

REALISTIC BUSINESS CONTINUITY PLAN (BCP) FOR PROCUREMENT IN THE FOOD & BEVERAGE (F&B) SECTOR

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STATEMENT OF THE SUPERVISOR

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ABSTRACT

A documented Business Continuity Plan (BCP) is a necessity in the competitive business environment today as everyone is running on a race to achieve their goals and targets. Considering the risk mitigation, some are already having BCPs but the effectiveness of the existing BCP is a question.

Therefore, this research was conducted to understand the condition of existing business continuity plans in the Food and Beverage industry and provide necessary recommendations for fine tuning the same if needed. The research was conducted using a mixed methodology including both qualitative & quantitative data. Also, a thematic analysis was done to reach the best conclusions for identified research problems. A sample of respondents covering the Food & Beverage sector was selected and they involved for the data gathering providing valuable insights.

During the research, it was observed that there are several areas which were not focused when developing the business continuity plan and it was recommended to fine tune the BCP including these findings. Especially, it is required to keep a plan for various possible scenarios which the business can think of rather having some theoretical scenarios. Also, everyone needs to be fully aware on their priorities when managing a crisis but as it can vary with the prevailing situation, it is better to document and keep everyone aware about the same.

Key words: Business Continuity Plan (BCP), disaster management, supply chain resilience, pandemic

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LIST OF ACRONYMS

F&B	Food and Beverage
BCP	Business Continuity Plan
SC	Supply Chain

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1. INTRODUCTION

1.1 Background of the Research

Food and Beverage (F&B) sector is an essential service category in any country which has considered it to be functioning in standard requirements without any failures even during any type of disasters. To fulfill that requirement, the supply chains in the companies should be following proper plans with disaster preparedness. Nowadays, most of the Supply Chains are globally driven and hence these are extremely complex. This complexity has created a lot of interdependencies with lot of risks which needs more attention because of the risk factor. Among all other sections in the supply chain, procurement is one of the core functions as it drives the entire function smoothly or otherwise if not managed properly.

Most of the F&B companies are now having a Business Continuity Plan (BCP) focusing sustainability through disasters but majority of those have become just a document without giving an actual thought or put it in to practical use as a trial before the occurrence of a disaster. It is reasonable that trial out is not possible when it considers disaster situations. However, as we are now facing an unexpected global crisis, this is the time look into the disaster preparedness of the BCPs as most of the companies are facing many difficulties due to the prevailing situation.

Therefore, the research will be focused on existing BCPs in the Sri Lanka F&B companies as a qualitative research to understand their logical considerations when preparing BCPs and how practical and positive in this actual crisis. The research will be conducted covering all areas in the supply chain but mainly focusing on the procurement functions.

1.2 Problem Statement

The entire world is now facing an unexpected pandemic in a significant damage level since 2020. The spread of the COVID - 19 viruses which started in one country and spread all around the world leaving the entire supply chain at risk. Companies are facing challenges due to the COVID – 19 impact in a sequence such as supply shocks,

demand shocks, aftershocks and then the new normal (Seifert, 2020). There were different levels of issues when the situation was affected locally and globally as it spread in different scales. However, most of the supply chains neither were nor fully prepared for this level of pandemic but majority were having back up plans to manage other natural and accidental disasters.

During a crisis of this scale, companies need to focus on priorities and for that they need to be more aware on which areas that needs to be prioritized as all should be in line with the final target. While focusing on key areas in the supply chain, more attention should be paid on the support required from cross functional support teams. Therefore, companies should have an understanding on the criticality of each support functions when managing the supply chain. When it comes to procurement, the focus should be narrowed down to managing procurement functions in a smooth way even during a disaster. Finance plays a critical role in each company and even more critical during a crisis or disaster.

During this pandemic situation, it has a double impact as there were issues in the local situation as well as globally. Therefore, the supply chains should have more focused plans on managing the local as well as the global impact.

1.3 Research Problems

The research problem is as to how to improve the Business Continuity Planning (BCP) of the procurement function of Food & Beverage Sector in the Sri Lankan context.

1.4 Research Objectives

The following 4 objectives are set for the research in the context of Business Continuity Planning (BCP) of the procurement function of Food & Beverage Sector.

1. To analyze the current methods & their effectiveness in Business Continuity Planning (BCP) of procurement function in managing the cross functional requirements & managing supply disruptions
2. To identify the level of current BCP in facing COVID 19 type pandemic

3. To identify the perception about the level of satisfaction of procurement managers about the current BCPs
4. To derive different scenarios to be considered for improved BCPs in the Food & Beverage Sector

1.5 Significance of the Study

Food and Beverage industry is considered under the essential service category in any country and it should be continuously running without any failures. For that, the supply chain of the companies should be well planned and procurement functions should be resilient during any disaster. Therefore, a well-planned and updated BCP is required.

Below is a summary of reasons which covers the significance of the research.

- To be more prepared to handle the unexpected.
- To have safeguards in place (in addition to insurance).
- To have a plan to continue business after the disaster / Disaster recovery.
- To preserve corporate reputation / image.
- Manage the revenue stream.
- Crisis communication.

