift drivers, truck drivers, and strengthen their relationship with third party agencies.

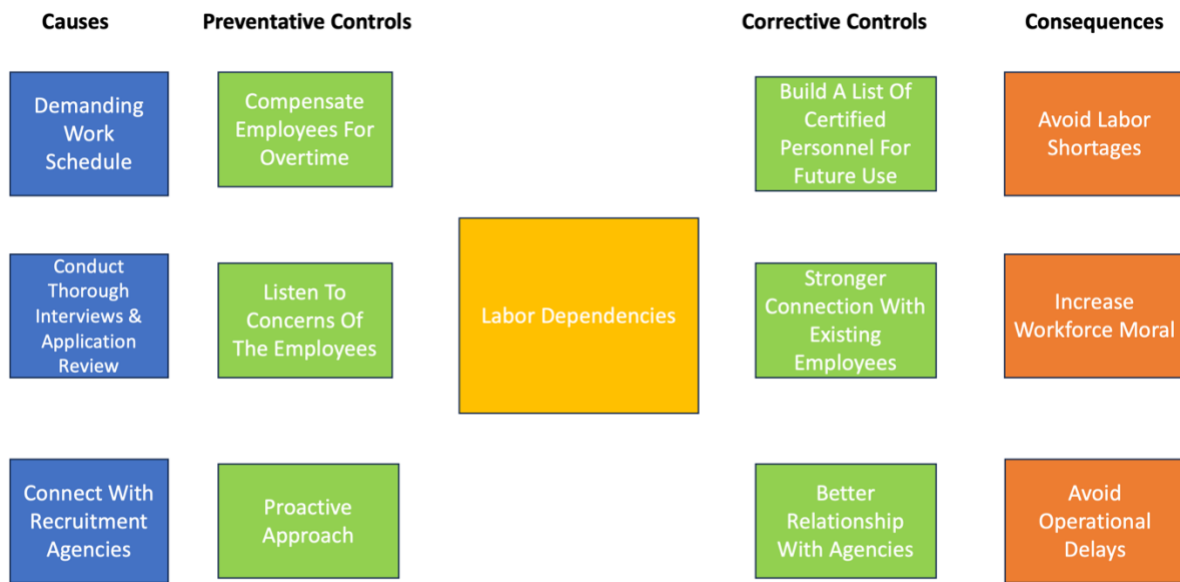


Figure 26: Labour Dependencies Bow-Tie Diagram

## 5.2 Inventory Levels

Inventory management is undeniably one of the most important aspects of Mantab’s operational efficiency. Mantab relies heavily on its velocity reports to accurately forecast the future demand for each of its products. With over 100 products in its inventory that Mantab offers, ensuring the correct stock level for each item is of extreme importance. Maintaining a healthy stock level for each SKU it enables Mantab to effectively serve its customers, sustain business relationships, and sustain sales figures. In the event of stockouts or insufficient volume on hand it would be determinantal to the organization, this could potentially lead to the loss of accounts with existing clients and a decline in market share as they would turn to Mantab’s competitors for their order placements. Mantab’s upper management has more than two decades of industry experience respectively, many of which have previously worked in the warehouse early on in their careers.

Therefore, the level of understanding on how the day-to-day operations function within the warehouse is understood. They have carefully selected warehouse managers that have experience with facilities of similar size to Mantab's. The strategic goals include configuring the warehouse layout for maximum efficiency and integrate technological solutions to facilitate real-time monitoring of warehouse operations specifically receiving and shipping of the products. The pandemic posed unprecedented challenges, inventory management was severely impacted mainly due to demand volatility. This created a major setback for Mantab as all the velocity reports on which it relied upon essentially became obsolete and was now in an extremely rare predicament. Client orders were not being placed with the same frequency nor with the same volumes, orders were being canceled, and new orders were rapidly declining all these factors significantly impacted Mantab's sales levels for each SKU. Consequently, the company was now facing overstocking issues, as most of the products were arriving for the next 6-8 weeks as they have already been shipped by the supplier, currently in transport, and or at the port. Mantab had no choice but to absorb the added expenses of warehousing the products, thankfully the company had the cash flow to absorb the increased expenses, and due to its strong banking relationship, it leveraged its line of credit to withstand the volatile situation. Mantab now acknowledges the potential strain and disruptions that external disruptions pose on the organization, therefore in future scenarios Mantab will prioritize its most loyal and largest accounts.

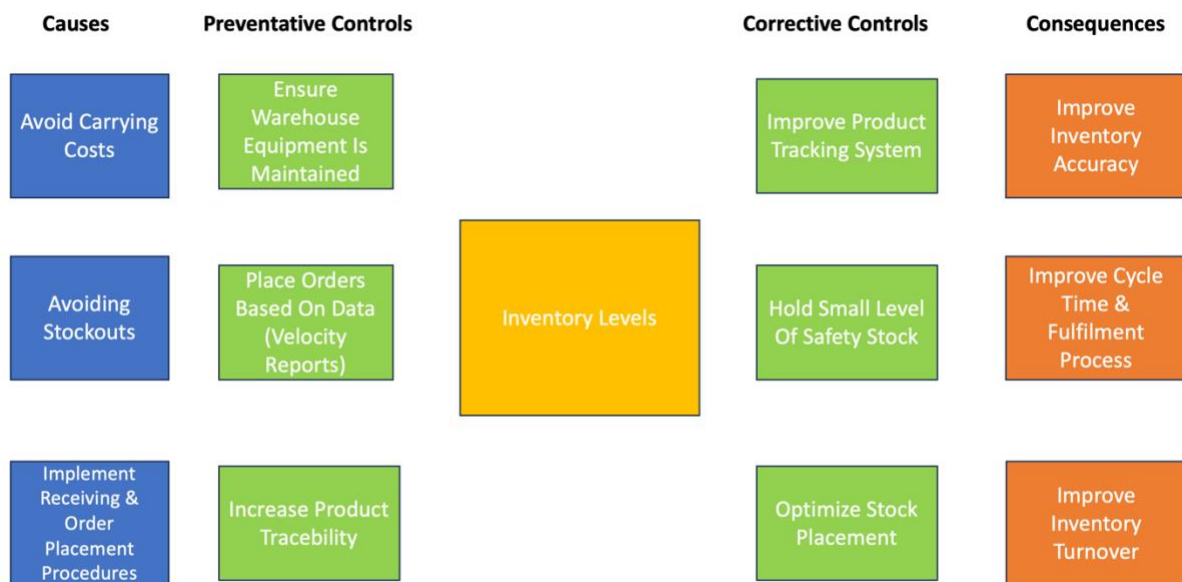


Figure 27: Inventory Levels Bow-Tie Diagram

### 5.3 Operational Silos

Mantab has consistently prioritized establishing open and transparent communication channels throughout all its departments. Although it was not the center of its focus, as most of the departments such as sales, purchasing, and production relied on the upper management for both information and instructions. The challenges the pandemic brought, magnified the interdepartmental communication weaknesses and existing operational silos. It became fairly obvious to upper management that adjustments and increased operational efficiency would be necessary to navigate throughout the pandemic. In this instance Mantab’s upper management took a reactive approach, due to the fact that prior to the pandemic its existing operational silos had minimal to no impact on its operations. An increase in communication, as well as an increase in transparency would permit Mantab to successfully execute its daily operations. The heads of each department were obliged to communicate on a daily basis and were given a certain degree of leeway to make quick decisions without the approval from upper management. Ultimately by empowering the department heads it has inevitably led to a smoother and more efficient working environment, as well as developing a culture of collaboration. Post pandemic Mantab will continue to remove any operational silos that still exist, build and enhance the communication quality and frequency amongst departments, as well as continue to empower department heads.

