

# Business Continuity in Times of Crisis: An Assessment of the Impact of Covid 19 Pandemic on the Paint Manufacturing Industry

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## ABSTRACT

*In considering business continuity in times of crisis this study delves in assessing the impact of the COVID-19 pandemic on the paint manufacturing industry in Lusaka, Zambia, focusing on the strategic responses and resilience displayed by Kansai Plascon Zambia Limited, a key player within the region. Employing a qualitative research approach, the study undertakes a comprehensive analysis of data sourced from diverse stakeholders, including customers, employees, suppliers, and industry leaders. The findings illustrate the effects of the pandemic on the paint manufacturing sector. Disruptions were not confined to operational aspects but also influenced the dynamics of customer expectations, workforce dynamics, and relationships within the supply chain. Through detailed qualitative thematic analysis, it provides insights into how industry stakeholders navigated these challenges, revealing adaptive measures and strategic responses that were instrumental in sustaining operations during challenging times. Kansai Plascon Zambia Limited's experiences and actions serve as a focal point for understanding how a prominent industry player grappled with the unprecedented challenges posed by the pandemic. This in-depth assessment sheds light on the resilience demonstrated by the company and its strategic decision-making processes. The research spotlights the transformative impact of technological advancements, focusing on investments in digitalization, research and development and the adoption of eco-friendly manufacturing practices. The findings serve as a roadmap for the paint industry, highlighting the importance of continuous learning, collaborative partnerships, and a resilient workforce which if embraced, the can industry navigate challenges and drive innovation, ensuring its relevance and prosperity in an ever-changing business landscape.*

**Keywords:** business continuity, covid 19, crisis management, pandemic, resilience

## I. INTRODUCTION

Business Continuity is an organization's ability to maintain critical functions in emergencies. The COVID-19 pandemic brought unprecedented challenges to businesses across the globe. The paint manufacturing industry, faced disruptions in supply chains, changes in consumer behavior, and operational challenges. The research aimed to assess how the COVID-19 pandemic affected the paint manufacturing industry in Lusaka Zambia through a case study of Kansai Plascon Zambia Limited, with the following objectives; to assess operational challenges faced by Kansai Plascon Zambia Limited during the COVID-19 pandemic; to evaluate the financial effects of the COVID-19 pandemic on Kansai Plascon Zambia Limited and to identify the resilience strategies the paint manufacturing industry used to overcome the effects of the Pandemic. By assessing the strategies employed by the company to ensure business continuity during this crisis, valuable insights have been gained for both academic and practical purposes. In the Zambian context people focused on health and safety because of fear caused by the pandemic, leading to increased demand for paints with special properties. Such as antimicrobial coatings and paints that are easy to clean gained traction, mainly in healthcare facilities, public spaces, and commercial establishments (Ng'ombe et al. 2021). As Zambia's economy gradually reopened, the paint manufacturing industry sought to build resilience. Manufacturers diversified supply sources, streamlined production processes, optimized inventory management and employed prudent finance management measures.

Prior the research explored the effects of the pandemic on various industries and sectors. (Mwansa et al. 2020) Some studies examined the broader economic implications, (Ng'ombe et al. 2021) while others investigated specific challenges faced by businesses. In the context of the paint industry, some research focused on the impact of the pandemic on supply chains and consumer preferences. (Adekanye et al. 2020) However, existing studies have often provided general overviews rather than in-depth case studies that delve into the specific strategies adopted by a paint manufacturing company during the pandemic. The study differentiates itself by focusing on a detailed case study of Kansai Plascon Zambia Limited, a prominent player in the paint manufacturing industry in Lusaka. Unlike previous research, this study goes beyond surface-level analysis to delve into

the intricacies of the company's response to the pandemic. It uncovers the strategies and adaptations implemented by the company to ensure business continuity in the face of unprecedented challenges. The study offers practical insights that other companies in the paint manufacturing can learn from. The research addresses a gap in academic literature by providing a comprehensive analysis of the effects of the pandemic on the paint manufacturing sector in the Zambian context. It gives an understanding of how a crisis of global magnitude can disrupt operations, alter financial stability and necessitate adaptive strategies. The research guides companies in developing more robust supply chain management practices, consumer-centric product offerings, and crisis-response strategies. The insights from this study guides the formulation of policies that enhance resilience in times of crisis, encourage local production of essential materials, and foster a business environment conducive to adaptation and growth.

## II. LITERATURE REVIEW

The COVID-19 pandemic unleashed unprecedented challenges and disruptions across industries worldwide, impacting economies, businesses, and societies at large. Noted below are studies done by other scholars depicting the influence of the pandemic on businesses.