1.6 Chapter Breakdown

In this thesis, there are five chapters which give contents of the analysis and provide recommendations with regard to the selected topic of study. First chapter is dedicated for the introduction of the topic and to show the expected objectives from the research. It gives the reasons for selecting the topic, its validity and the outcome.

Second chapter is for the literature review for searching and identifying further details through various researches and published publications by other scholars. Chapter three illustrates the methodology for conducting the research and its limitations.

Fourth chapter reflects the data analysis where it evaluates the findings in a qualitative manner. Last chapter is the conclusion to extract the final essence of the research.

2. LITERATURE REVIEW

2.1 Business Continuity Plan (BCP)

The disasters which affects people around the world are for example fires, floods, power issues, weather forecasts, act of terrorism, etc. and these creates loss of life and property, disturbance to livelihood, relocating businesses, closures in operations and hardships which affects the economy and persons as well. It is obvious that the insurance plans are not the solution for all types of risks as it does not give coverage to everything. In addition to those disasters, there are various potential incidents / events that businesses across all sectors face such as significant workplace accidents, negative media campaigns, loss of IT / Telecommunication Security Systems, issues in transport arrangements, breakdowns / disruptions in supply chain, loss of worker base, etc. Therefore, a well-prepared plan to manage any unexpected situation is required for every company if they need to continue businesses without interruptions. In 2010 the Insurance Information Institute Annual Report had indicated that 40 percent of small businesses which are forced to close after a disaster never reopened. Disasters today, are inherent risks of all businesses (Dushie, 2014).

There are various definitions to describe Business Continuity Plans by various researchers. It is simply explained as a process that a company uses to develop a plan to enable it to recover from a disruption in the shortest possible time as stated in the Chartered Institute of Procurement & Supply (CIPS). According to ASIS International an organization for Security Management Professionals information in 2006 “a disaster is an unanticipated incident or event, including natural catastrophes, technological accidents, or human-caused events, causing widespread destruction, loss, or distress to an organization that may result in significant property damage, multiple injuries, or deaths” (ASIS, 2006). Also, the Business Continuity Plan is defined as “a comprehensively managed effort to prioritize key business processes, identify significant threats to normal operation, and plan mitigation strategies to ensure effective and efficient organizational response to the challenges that surface during and after a crisis” (Dushie, 2014).

Over the recent past, majority of the world has faced a lot of disasters and therefore, the need of a BCP is highly accepted as it allows businesses to be continued under various hostile conditions with resilience approaches, recovery goals and crisis management plans. A BCP will identify potential vulnerabilities and risks in a business, and plan to mitigate them in an event of a business disruption. This in return will adhere to business continuity which is about having a realistic plan to deal with difficult situations, so a company can function with as little disruption as possible (LIGHTEDGE, 2021).

The BCP to be sustainable it also should contain a business strategy which is sustainable. The sustainable business strategies are presented from the perspective of location and infrastructure, product design and operational process design and are related to the various phases of business continuity planning. Sometimes generic strategies that are both sustainable and that facilitate business resilience is also introduced (Miller, 2011).

Whether your company is small, medium or large, or whether your company manufactures low technology products or high technology products, it is not unreasonable to expect that there is a supply chain disruption looming some time in its future. Being always prepared is a concept that most of the companies (local or geographically dispersed) should keep in mind as the major strategy. Nowadays, it is not admitted that failures to plan for such risk events can lead to supply chain breakages that can disrupt a company performance, damage profitability and stock prices, and result in a negative impact to the organization that can even bring the bankruptcy (Mauricio F. Blos et al, 2015)

The purposes of BCPs are to minimize the impact of a business disruption by:

- Identifying critical operations
- Identifying operating risks
- Identifying key resources needed to continue operations
- Developing mitigation projects and action plans.

BCPs minimize incident impact and establish interim operating levels and methods for restoring “business-as-usual” operating levels. BCPs address the temporary or permanent loss of critical staff, facilities and equipment, information technology

(applications, hardware and infrastructure) and supply chain. Focusing on supply chain resilience in preparing for a pandemic is a high priority considering the prevalence of outsourcing staffing, IT delivery, facilities and equipment (Jensen Hughes, 2020).

Evolution of business continuity plans – Data Management

Business continuity planning emerged from disaster recovery planning in the early 1970s. Financial organizations, such as banks and insurance companies, invested in alternative sites. Backup tapes were stored at protected sites away from computers. Recovery efforts were almost always triggered by a fire, flood, storm or other physical devastation. The 1980s saw the growth of commercial recovery sites offering computer services on a shared basis, but the emphasis was still only on IT recovery.

The 1990s brought a sharp increase in corporate globalization and the pervasiveness of data access. Businesses thought beyond disaster recovery and more holistically about the entire business continuity process. Companies realized that without a thorough business continuity plan they might lose customers and their competitive advantage. At the same time, business continuity planning was becoming more complex because it had to consider application architectures such as distributed applications, distributed processing, distributed data and hybrid computing environments.