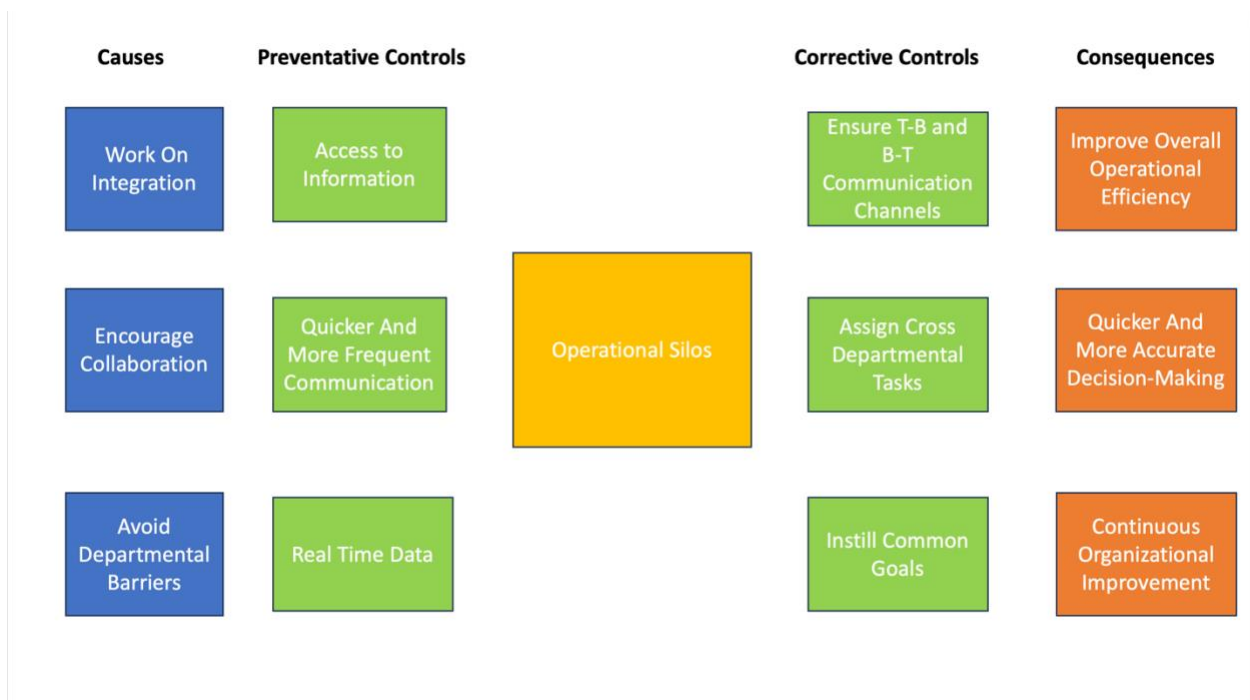


Figure 28: Operational Silos Bow-Tie Diagram

## **5.4 Sourcing Supplier Selection**

Acquiring and selecting suppliers should be highlighted as a pivotal aspect of Mantab's operations, considering the substantial risks and potential consequences. Failing to adequately select capable suppliers based on factors such as quality, volume, facility capabilities, packaging, and local infrastructure should be meticulously and thoroughly examined, otherwise significant repercussions will arise. Mantab had created a concrete and reliable list of suppliers prior to the Covid-19 pandemic, which included countries such as Poland, Belgium, Greece, China, Egypt, Turkey, Peru, Chile, Panama, and others. Notably, Mantab's Chinese suppliers accounted for nearly 40% of its frozen fruit and vegetable volume, specifically in the Qingdao region of eastern China. Mantab's Chinese suppliers used the ports of Xiamen, Tianjin, and Qingdao for the majority of their product shipments. Post Q1 of 2020, Mantab encountered substantial challenges with all their Chinese suppliers, this is directly attributed to the fact that the Chinese government imposed and enforced strict measures in order to further prevent the spread of the Covid-19 disease. Consequently, Mantab found themselves in a highly vulnerable position, which then prompted them and essentially forced them to seek alternative suppliers across different regions of the globe. Due to Mantab's experienced management team and their extensive network, they were successfully and swiftly able to secure supply from other suppliers. It should be noted that supply was secured from both European and South American markets for both its frozen fruit and vegetable products. This strategic move permitted Mantab to successfully establish and broaden its primary and secondary supplier lists. Moreover, this in turn minimized the company's overall exposure and reliance on its suppliers, by extending the global supply chain to multiple geographical locations they are less subject to domestic government policy and regulations. It should be noted that the company took a reactive approach in seeking alternative suppliers as management expressed that this was clearly an unforeseen and unique situation. In the event of future global disruptions, Mantab is now in a position in which it can pivot to its suppliers in the European, South American, and Chinese markets which ultimately decreases Mantab's overall vulnerability level.

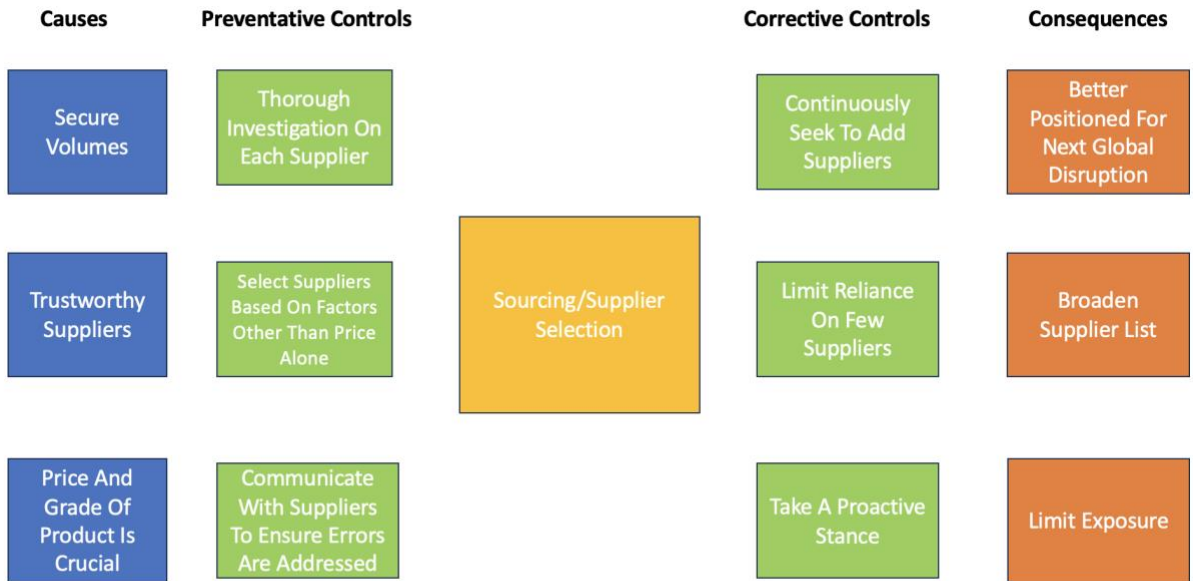


Figure 29: Sourcing/Supplier Selection Bow-Tie Diagram

## 5.5 Forecasting

A significant strength that Mantab possesses is its strong forecasting capabilities, which is a result of its seasoned and well experienced purchasing department with over 15 years of experience in the industry respectively, its effective utilization of its advanced technological infrastructure, and its access to real-time data. The company is committed to maintaining optimal stock levels, avoiding stockouts, and ensuring coordination with both the receiving and shipments of its products. The company mainly utilizes its velocity reports which displays the volume data for each SKU across all 13 periods. This enables the purchasing department to ensure the highest degree of accuracy when placing orders. It is imperative that the purchasing department have consistent and open communication with the sales department in order to anticipate the addition of new customers and or the loss of its existing customers, all variables must be incorporated into the forecasting calculations. The pandemic posed arguably the most troublesome operating environment the company had ever encountered. A substantial portion of Mantab's existing customers were forced to close their businesses as a result of government-imposed laws. The most significant factors were the duration uncertainty, demand uncertainty, and the repercussions once the businesses re-opened. It was extremely difficult to anticipate or predict future demand patterns, especially since the pandemic had altered customer demands. Leveraging its strong financial position combined with a higher risk tolerance than its competitors, Mantab strategically placed orders aiming to not only serve their existing clients but the customers of their competitors once government restrictions were lifted. In this instance, Mantab benefited from the decision as it experienced a significant increase in market share. It should be noted that Mantab did not hesitate

to make this decision, whereas most of their competitors that failed to make a quick decision experienced a loss of market share and sales.