### 2.1 Operational Performance during Covid-19

A notable aspect was the unprecedented disruption in global supply chains, a phenomenon extensively discussed in research, with Ivanov and Dolgui (2020) highlighting the far-reaching implications for operational processes. The paint manufacturing industry grappled with distinctive operational challenges attributable to disruptions in raw material procurement, fluctuations in workforce dynamics, and shifts in consumer behavior. In response to these challenges, (Ivanov, 2020) reports that companies were prompted to reassess their supply chain strategies, recognizing the imperative of flexibility and diversification in the wake of pandemic-induced disruptions. Remote work, changes in staffing protocols, and the mental and physical well-being of employees emerged as focal points for companies striving to maintain operational continuity during unprecedented times as reported by Bartik et al. (2020).

### 2.2 Financial Effects during Covid-19

Baker et al. (2020) highlights the significant decline in sales and revenue experienced by companies during the early stages of the pandemic, emphasizing the need for a comprehensive examination of financial resilience. In the realm of financial management, the pandemic prompted organizations to reevaluate their financial strategies and risk management practices (Borio & Drehmann, 2020). Examining how companies strategically managed their financial resources during these uncertain times provides insights into effective financial management practices (Claessens et al., 2020). Further research suggests that the pandemic-induced economic downturn compelled businesses to reconsider their capital structure, liquidity management and investment decisions (Alfaro et al., 2020). The importance of maintaining liquidity and ensuring financial solvency became paramount, with Alfaro et al. (2020) emphasizing the pivotal role of financial resilience in navigating the economic challenges posed by the pandemic.

### 2.3 Strategies to Cushion the Effects of Covid19 on the Paint Manufacturing Industry

One of the pivotal strategies is the adoption of remote work policies, ensuring business continuity in the face of lockdowns and social distancing measures (Bartik et al., 2020). This shift enabled employees to fulfill their roles and highlighted the adaptability of businesses in effectively navigating operational challenges posed by the pandemic. Investments in digital technologies and e-commerce platforms played a vital role in sustaining business activities during lockdowns and meeting the evolving preferences of consumers, (Ivanov, 2020). Supply chain resilience took center stage as organizations diversified and localized their supply chains to mitigate disruptions, which ensured availability of raw materials (Ivanov & Dolgui, 2020). Financial strategies played a pivotal role in organizations' resilience efforts, encompassing cost-cutting initiatives, contingency planning, and the reassessment of capital expenditures. (Borio & Drehmann, 2020). Prioritizing employee well-being was a focal point for organizations, leading to the implementation of various strategies to support their workforce. Initiatives such as mental health programs, flexible work arrangements, and clear communication channels played a pivotal role in maintaining employee morale and productivity amid the challenges posed by the pandemic (Bartik et al., 2020). Businesses that diversified their product and service offerings and tailored to the current environment demonstrated resilience (Ivanov, 2020). Mwansa et al. (2020) in their research identified challenges such as reduced demand, supply chain disruptions, and financial strains. However, their research primarily focused on SMEs as a whole, offering a broader perspective rather than an industry-specific analysis of the paint manufacturing sector. Ayeni et al. (2021) also delved into the financial performance of selected paint manufacturing firms in Zambia during the pandemic. Their study revealed revenue declines and supply chain disruptions affecting financial stability. However, their research scope was limited to financial aspects, overlooking broader operational and market implications that influence the industry's dynamics. While these authors' research contributes valuable

insights, their studies possess limitations that create gaps in understanding the paint manufacturing industry's holistic response to the pandemic. The existing research focuses on specific aspects, such as financial performance, digital adaptations, or broader SME challenges. To gain a comprehensive understanding of the paint industry's response, it was necessary to bridge these gaps and conduct a more integrated analysis.

### **III. METHODOLOGY**

Qualitative research methods, such as interviews, case studies, and content analysis, provide the tools to delve into the complexities of how the pandemic influenced operational strategies, supply chains, consumer behavior, and financial performance. A qualitative approach harmonizes well with the study's objectives by allowing for an in-depth exploration of the various dimensions of the impact Lincoln, and Denzin, (2005).

#### **3.1 Research Design**

The research was conducted at Kansai Plascon Zambia limited in Lusaka. The study adopted an intrinsic case study approach, where the focus was on gaining insights into a specific case (Kansai Plascon Zambia Limited) to deepen the understanding of the phenomenon rather than making generalizations to a larger population (Stake, 2005).