Organizations today are increasingly aware of their vulnerability to cyber-attacks that can cripple a business or permanently destroy its IT systems. Also, digital transformation and hyper-convergence creates unintended gateways to risks, vulnerabilities, attacks and failures. Business continuity plans have to include a cyber-resilience strategy that can help a business withstand disruptive cyber incidents. The plans typically include ways to defend against those risks, protect critical applications and data and recover from breach or failure in a controlled, measurable way.

There's also the issue of exponentially increasing data volumes. Applications such as decision support, data warehousing, data mining and customer resource management can require petabyte-size investments in online storage.

Data recovery no longer lends itself to a one-dimensional approach. The complex IT infrastructure of most installations has exceeded the ability of most shops to respond in the way they did just a few years ago. Research studies have shown that without proper

planning, businesses that somehow recovered from an immediate disaster event frequently didn't survive in the medium term (IBM Services, 2020)

2.2 Food and Beverage Sector in Sri Lanka

The food and beverage sector is large and diverse compared to other industries and also it is one of the oldest industries on the planet, but still it is evolving. In any country, food and beverage sector is a very important sector as it has a high potential to deliver significant benefits to the economy such as contributions and innovations to the food system, export revenue, employment, elevating the rural economy, etc. When considering Sri Lanka the food and beverage industry is contributing to the economy significantly. The sector can be categorized in to three main categories considering the scale of business such as large, medium and small industries. These manufacturers are scattered around the country and part of them are supplying to local consumption and as well as for exports. Basically, large scale industrialists are based in Colombo having their manufacturing plants in several locations. Majority of these companies are linked with raw material collectors / suppliers and some are even working directly with farmer communities.

There are some industry-specific issues and challenges faced by organizations in the food chain which creates complexity of the business continuity management. Some of them are, getting safe and alternative supply of raw materials and key components from multiple competitive sources, have a track for managing potential risks, food fraud incidents, managing media during and after any serious event, etc. as stated in the British Standard Institute Group in 2008.

2.3 Procurement and Supply Chain

Procurement plays a pivotal role in the supply chain and it is a key function in any type of industry. Supply chain is inclusive of several categories such as planning, production, sourcing / procurement, delivery / logistics, etc. The key objective of the procurement is to ensure the business receives goods or services at the best possible price, fulfilling required quality, quantity, time and location. The role of procurement in the supply chain stops once the company possesses the required materials or services.

The procurement should be functioning smoothly with the supply chain objectives to achieve the desired targets. The entire supply chain will fail due to failure in the procurement.

The procurement process in the food and beverage industry requires many suppliers, even for small scale productions. Few sources are unable to satisfy the requirements. Companies must have effective procurement practices to manage expenditures effectively having a target to improve the bottom line. It is important to deliver the best possible value for money to find the best arrangements at the best prices and gain a competitive advantage.

The supply chain function of most companies is a mix of skills including manufacturing to professional consultancies.

For improving the ability to evaluate vendor capabilities in the organization actively, it is required to develop strategies to business continuity and should insert to the procurement process of the company. The business can meet customer demand, customer expectations and generate consistent performance by creating a flexible framework for augmenting, retaining, or shedding vendor competencies in order to assure supply chain integrity.

A single company cannot deliver the entire portfolio of products and/or services in the present multifaceted business environment. Majority is dependent on vendors of various types (manufacturing, professional services, software, transportation, etc.) to meet various customer expectations. As part of any procurement process, the integration of vendor business continuity capability is becoming a fundamental part of the company strategy. For that, several effective business continuity strategies, like supply chain guarantee, need to be considered. The procurement process can enhance by incorporating business continuity principles and concepts into the portfolio of the company business planning process at each stage of product / service life cycle. It allows a company to deliver excellent products and / or services solutions to their customers.

It is reasonable to expect that there is a supply chain disruption approaching some time in its future regardless of the scale of the company and the products manufactured.

All the companies must consider being always prepared as their major strategy. Risk assessment is the essential tool for ensuring product safety, efficacy, consistency and supply.

The supply chain continuity plan of the organization must extend to all supply chain participants, as illustrated by real-life examples. The most advanced business continuity planning requires equally advanced IT tools to increase visibility both inside and outside the organization and to automate supply chain planning and execution (Benyoucef & Forzley, 2015).

2.4 Need Identification

All business organizations in the world are exposed to operational risks. Majority of the management tends to focus on those risks that affect internal operations. Risks associate with natural disasters, accidents and intentional malicious acts have the potential to extremely interrupt or shut down the business operations. However, we cannot consider all risks as internal. The true impact of supply-side disruptions can be seen when a business is relying on the supply chain and the competences of their suppliers. Therefore, companies can have a ripple effect on the business interruptions throughout the supply chain incompetency due to failures, disruptions or shutdowns of suppliers or any other inbound logistic channels. This can also seriously and strategically impact the whole performance of the company. Accordingly, there is a need for a formal system that can identify such risks and related risks and then provide appropriate procedures, strategies and tactics directed at either reducing or excluding such risks through the system which is called the BCP.

Similarly, BCP is a rising concern within the food and beverage industry nowadays. Even though, it is still a comparatively new concept for most organizations within the food industry. Only few companies have changed their approach from reactive crisis management to a proactive or preventative approach. Mainly, limitations in resources such as money, manpower and lack of expertise are limiting the implementation of the BCPs.