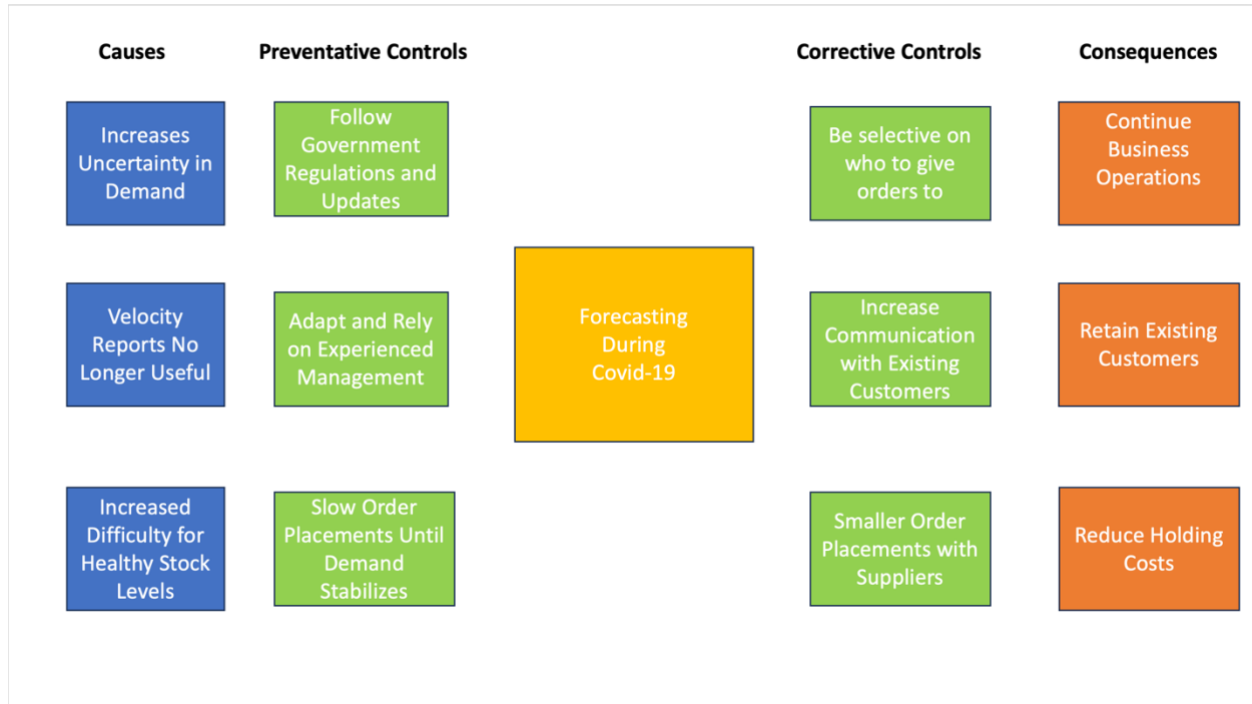


Figure 30: Forecasting Bow-Tie Diagram

## 5.6 Risk Appetite

A company's risk tolerance should be based on several key factors such as, the current and future landscape of the industry, an understanding of its corporate culture, competitor analysis, and clearly identify its objectives through assessment of its financial standing and operational capabilities (Manoukian, 2016). Mantab's upper management continuously seeks to identify and seize market opportunities, although, during the pandemic it became increasingly difficult as the market landscape was unpredictable. Mantab's upper management adopted an open-minded stance towards the majority of the decisions they are faced with, rather than a more conservative or cautious approach. They attribute their growth in market share post-pandemic due to this mindset and culture with the organization. Mantab's competitors displayed a rather sheltered approach and were more hesitant in making certain decisions throughout the pandemic. During this period, their competitors often chose decisions with the least amount of risk associated to them. One particular example that Mantab highlighted was in 2021, they opted to place orders with their suppliers, without knowing whether demand would return, however in the likeliness that it would they would be the only company with stock available, this decision came to fruition in late 2021, when its

competitors’ customers contacted them for their orders. It should be noted, that Mantab was not reckless but carefully assessed the downside of this decision and determined that they would in fact be able to afford to take this risk. This can be attributed to its strong financial position, thus allowing them to absorb any losses as a result of a miscalculation. Embracing a certain level of risk is essential for accomplishing organizational goals (Stanford University, 2023). Mantab’s executives acknowledge their readiness to take on justified risk in order to seize opportunities to increase their market share and increase sales.

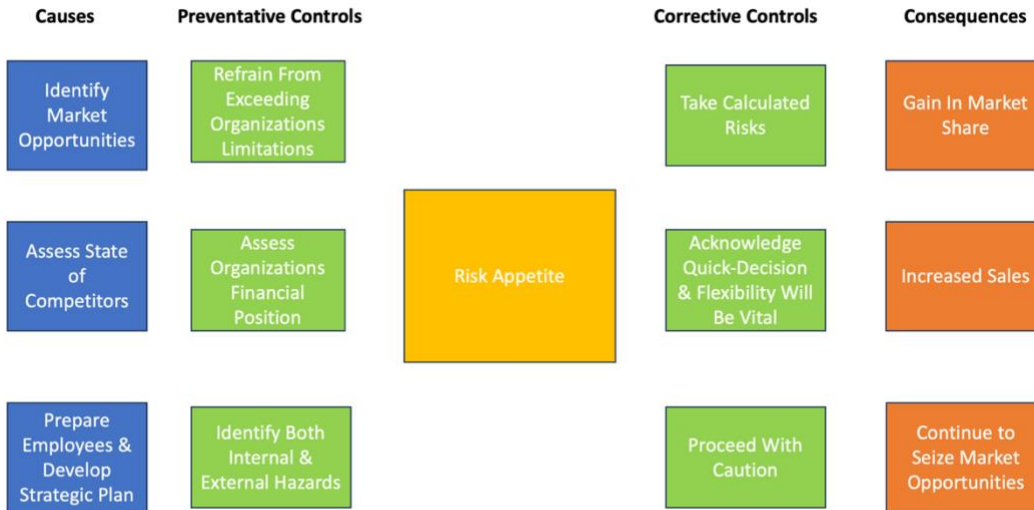


Figure 31: Risk Appetite Bow-Tie Diagram

### 5.7 Lead Time Fluctuation

Mantab encountered many obstacles in its product sourcing and receiving process throughout the pandemic. The company provided the primary countries from which it sources its frozen fruits and vegetables, with each of their estimated lead times for receiving shipments from each of the locations. Normally, containers take an average of 20 to 35 days to be packed and shipped to Canada, depending on the location. However, during the pandemic, the duration, it took for receiving the shipments nearly doubled in the majority of the locations reaching up to 60 days. Mantab maintained a transparent communication channel with all its customers and providing them with updates, as well as daily follow ups with suppliers and transportation companies. Mantab has expressed that communication was vital to retaining its customers, preparing for shipment arrivals at the warehouse, and achieving a certain level of volume stability to avoid stockouts of specific SKU’s. Additional factors that contributed to increased lead times were congestion at the majority

of the ports in which the suppliers had to ship from and increased inspections at the by the Canadian customs for security purposes in order to prevent further spread of the disease. It should be noted that products sourced from China experienced the most significant increase in lead time. Communication challenges created additional obstacles for Mantab, due to the fact that the majority of employees of its suppliers and transport companies were forced to work remotely, obtaining data at every stage was extremely difficult. Post-pandemic lead times have reverted to normalcy and should Mantab encounter a similar situation in the future they would use a similar approach of maintaining transparency with its customers.

<b><u>Lead Time (Days)</u></b>	<b>Pre-Covid</b>	<b>During Covid</b>	<b>Post-Covid</b>
<b>1. China</b>	30-35	50-60	40-50
<b>2. Belgium</b>	20-25	30-45	25-30
<b>3. Poland</b>	20-25	30-45	25-30
<b>4. Greece</b>	25-30	30-45	25-30
<b>5. Turkey</b>	25-30	35-40	30-35
<b>6. Egypt</b>	25-30	40-50	40-50
<b>7. South America</b>	25-30	30-45	25-30

Figure 32: Lead Time Chart

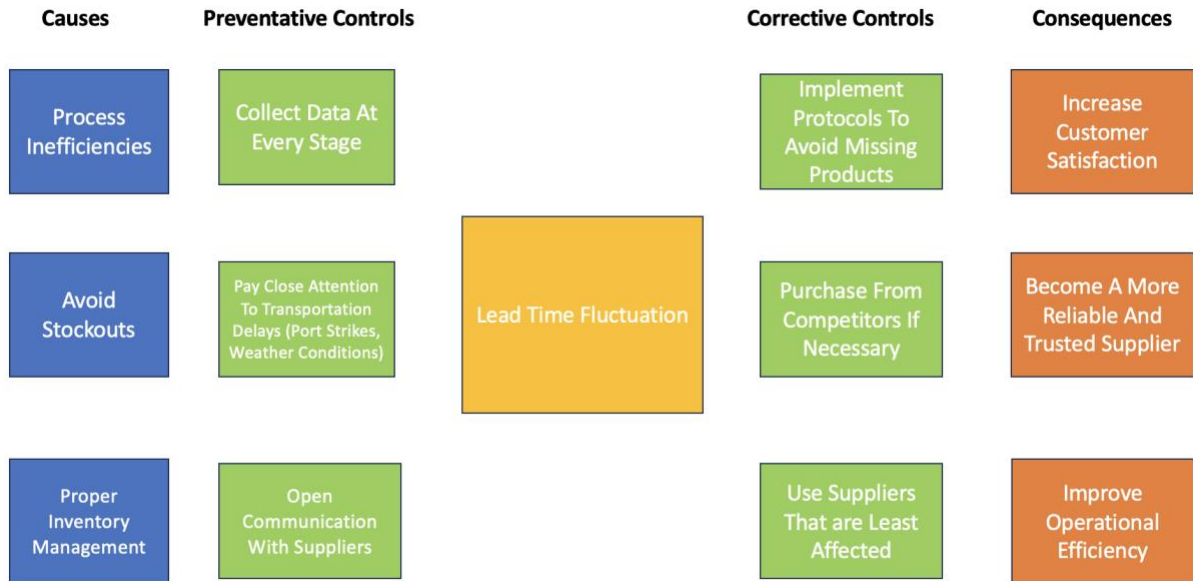


Figure 33: Lead Time Fluctuation Bow-Tie Diagram

## 5.8 Supplier Criteria

Mantab faces a significant challenge for identifying suitable suppliers, the primary reason is the inability to conduct physical inspections and visit the manufacturers in person. Consequently, extensive research on each supplier must be conducted which presents an obstacle. Mantab prioritizes compliance to the Canadian government’s regulations for importers. The company diligently monitors policy updates and ensures they conform to the laws in order to maintain their import license. Mantab has created an internal template called the “Approved Supplier Criteria”, it is heavily based of the Government of Canada’s Safe Food for Canadians regulation laws with slight modifications. This template aids Mantab in the supplier selection process, considering factors includes supplier history, expertise, capacity, compliance, and risk assessment. In order to be considered an eligible partner, suppliers are required to possess the appropriate certification and documentations, ensuring compliance with safety protocols for raw materials, ingredients, and packaging. Furthermore, Mantab consistently conducts evaluations for its current supplier list based on product quality, packaging adequacy, and compliance to contractual agreements. Suppliers are obligated to provide sample cases for immediate testing upon arrival, to confirm it meets the quality standards and verify that the products are not contaminated. It should be noted, Mantab conducts the testing within their facility, it is the responsibility of the quality control