#### **3.2 Data Collection Methods**

Data collection was done through in-depth Interviews conducted with key respondents that is the Managing Director and the Finance Director. Semi-structured interviews were conducted with key stakeholders of the company that is employees representing each of the four departments, managers, suppliers and customers. Participants shared their insights, related to the pandemic's impact on the company. Document Analysis was conducted on company reports, financial statements, internal communications, and other relevant documents to corroborate and enrich the information gathered from interviews.

#### **3.3 Sample Size and Sampling Frame**

The sampling frame was developed based on the organizational structure of Kansai Plascon Zambia Limited and its key stakeholders. It included; Employee lists, Management and decision makers, customer data base and supplier contacts. The sample size was determined by using the criterion sampling method. The criteria was that the participants must be employees, customers or suppliers, of Kansai Plascon Zambia Limited who were involved in the paint manufacturing industry during the COVID-19 pandemic. The participants must have experienced or witnessed some challenges, opportunities, changes, or adaptations related to the COVID-19 pandemic in the paint manufacturing industry; and the participants must be willing and able to provide rich and detailed information about their experiences and perspectives on the COVID-19 pandemic and its impact on the paint manufacturing industry. The total sample size for this study was 22 participants, ensuring a balance between meaningful insights and the practicality of data collection and analysis. The study utilized a combination of purposive and convenience sampling techniques to ensure a comprehensive and representative sample for the research. (Bryman & Bell 2015).

#### **3.4 Data Preparation and Analysis**

Data Analysis: Qualitative content analysis was used for interview transcripts and document analysis. This process involved identifying patterns, themes, and key insights that emerged from the data). While thematic analysis was employed to identify recurring themes, patterns, and insights. The process was as follows; Familiarization, initial coding, generating themes, review and refinement and defining and naming the theme.

##### **Data Preparation**

- a) Transcripts were reviewed for accuracy and completeness. Relevant documents obtained from Kansai Plascon Zambia Limited were organized for analysis.
- b) Coding - Coding involved breaking down the data into meaningful segments and assigning descriptive labels or codes to each segment. Initial codes were generated based on participants' statements, document content, and identified themes. Codes captured specific concepts, ideas, challenges, strategies, and any other relevant information.

### **IV. RESULTS PRESENTATION**

#### **4.1 Operational Challenges Faced by Kansai Plascon during COVID- 19 Pandemic**

Table 1 depicts the operational challenges encountered by Kansai Plascon Zambia Limited. Operational processes refer to the core activities that an organization performs to deliver its products or services. For Kansai Plascon Zambia Limited

the key operational processes which were affected by the pandemic include: a) Raw material procurement challenges b) quality control problems c) inventory management challenges d) order fulfillment challenges e) logistics and distribution challenges f) production process challenges, and g) health and safety challenges. The pandemic disrupted the supply chain, causing disruptions in raw material forecasts, affecting quality control, and affecting inventory management. The pandemic also negatively impacted order fulfillment, logistics and distribution, and production processes. The company had to adapt to new protocols and face increased fear among employees due to the uncertainty of safety. These challenges highlight the need for effective management and coordination during the pandemic.

**Table 1: Operational Challenges**

Themes	Frequency	Percentage
Raw Material Procurement	20	91%
Quality Control	19	86%
Inventory Management	18	82%
Order Fulfillment	16	73%
Logistics and Distribution	16	73%
Production Management	16	73%

#### 4.2 Financial Challenges Experienced by Kansai Plascon

Table 2 below illustrates the financial challenges experienced by Kansai Plascon. The analysis of Kansai Plascon Zambia Limited financial statements revealed key themes such as exchange rate fluctuations, sales volume reduction, reduction in gross sales and turnover, increase in cost of sales and reduction in gross profit margins. At the peak of the pandemic the operating expenses increased hence reducing the operating profit and the net profit.

**Table 2: Financial Challenges**

Themes	Frequency	Percentage
Exchange rate & Sales volume	20	91%
Financial Performance	20	91%
Income Statement Based Financial Ratios	16	73%
Non-Current Assets	15	68%
Equity and Liabilities	15	68%
Balance sheet-based ratios	4	18%

#### 4.3 Resilience Strategies

Table 3 below shows some resilience strategies paint manufacturers in Zambia used during the COVID-19 pandemic, which included a combination of operational, financial, and strategic measures to navigate the challenges posed by the crisis. Here are some resilience strategies shared by the respondents involved in the study; diversification of product offerings, supply chain optimization, digital transformation, inventory management, expense control, financial preparedness, customer engagement, and employee well-being. Paint manufacturers focused on essential or in-demand products related to health and safety, such as antimicrobial paints or coatings with protective features.