With the significance business continuation during an unexpected event, the BCP is identified and most companies are now moving towards formulating a BCP as a proactive approach. As the resilience in the supply chain is vital for the business continuation, a well-planned preparedness is mandatory.

When the pandemic situation started to spread widely in 2020, the entire world was shaken affecting everyone around the globe. Majority of the companies were not prepared to face this level of disaster and the entire processes collapsed as the crisis

threatened industries both locally and globally. During the last period, the gaps of existing BCPs or any crisis management plans were revealed and evaluated by everyone. It was observed and realized that a well-established BCP is vital to the continuation of the business and everyone should relook at the existing plans and update taking into consideration the actual experiences.

Past experience of pandemic recovery has shown an increase in production, reclaiming more land for production among other measures to make up for the losses. While making even with the economic losses is important but at the same time, balancing the burden on the environment is important. Recovery from this grim scenario needs to have balanced approaches to reach targets set by entities differently (Mukherjee, Chatterjee, Khanna, Dhillon, Kumar, Bajwa, Prakash, Shaw, 2020).

2.5 Development of BCP

Primary aspects of a BCP are high availability, continuous operation and disaster recovery. When developing or updating the existing BCP, below activities should be considered to achieve the best output.

- Should be a process driven by top management with their commitment.
- Should have a management team dedicated for the BCP (should be aware about the roles, responsibilities and dealings) and fully trained with regard to the implementation of the plan.
- Comprehensive risk assessment of possible threats to the organization.
- Have data backups and arranging online / off-site storage.
- Arrangements in place for remote operation.
- Keep responsible people for specific activities.
- Conduct drills, which could be continued annually.
- Awareness plans for employees.
- Improve the alertness across an organization.
- Plans for managing inter-related cross functional requirements.
- Procuring spare machines and servers as required.
- Plan for managing utilities.
- Sources of legal and expert advice.
- Responsibilities for crisis communication.

It is important to use relevant international standards available to achieve business continuity as these standards ensure that proven methods and concepts for BC are used. The need for formalized business continuity systems in the food industry has been driven by several Global Food Safety Initiative (GFSI) standards including the British Retail Consortium (BRC) and Safe Quality Food Initiative (SQFI). Also ISO 22301 helps organizations put business continuity plans in place to protect and help them recover from disruptive incidents as stated by the British Standard Institute Group in 2008.

According to a research done by Maurício F. Blos et al, there are 6 stages in a development life cycle of BCP as per below.

1. Risk mitigation Management
2. Business Impact Analysis (BIA)
3. Supply Chain Continuity Strategy Development
4. Supply Chain Continuity Plan Development
5. Supply Chain Continuity Plan Testing
6. Supply Continuity Plan Maintenance

Applying BCM through the supply chain can help to identify possible internal and external threats/risks and their impact to business processes and provides a framework for organizational resilience, which provides a faster response and a quicker recovery. Therefore, a well-developed and maintained business continuity program is critical to successfully managing supply risk and maintaining a reliable supply chain (Mauricio F. Blos et al, 2015).

3. METHODOLOGY

3.1 Introduction

As in every research, the methodology plays the vital role for the success. Research methods can be defined as “a systematic and scientific procedure of data collection, compilation, analysis, interpretation and implication pertaining to any business problem” (Dudovsky).

Therefore, defining the best methodology was done considering research objectives and the outcome. The research methodology is proposed to achieve desired objectives of the research study in the best level and it is selected with a careful study of the nature of the research and information gathered from the methodologies of related literature. The methodology selected was mixed method of research. This methodology helped to answer the main research question.

The selection of the methodology was done after referring the literature available in similar types of researches and evaluating the best approach for finding the best method. Mainly there are three (03) general types of research as compared and shown below.

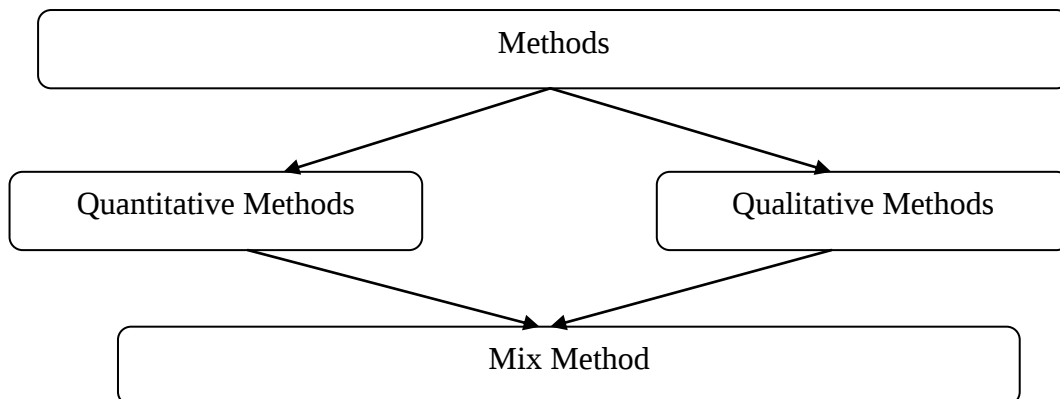


Table 1: Types of Research Methods

Quantitative Methods	Mixed Methods	Qualitative Methods
▪ Pre-determined	▪ Both pre-determined and emerging methods	▪ Emerging Methods
▪ Instrument-based	▪ Both open and closed	▪ Open ended questions

questions	ended questions	
▪ Performance, attitude, observational and census data	▪ Multiple forms of data drawing on all possibilities	▪ Interview, observation, document and audio-visual data
▪ Statistical analyses	▪ Statistical and met analysis	▪ Text and image analysis
▪ Statistical interpretation	▪ Across databases interpretation	▪ Themes, patterns interpretation