department. This process is crucial, there were instances in which Mantab’s competitors have encountered product recalls after the items were sold and shipped to the customers. Mantab’s has taken a proactive stance by conducting product testing prior to accepting and shipping its products. Especially in the food sector, where customers gravitate towards trustworthy companies, failure to do so will lead to a compromised reputation which significantly harms the organization and brand image within the industry. Considering this it is of the utmost importance to ensure the safety of all the products that Mantab offers, which will inevitably lead to increased trust with existing customers and potentially attract new customers as a result. It should be noted that during the Covid-19 pandemic Mantab was essentially forced to seek alternative suppliers for the bulk of its frozen fruits and vegetable volumes. For these new suppliers to be considered and qualified they were obligated to allow third party inspections and audits of their facilities to verify authenticity of the documentation and prevent both fraud and falsification.

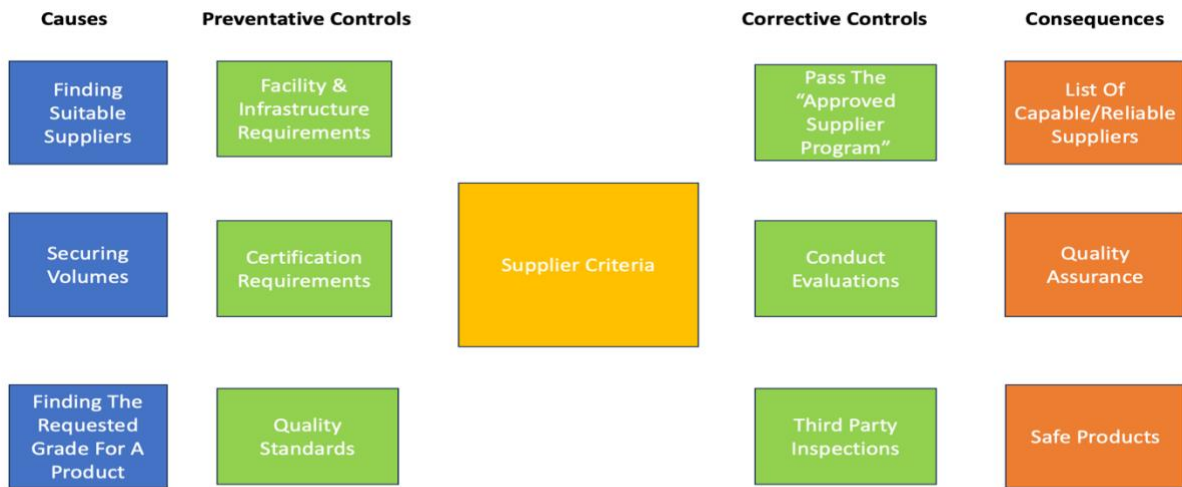


Figure 34: Supplier Criteria Bow-Tie Diagram

## 5.9 Customer Requirements

The importance of Mantab’s customer requirements cannot be overlooked, considering it significantly impacts and influences the purchasing department’s supplier selection process. Several factors must be considered, with the product variable being the most crucial. In terms of taste, color, and consistency grade A quality products are the highest tier, while the grade C products are the lowest tier. Additionally, the quantity required by the customer holds substantial weight, as identifying which suppliers are in fact capable of meeting the demands of larger accounts. Failure to secure and locate the requested volumes will inevitably lead to the loss of the customer. Thirdly, the specifications of the products are also a key variable, Mantab provides products in formats such as 6X2Kg, 5X1Kg, 12X600g, and 12X750g. It is imperative that Mantab inform the supplier the preferred format of its customers as they are the ones responsible for packaging the product. In the event of inadequate packaging by the supplier, Mantab would have no choice but to re-package the products to align with its customers demand, note this process is extremely time consuming and inefficient. Mantab possesses a repacking room within its warehouse facility specifically in case this event should occur. Over the course of the pandemic, Mantab’s customers demonstrated a level of understanding of the challenges that importers were faced with. The difficulties in securing specific grades, volumes, and specifications had increased tremendously. Given the situation, the customers were open to exploring alternatives to their usual or desired standards. Mantab maintained a high level of transparency with its customers, by openly communicating about product availability and advising them that they would need to adapt their requests.

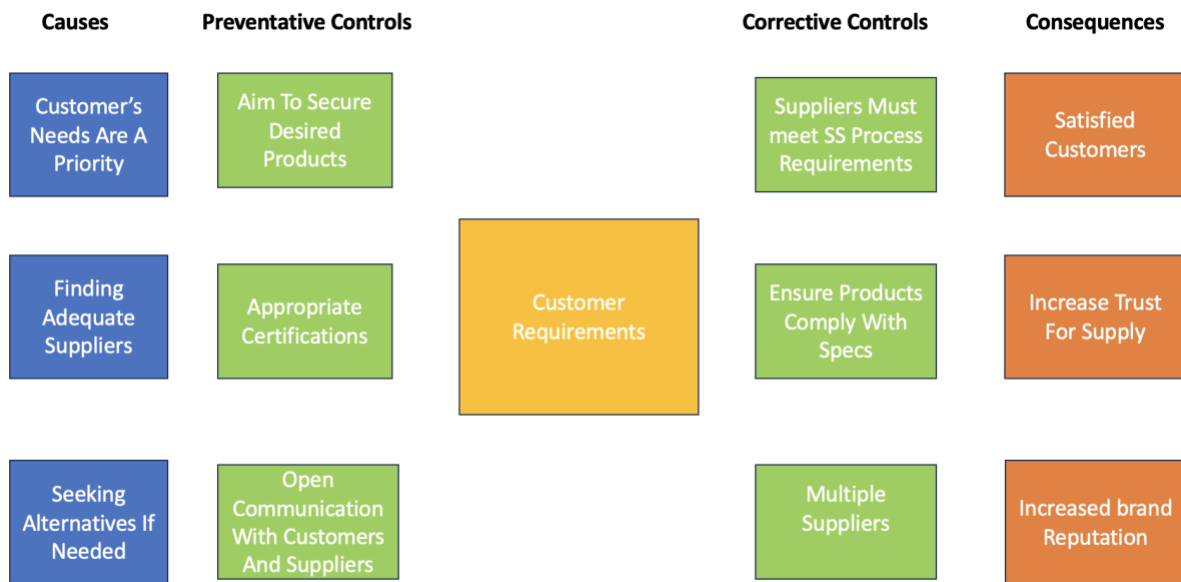


Figure 35: Customer Requirements Bow-Tie Diagram

### 5.10 Operational Agility

Mantab believes its operational agility was one of their greatest assets throughout the pandemic. The constant fluctuation within the market required quick reactions, operational

flexibility, and employee adaptation. These factors were possible due to the organizations culture instilled by upper management. Prior to the pandemic Mantab’s leadership empowered its workforce, in particular its front office employees, permitting them to make their own decisions within defined parameters. Although when it came to finalizing volume and pricing decisions, they were required to consult the department heads, in order to receive permission. Mantab continuously seeks the newest technologies in which it can incorporate into their operations, in hopes of reducing time consuming processes and labour-intensive tasks. Moreover, management proactively identified operational inefficiencies and weaknesses in order to find solutions as quickly as possible which leads to an increase in its overall operational efficiency. Through the implementation of lean operational practices, Mantab increases its ability to respond to unforeseen disruptions such as the covid-19 pandemic. Through employee empowerment, technological adaptation, clear task assignments, identifying operational inefficiencies, and open communication channels have all proved to be key factors to their success in confronting the Covid-19 pandemic.