**Table 3: Resilience Strategies**

Themes	Frequency	Percentage
Diversification of product Offering	20	100%
Supply Chain Optimisation	19	95%
Digital Transformation	18	90%
Inventory Management	17	85%
Expense Control	16	80%
Financial Preparedness	15	75%
Customer Engagement	15	75%
Employee well-being & Training	13	65%

## V. DISCUSSION OF RESULTS

The findings of our study align closely with the existing literature on organizational responses to crises, which emphasizes the significance of operational flexibility and strategic innovation as crucial elements for businesses facing unprecedented challenges (Ivanov & Dolgui, 2020). Our study corroborates this, revealing that paint companies showcased exceptional operational flexibility and strategic innovation in response to the COVID-19 pandemic. Shift to remote work observed in the industry resonates with the literature's emphasis on organizational adaptability during crises (Bartik et al., 2020). The paint manufacturers, not only adjusted logistically but reimagined work structures, demonstrating a commitment to employee safety while maintaining optimal operational efficiency. This parallels the literature's recognition of remote work as a transformative approach rather than a mere temporary adjustment (Ibarra & Mistry, 2020). The integration of advanced digital technologies into the industry's operational processes aligns with literature that underscores the role of technology as a crucial enabler during crises (Ivanov, 2020). This technological integration reflects the industry's proactive response to bridge physical distances and ensure seamless business operations, as advocated by prior research on technology-driven crisis response (Gupta et al., 2020).

As highlighted in the literature review, the pandemic had a profound impact on the financial health of businesses across diverse sectors (Baker et al., 2020). Efficient inventory management, resonates with literature that underscores the importance of supply chain optimization and inventory control during disruptive events (Ivanov & Dolgui, 2020). The optimization of inventory levels aligns with scholarly works emphasizing the role of inventory management in enhancing operational efficiency and minimizing wastage (Tang & Tomlin, 2008). The practical application of these inventory management strategies in the paint industry provides tangible evidence of the industry's ability to translate theoretical concepts into effective operational measures and financial agility and resourcefulness, aligning with theoretical discussions advocating for businesses to be adaptive and responsive in dynamic economic landscapes (Hitt et al., 2011). Notable resilience and adaptability, attributed to factors like operational agility, robust supply chain practices, and, the commitment and flexibility of the workforce (Smith et al., 2021). The human capital played a pivotal role in overcoming disruptions, ensuring business continuity, and contributing significantly to the sector's overall success. Employees embraced new technologies for seamless collaboration and productivity, while adhering to safety protocols, prioritizing collective health and well-being (Green et al., 2020).

## VI. CONCLUSION AND RECOMMENDATIONS

The company encountered several operational challenges during the pandemic, including difficulties in securing timely raw materials, quality control constraints impacting reputation and customer satisfaction, inadequate inventory management leading to inefficiencies, order fulfillment struggles causing potential customer dissatisfaction, and disruptions in logistics and distribution due to lockdowns and social distancing measures. Additionally, labour shortages posed a significant challenge to production management, negatively affecting overall productivity.

These operational challenges, in turn, had profound financial impacts on the business. Exchange rate fluctuations affected financial stability, potentially leading to increased costs or reduced profits. The peak of the pandemic also resulted in reduced sales volumes and revenue, directly impacting the company's financial performance.

In response to these challenges, the company implemented a set of resilience strategies. These strategies included diversifying product offerings to mitigate market fluctuations, optimizing the supply chain for enhanced efficiency and reliability, embracing digital transformation to adapt to the changing business landscape, improving inventory management practices for better control and responsiveness, implementing expense control measures to optimize costs, enhancing financial preparedness through reserves or contingency plans, focusing on customer engagement to maintain and strengthen relationships, and prioritizing employee well-being and training to address labour shortages and ensure a skilled workforce. These strategic initiatives aimed to build resilience and navigate the uncertainties posed by the operational and financial challenges during the pandemic.

To enhance resilience and navigate uncertainties, it is recommended that paint manufacturers adopt an integrated risk management approach, embracing digital transformation and innovative technologies for operational optimization. Diversifying the supply chain, implementing agile inventory management, and investing in ongoing employee training will fortify the organization against disruptions. A customer-centric approach, along with maintaining financial reserves and fostering a culture of continuous improvement, will contribute to long-term stability. By consistently reviewing and updating these strategies, the company can proactively address challenges, optimize operations, and position itself for sustained success in a dynamic business environment.

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