Table 2: Comparison of Research Methods

(Alberici, 2015)

There are various research literatures on definitions of different research approaches and finding an appropriate method for a particular research (Alzheimer Europe, 2009, Pedamkar, 2020, Alberici, 2015).

Quantitative methods, qualitative methods and mixed methods are three of the methods used in research.

Quantitative research is used to explain phenomena by collecting numerical data that are analyzed using mathematically based methods. Examples of quantitative methods are surveys, laboratory experiments, formal methods such as numerical methods and mathematical modeling. Quantitative data may be collected using various methods such as survey questionnaires and a pre-existing database etc. (Denzin, 1989; Kimchi et al., 1991; Thurmond, 2001; Casey and Murphy, 2009). Quantitative methods include statistical analysis of outcomes or questionnaires collected by standardized scales or measures and expressed numerically (Risjord et al., 2001). Qualitative methods are explanatory and textual, and include passive observation, participant observation and open-ended interviews or analysis of appropriate records (Risjord et al., 2001). It is used to gain an understanding of underlying reasons and opinions. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research (Denzin, 1989; Kimchi et al., 1991; Thurmond, 2001; Casey and Murphy, 2009).

There are two primary ways to collect qualitative data. One is through a case study approach, and the other is through interviews. In-depth interviews and case studies are optimal for collecting data from individuals /organizations histories, perspectives and experiences, particularly when sensitive topics are being explored. The other qualitative research method is participant observation, which is appropriate for collecting data on naturally occurring behaviors in their usual contexts. (Richardson et al., 2000) provided strong arguments for using qualitative research as a complement to traditional quantitative research in a way to frame research questions and explain particular results.

The mixed methodology is used to tackle a given research question from any relevant angle, making use, where appropriate, of previous research and/or more than one type of investigative perspective. Sometimes referred to as mixed methodology, multiple methodology or multi-methodology research, mixed methodology research offers in-depth, contextualized and natural but more time-consuming insights of qualitative research coupled with the more-efficient but less rich or compelling predictive power of quantitative research (Creswell, 2009; Denzin, 1989; Johnson, Onwuegbuzie, and Turner, 2007; Tashakkori and Teddlie, 2003). Many different approaches and definitions of mixed methods have been described in the research literature, including combinations of data, methods, methodologies, theories and/or research communities (Creswell, 2009; Denzin, 1989; Johnson, Onwuegbuzie, and Turner, 2007; Tashakkori and Teddlie, 2003). Although mixed method research existed in the early twentieth century (Johnson Gray, 2010), it has only been institutionalized as a distinct methodological orientation since approximately 1990 (Greene, 2006, 2008; Teddlie and Johnson, 2009). According to (Anthony et al., 2011), “compared to the mono method traditions of quantitative research and qualitative research, the formal use of mixed method research is relatively new”.

As stated by (Risjord, Dunbar and Motoney, 2002), completeness and confirmation constitute the principal types of methodological triangulation in mixed method design. “Completeness” refers to the combination of different research methods in order to obtain comprehensive and complementary data. It is claimed that reciprocal influence of different methods enriches the data (Morse and Field, 1995). Johnson and colleagues

in 2007 argued that researchers should design and conduct studies based on validity considerations to improve mixed method research.

(Shadish et al., 2002) mentioned that, qualitative and quantitative methods represent complementary approaches to generate knowledge. (Atle et al., 2012) further indicated “all researchers have to substantiate their findings, a process in which reliability and validity issues are fundamental. Reliability and validity issues are equally important in qualitative and quantitative research, and therefore a combination of methodologies may be a feasible way to expand our understanding”. (Atle et al., 2012) suggested that combining qualitative and quantitative methods may solve some construct validity issues in the study.

3.2 Selection of population and sample

As the F&B sector is an essential category to consumers and also for the economy of the country, the number of companies / industries is high in number and scattered in every location in the country. Some of the main industries are,

- Alcoholic and non-alcoholic beverages
- Frozen confectionary
- Processed vegetables and fruits
- Concentrates and juices
- Semi cooked foods
- Confectionary and bakery
- RTS Foods
- Rice and cereals, etc.