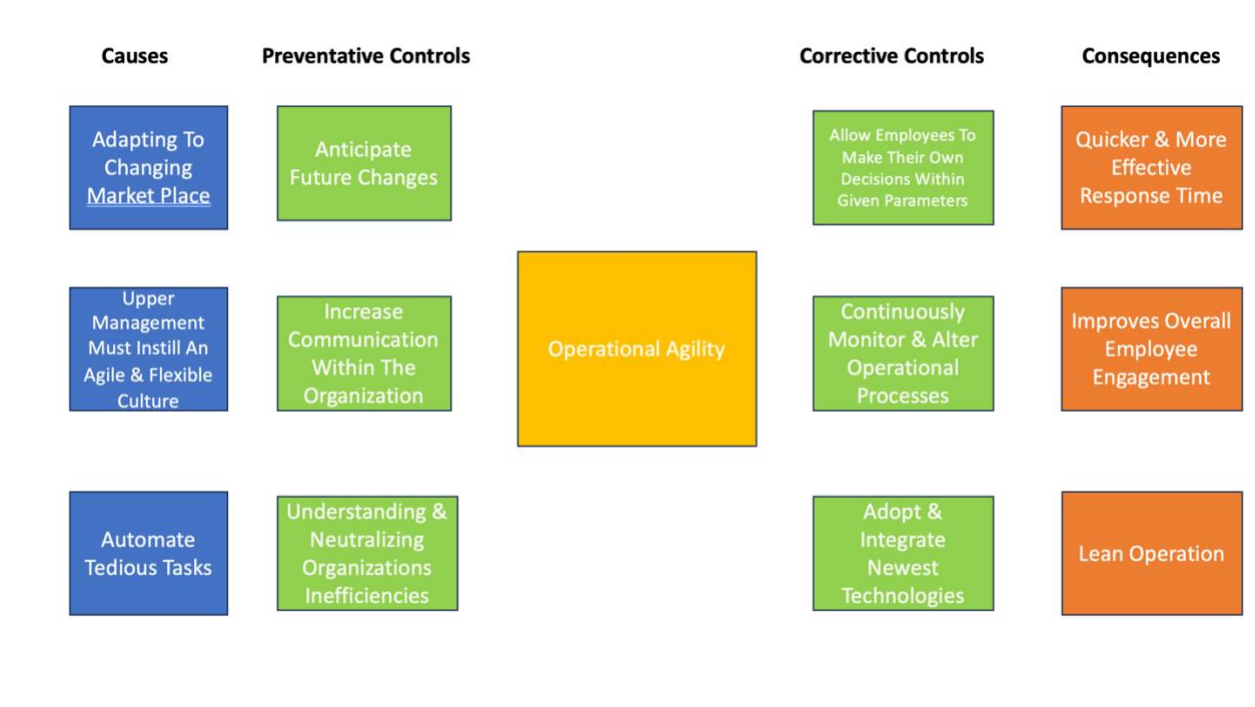


Figure 36: Operational Agility Bow-Tie Diagram

### 5.11 Government Regulations

Prior to the covid-19 pandemic, Mantab diligently followed Canada’s food safety regulations and complied with both import and export laws. The Canadian government would make few alterations to its laws and policies, and any update or revisions typically took a substantial

amount of time which allowed for Mantab and other companies the opportunity to adapt and conform to the new legal framework. However, the pandemic brought upon drastic changes and both federal and provincial governments took a reactive approach to endure the threat of the disease which in turn did not allow for Mantab enough time to react. The province of Quebec experienced the highest rate of hospitalizations and fatalities among Canadian provinces, and consequently strict measures were implemented. The majority of measures enforced by the provincial governments had a significant influence on Mantab's sales, internal and external operations. Mantab clientele primarily consists of manufacturers, wholesalers, distributors, and retailers. With the closure of restaurants, bars, private venues, and prohibiting fans at sporting events, nearly all of Mantab's customers experienced a halt in demand. Consequently, manufacturers, distributors, and wholesalers refrained from placing orders, however it should be noted that Mantab experienced a surge in sales with grocery retailers, these levels surpassed any previous sales volumes that had been achieved by the organization. Mantab was now in a reactive position to reassess its business model and shift its focus to serving its retail business. It should be highlighted, that serving manufacturers and retailers is different specifically in concerning the format and packaging in which the products are shipped. The majority of retailers will not accept formats that exceed 6X2Kg, 5X1Kg, 12X600g, and 12X750g; as well as ensuring presentable packaging. The surge in sales primarily stemmed from the needs of end-users to obtain their food solely from grocery stores. Mantab remained highly attentive, meticulously monitoring each daily announcement made by federal and provincial governments. Additionally, Mantab was forced to follow new social distancing guidelines implemented by the Quebec government, permitting its employees to work remotely and prioritizing the safety of its workforce by utilizing all available resources. Mantab claims it experienced a greater challenge protecting its warehouse workers as they were required to be physically present as well as be within close proximity to each other. Mantab has also stated that it was imperative to monitor government announcements in the countries of their suppliers to determine product sourcing strategies. In instances in which strict restrictions were implemented and thus creating a challenge to obtain the products, alternative sourcing locations had to be explored. It is imperative Mantab continue to follow governmental policies of its suppliers, specifically to remain vigilant regarding alterations to export regulations, any changes to these laws would directly impact Mantab's expenses and logistical operations. Furthermore, while most food safety standards are aligned with those of Canada's, it is important to note that in cases where new suppliers were to be selected international certifications must be held.

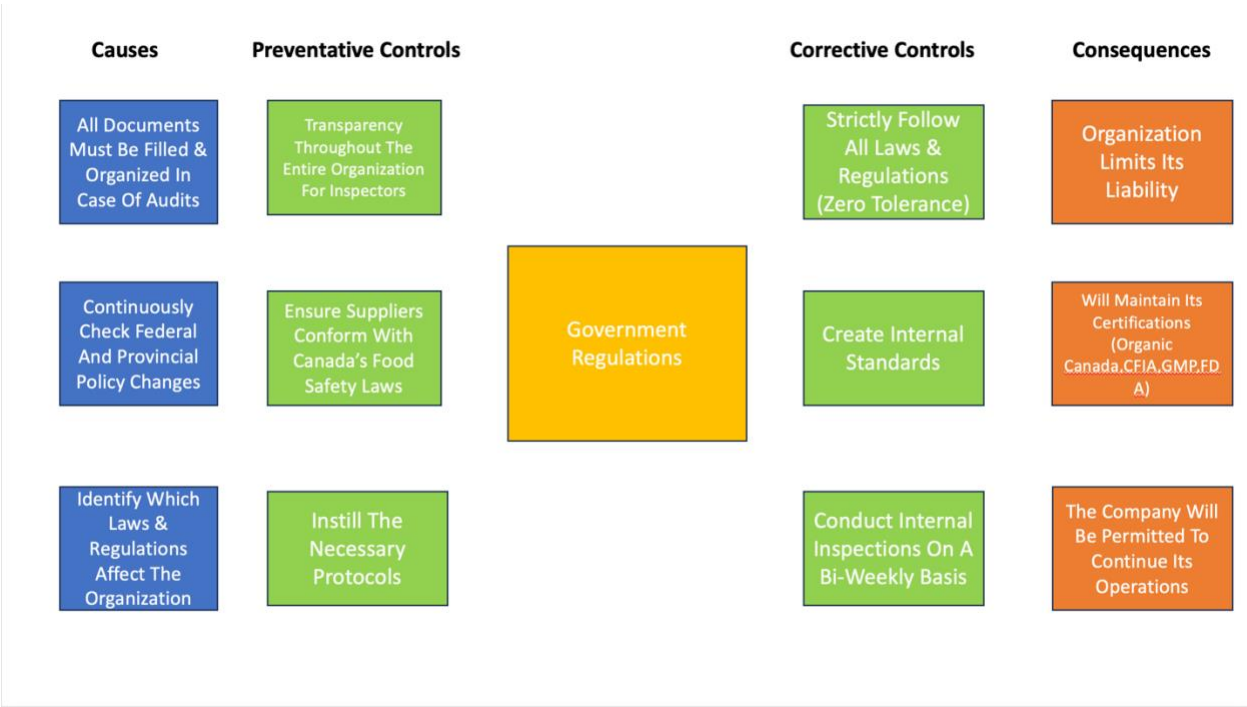


Figure 37: Government Regulations Bow-Tie Diagram

## Chapter 6: Velocity Reports

Mantab's velocity reports present sales data for each of its 13 accounting periods, which enables for accurate comparisons across identical time frames annually. Mantab' can access data either by individual customers or codes which correspond to specific products. The company provided ten randomly selected products, five fruits and five vegetables, from 2018-2023, 2018 was deliberately chosen as the starting point in order to display the company's two-year sales trends leading up to the Covid-19 pandemic. The X-axis displays the respective year while the Y-axis represents the number of cases sold for each product. Between 2018 and 2020, seven of the ten randomly selected SKU's displayed a consistent upward trajectory, while in figures 3,7, and 10 demonstrate a slight decline in sales specifically from 2019-2020. From 2020 to 2021, the majority of the SKU's display a notable downward trend, with few displaying marginal growth or remaining relatively stable. It should be noted that in figures 2 and 10 there were contractual obligations stemming from agreements signed in 2019 with their customers which requires a certain volume to be pulled monthly in 2020. It should not go unnoticed that from 2022-2023 all SKU's depict an upward trajectory with the exception of figure 9, all SKU's have achieved a record-high in sales volume. These results can be directly attributed to Mantab's operational adaptability and resilience throughout the volatile and uncertain work environment caused by the Covid-19 pandemic. Moreover, Mantab was able to capture a larger portion of the market, by successfully maneuvering through the challenges from 2020 to 2022. The risk tolerance and appetite of Manatb's upper management along with its operational day to day execution from its employees has allowed for the company to reap the benefits.

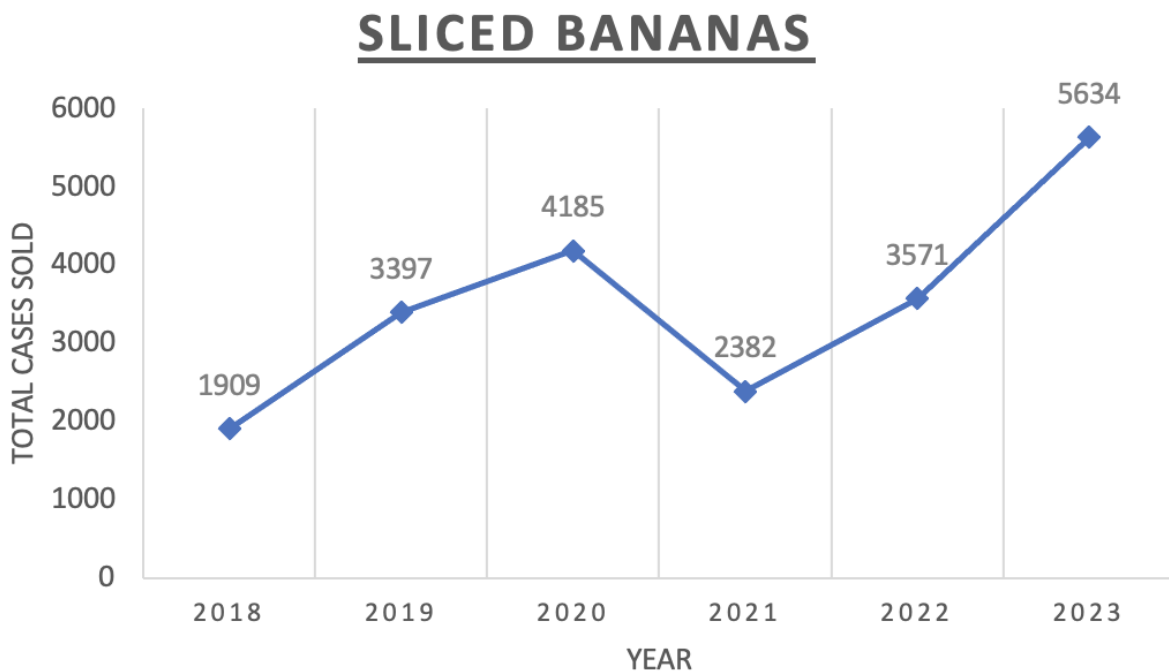


Figure 38: Velocity Reports (Sliced Bananas) 2018-2023

## PEAS & CARROTS

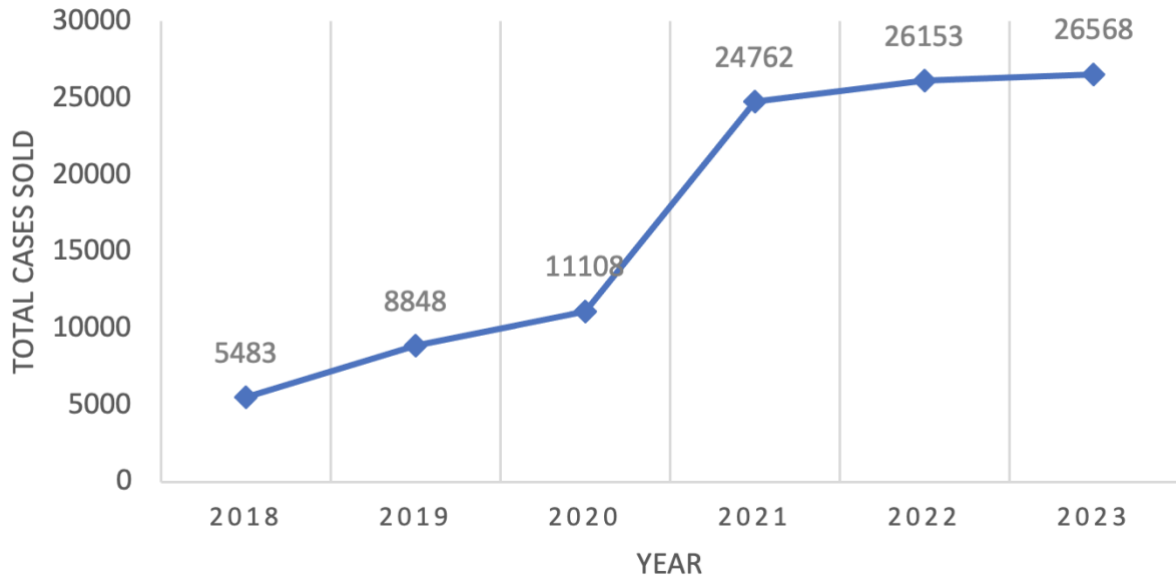


Figure 39: Velocity Reports (Peas & Carrots) 2018-2023

## BROCCOLI FLORETS

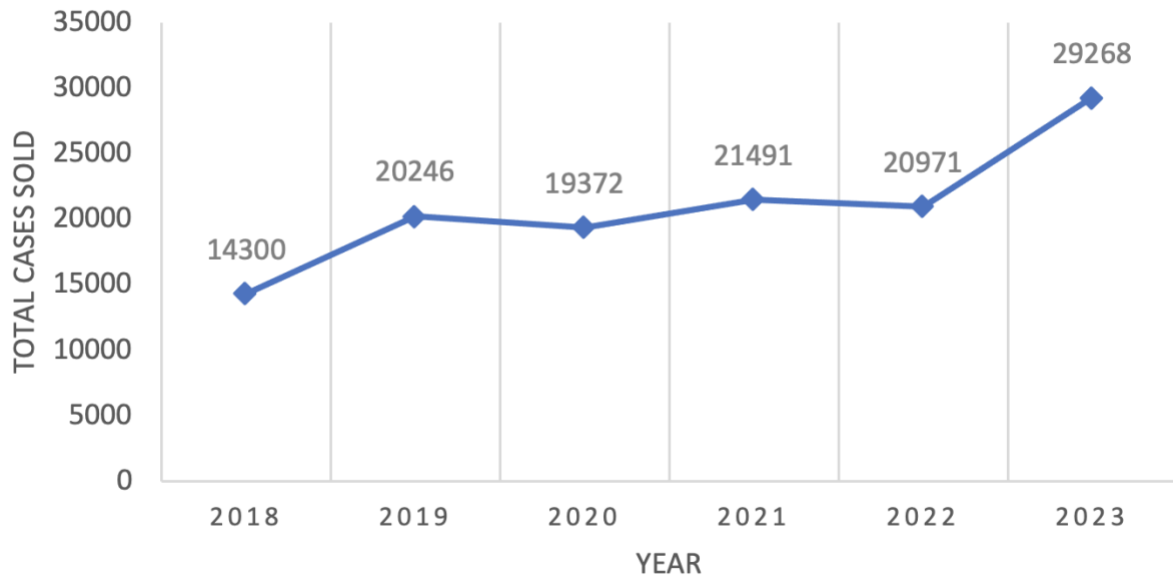


Figure 40: Velocity Reports (Broccoli Florets) 2018-2023

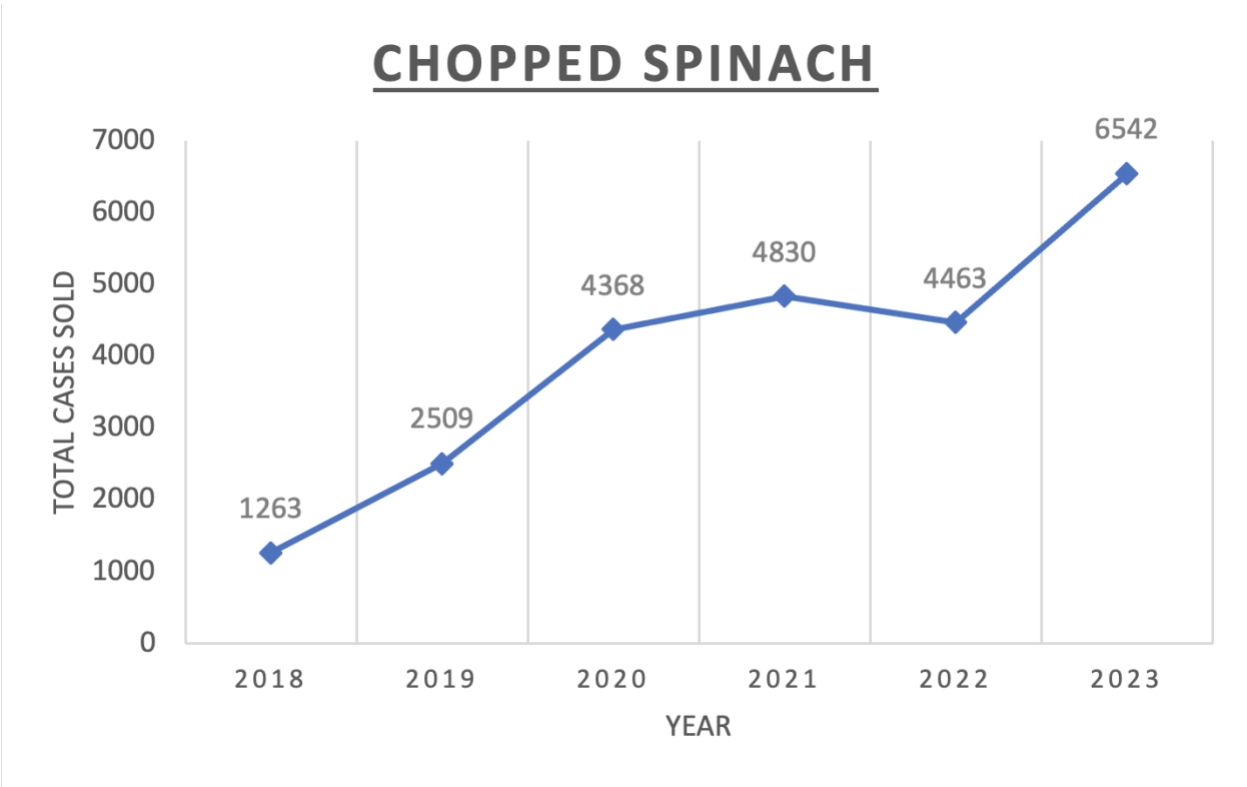


Figure 41: Velocity Reports (Chopped Spinach) 2018-2023

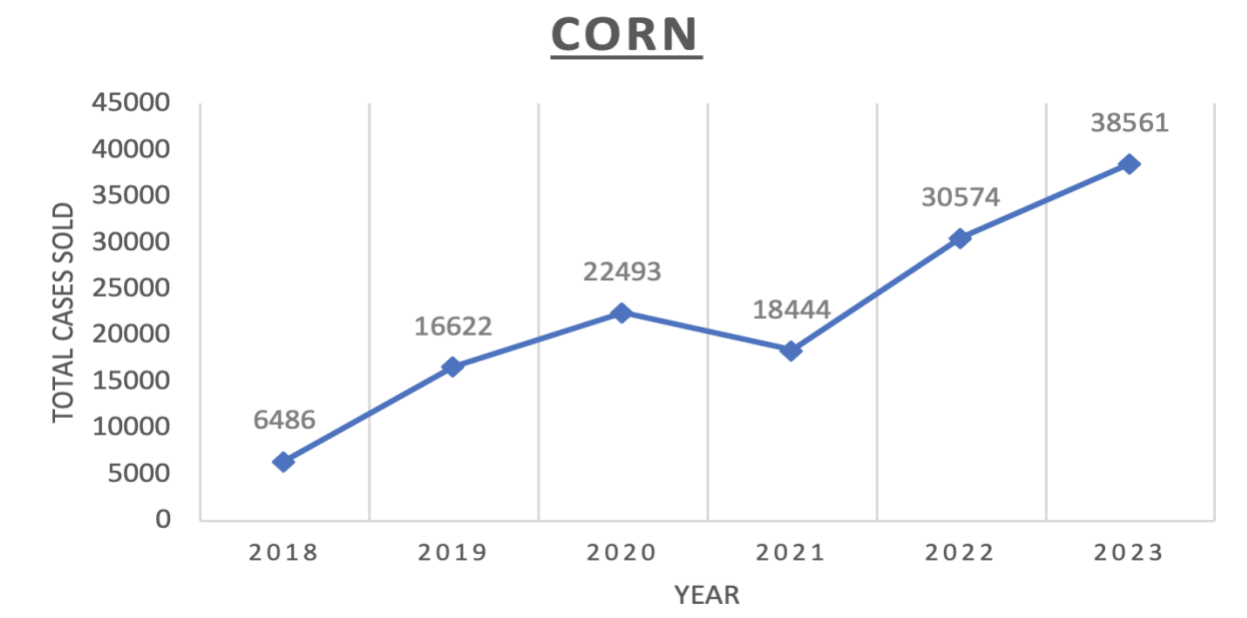


Figure 42: Velocity Reports (Corn) 2018-2023

# WILD BLUEBERRIES

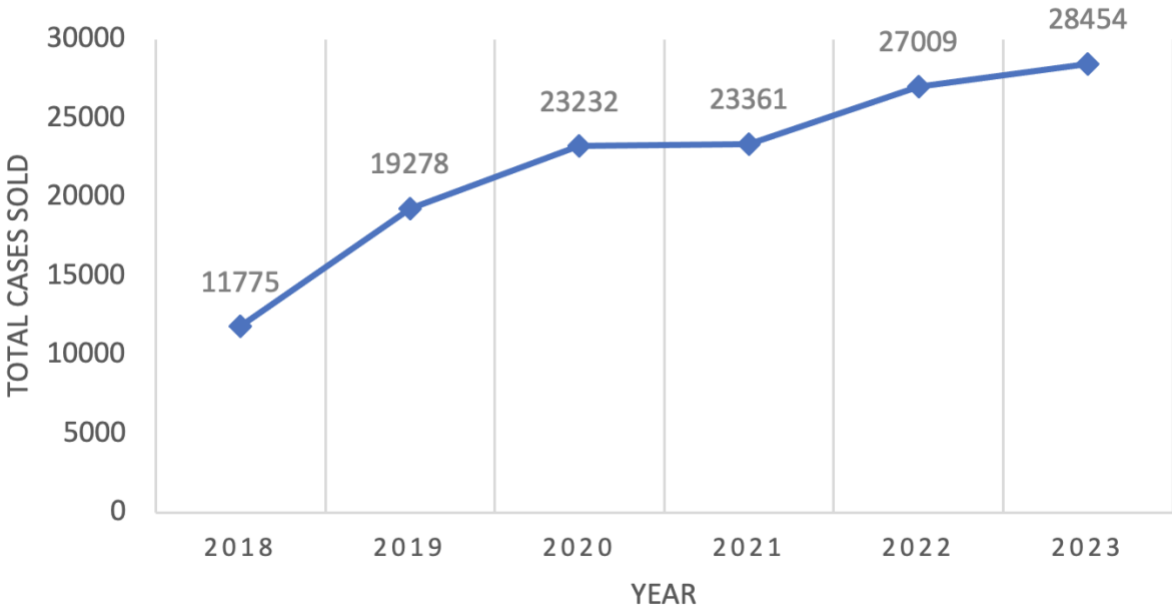


Figure 43: Velocity Reports (Wild Blueberries) 2018-2023

# WHOLE STRAWBERRIES

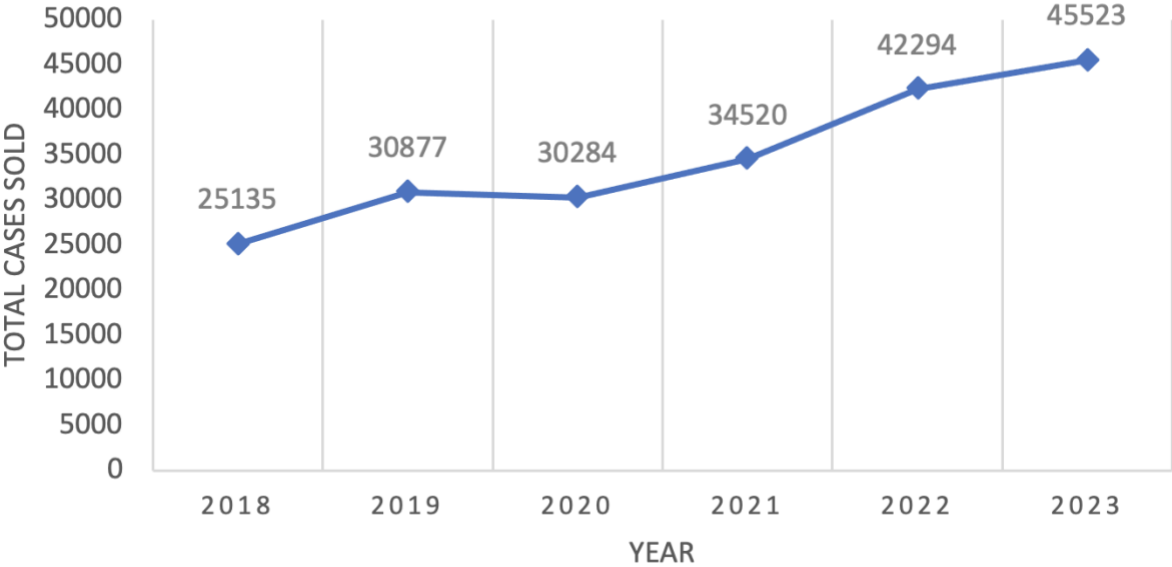


Figure 44: Velocity Reports (Whole Strawberries) 2018-2023

## MANGO CHUNKS

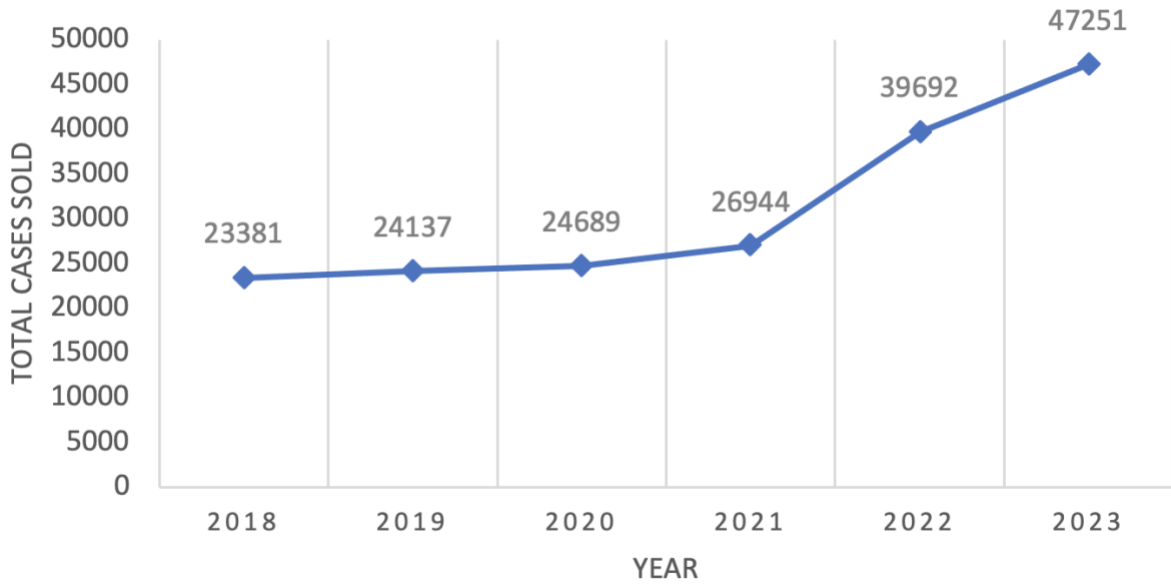


Figure 45: Velocity Reports (Mango Chunks) 2018-2023

## RASPBERRIES

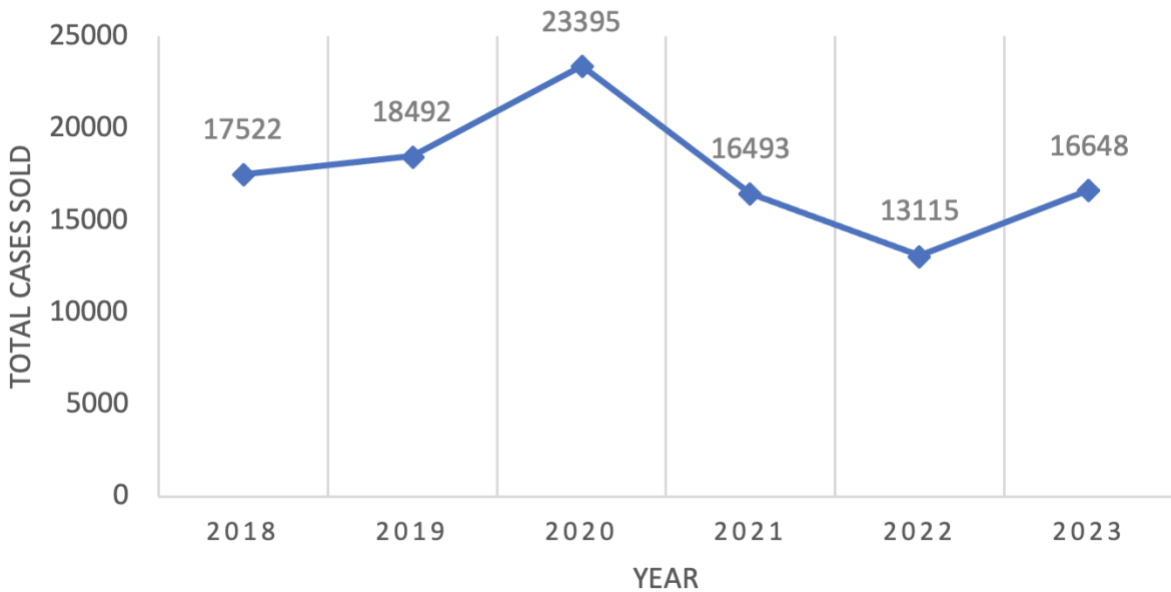


Figure 46: Velocity Reports (Raspberries) 2018-2023

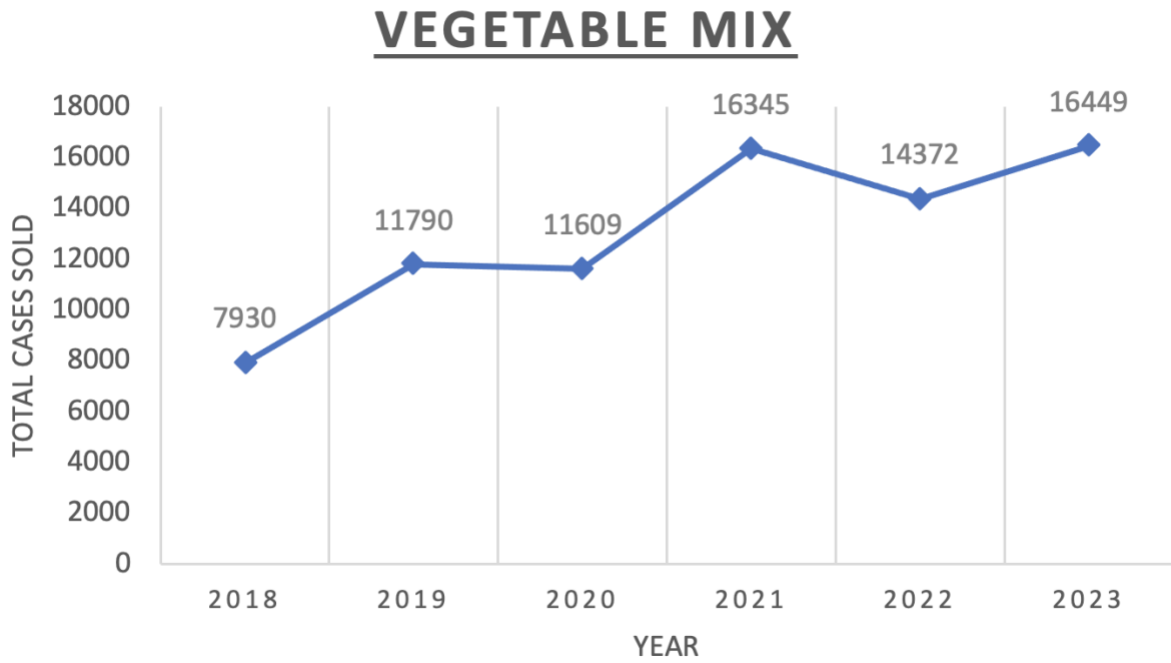