To represent the varied population, a sample consisting of representatives from thirty companies was selected to collect data to be used for the primary data analysis. After much discussion, it was decided on the sample size of thirty taking into account the prevailing global pandemic situation which has paved ways for financial crisis and management difficulties, where time has become a precious factor, where the representatives with much difficulty agreed to spare a few minutes on the questionnaire that was created and published to collect the primary data. The details of the respondents are explained in Chapter 4. The virtual interview sessions with the selected representatives too had to be limited mainly due to the time constraints which had to be

utilized for the production line to earn revenue for the companies to maintain an economic stability. This resulted in some of the selected representatives not being able to participate in the research even after confirmation which had to be considered as an unforeseen barrier in the data collection. The outcome of the research was based on the data that was collected with limited resources such as man power.

3.3 Data Collection

The data collection is done based on mixed method approach as it is the best method for this type of research, which needs exploration of the opinions of the respondents.

3.3.1 Primary Data Sources

The primary data was collected with the assistance of the employers and other selected respondents in the food and beverage sector. This covered all categories such as:

- Large, Medium and Small sectors;
- Manufacturing companies;
- Trading companies;
- And
- Service providers.

A questionnaire was prepared for collecting primary data and distributed among those mentioned as respondents through electronic mail and other modes of electronic communication (Annexure 01). The questionnaire was prepared taking into consideration the literature that was considered in relation to this study. With the responses and the conduct of virtual interviews, primary data was collected (Burgess, 2001, etc.).

3.3.2 Secondary data sources

The data available in the websites and in the published articles were collected for evaluation and fine tuning of the primary data that was collected.

3.3.3 Limitations

There were few possible limitations in the data collection, which are mentioned below. Due to these limitations, the expected outcome will not be able to evaluate positively.

- Data privacy and confidentiality.
- No benchmarking.

- Lack of research data in terms of specific situation.

3.3.4 Backup plan for managing limitations

To mitigate the issue with regard to the limitations, the data collection was extended to few foreign partners attached to the same industry.

3.4 Ethical Aspects of the Study

The research was conducted in an ethical manner throughout the data collection process. The following aspects were maintained at all times.

- The respondents were made aware of the study and participated voluntarily.
- Confidentiality of the data gathered and the privacy of respondents / organizations will be maintained.
- The selection of the respondents was not biased.
- Questionnaires or interviews will not contain any offensive questions or any unacceptable languages.
- If findings of any other researcher will be used, those will be properly cited and acknowledged using APA 6th edition.

3.5 Method for Data Analysis

The analysis of the data gathered through the questionnaire and virtual interviews were done qualitatively and the collected data was analyzed using the thematic analysis process. First the outcomes of the questionnaire and the interviews were familiarized by the researcher, codes were assigned to the data to describe their content, search for patterns or themes in the questionnaire and the interviews, review the themes and finally define and name the themes and submit a report. The thematic analysis of qualitative data was not easy, due to the reasons identified and mentioned as follows:

- The limited time was a constraint;
- The common codes were not easy to identify;
- The skills of the researchers.

4. DATA ANALYSIS AND RESULTS

As mentioned under the Chapter 3 – Methodology, the questionnaire for collecting primary data was prepared covering the research objectives the identified needs and the literature related to the study. The questionnaire had twenty eight questions including few demographic questions, Likert scale questions, ranking questions and open – ended questions.

It was distributed among a pre-selected set of respondents from different industry categories which includes the Food and Beverage sector and in different scales for example large, medium and small.

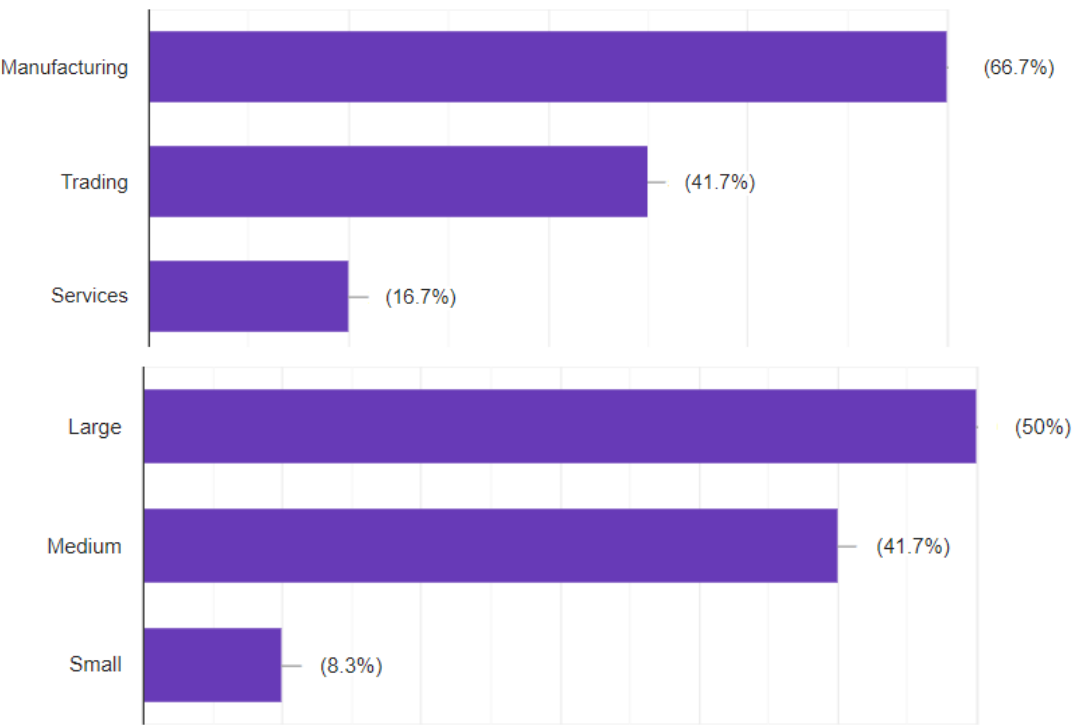


Figure 1: Industry Categories and Scales

The responses came from the top management, middle management and executive levels as shown below. They are handling different levels of authorities and different responsibilities which gave a better outcome in the survey as they were looking into

different aspects. Below are some of the areas of responsibilities handled by the participants of the primary data collection.

- Customer Management.
- Business Development.
- Marketing.
- Procurement.
- Shipping and Customs Clearance.
- Management / Overall Operation.

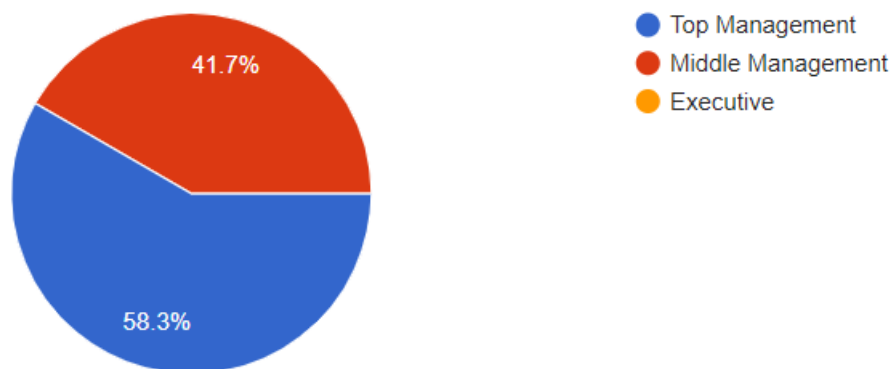


Figure 2: Levels of Authorities

Findings for the research objective 1

In the next section of the questionnaire, it was inquired about the availability of a Business Continuity Plan in their companies and if available, there were few questions asking for details to clarify the current process.

Among the respondents, 42% has confirmed that they have a documented BCP in place for an event of a disaster or significant disruption and 58% mentioned that they do not have a documented BCP. The available BCPs had considered the following scenarios as failures.

- Force Majeure situations.
- Reduction in business volumes.
- Bankruptcy.
- Disasters such as fire, etc.

- Major machinery breakdowns with longer downtimes.
- Major changes in the cost of production.
- ERP system downtime.
- Loss of facilities – offices / factory / warehouses.
- Loss of availability of team.
- Loss of availability of suppliers.
- Disruption at ports.

In a BCP, a recovery time needs to be identified and documented. These respondents are having 14 – 28 days as the recovery time. However, some respondents responded as they need to recover as soon as possible and for some, they needed to be within the standard delivery timeline.

In any business, cross functional requirements need to be fulfilled for a smooth operation. Replicating the same, 80% had considered managing cross functional requirements in their documented BCP with below actions.

- Demonstrations on annual basis to verify the documented process.
- Responsibilities and clearance to a few employees to manage multi-tasking.
- Stimulated drills in frequent time intervals.
- Having necessary protocols in place.

The finance management is critical when managing a crisis and 80% of responses mentioned that they have considered managing finances as a critical function in their BCPs with the steps mentioned below.

- Special arrangements with financial institutions.
- Cooperating with insurance departments.
- By managing a healthy working capital.
- Working with international organizations where they have access to finances when needed.
- By measuring financial impact with the recovery objectives.

A disaster / failure can occur internally and / or externally. In the survey, it was observed that only 60% has considered managing global and/or external disaster in their BCP. Majority has considered multiple sourcing to manage similar failures. Also

in an extended approach, some have considered decentralized manufacturing and multiple suppliers in different geographies.

Findings for the research objective 2

Since beginning of last year, entire world is facing a pandemic and most of the local and overseas companies are struggling to continue their businesses. However, during the survey, among selected respondents, only 40% has considered managing a global pandemic when they documented their BCP and the majority of 60% were not considered that. Some respondents have mentioned that even they did not consider managing a pandemic earlier, now they are revising their business continuity plans accommodating the recent past experiences. There are companies who have considered supporting their upstream partners and also internal stakeholders in this process.