Figure 47: Velocity Reports (Vegetable Mix) 2018-2023

## **Chapter 7: Conclusion**

In conclusion, Mantab was requested to identify the three factors they believed were responsible for their increased market share and record-breaking sales levels post-pandemic. They credit their success to the risk appetite demonstrated by the executives, their reactive abilities for mitigating and addressing threats, and lastly their strong financial position. Moreover, Mantab would benefit greatly from adopting the failure mode and effect analysis (FMEA) for its post pandemic risk prioritization analysis. The (FMEA) utilizes existing knowledge and documentation of risk failure, allowing for continuous improvements to be made. The (FMEA) highlights prevention and control at the earliest stages which would prove to be extremely useful and advantageous, especially concerning existing processes (American Society for Quality, 2021). Moreover, this framework aims to minimize failures by addressing the most impactful risk first and focuses on areas subject to failure, errors, and defects that could impact the organization and its customers (American Society for Quality, 2021). This tool aligns rather well with regards to Mantab's sourcing activities, transportation and logistical networks, and operational efficiency.

### **7.1 Future Research Directions**

With regards as to how businesses navigated throughout the Covid-19 pandemic there are multiple avenues for future research. By conducting a thorough risk assessment pre, during, and post pandemic, identifying vulnerabilities, and highlighting a company's reactive and proactive approaches which led to them to either gaining or losing market share is paramount. This research will potentially lead companies to develop a more resilient operational infrastructure, robust supply chains, and the implementation of preventative measures should a future global disruption occur. This research should encompass both small and large business across different industries, companies with varying risk tolerances, and financial capabilities.

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