Findings for the research objective 3

As the last question in the section 2, they were given an opportunity to scale their existing BCP and the results were as follows:

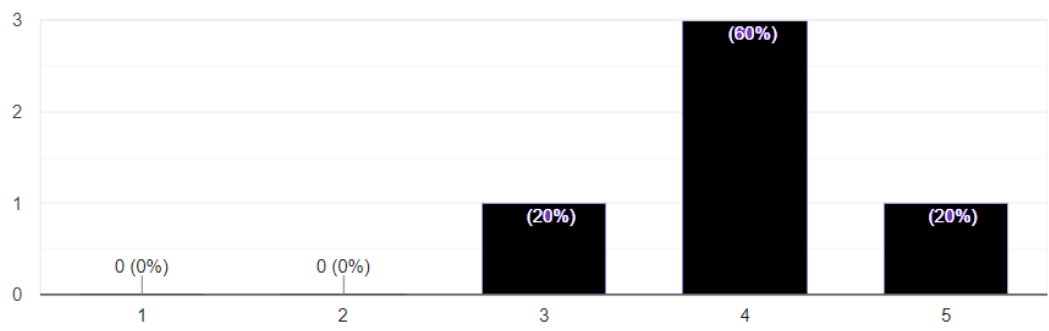


Figure 3: Rating for existing BCP



Findings for the research objective 4

The third section of the questionnaire was dedicated for collecting respondents' views on having a business continuity plan and further details pertaining to it.

Below is an overview of the responses when asked whether a BCP is required. The majority has identified BCP as a major requirement for their business.

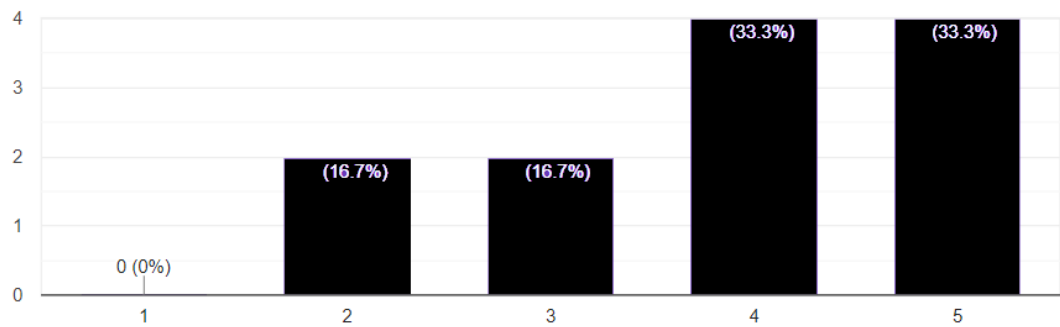


Figure 4: Importance of BCP



They have identified below reasons to consider BCP as a main requirement.

- To maintain consistency on the supply.
- To have a good impact on sustainability.
- Prevent risk of the business being closed.
- Not to disrupt the supply chain to the end customers.
- To manage the unexpected.
- Pre planning is required for better execution.

To have a better business continuity plan, amend the plan taking into consideration the recent failure scenarios and other identified issues. Otherwise, if the correct scenarios are not captured, the effectiveness of the BCP will be low. Below is the list of identified scenarios during the survey.

- Natural disasters.
- Global pandemics.

- Riots.
- Logistic imbalances.
- Breaches in networks.
- Major failures in machineries.
- Sudden insolvency of major suppliers.
- Loss of major receivables.
- Financial crisis.
- Loss of suppliers due to the pandemic.
- Fire or any other natural crisis.

Also it was checked regarding the priorities as when managing a disaster, it is required to prioritize the main areas to focus. The highest response showed that it was required to prioritize recovery strategies to maintain a continuation of supplies and deliverables to the customers. Taking the points in the research into consideration, a conclusion can be come upon that to manage any disaster well, there should be a good compatibility between the cross functional departments especially Finance, IT and HR with minimal dependency on each other.

5. CONCLUSION

All the four objectives of the research were achieved. The current methods & their effectiveness in Business Continuity Planning (BCP) of procurement function in managing the cross functional requirements & managing supply disruptions were analyzed. Among the respondents, 42% has confirmed that they have a documented BCP in place for an event of a disaster or significant disruption and 58% mentioned that they do not have a documented BCP. The available BCPs had considered the scenarios such as force majeure situations, reduction in business volumes, bankruptcy, disasters such as fire, major machinery breakdowns with longer downtimes, major changes in the cost of production, ERP system downtime. Loss of facilities – offices / factory / warehouses, loss of availability of team, loss of availability of suppliers, disruption at ports. These respondents are having 14 – 28 days as the recovery time. Among the respondents, 80% had considered managing cross functional requirements in their documented BCP. They have used demonstrations on annual basis to verify the documented process, responsibilities and clearance to a few employees to manage multi-tasking, stimulated drills in frequent time intervals. And having necessary protocols in place. Among the respondents, 80% of responses mentioned that they have considered managing finances as a critical function in their BCPs with the steps mentioned below. They have used special arrangements with financial institutions, cooperating with insurance departments, by managing a healthy working capital; working with international organizations where they have access to finances when needed; by measuring financial impact with the recovery objectives.

The level of current BCP in facing Covid 19 type pandemic was analyzed. Among the respondents, only 40% has considered managing a global pandemic when they documented their BCP and the majority of 60% were not considered that. Some respondents have mentioned that even they did not consider managing a pandemic earlier, now they are revising their business continuity plans accommodating the recent past experiences. Among the respondents 80% of responses mentioned that they have considered managing finances as a critical function in their BCPs with the steps mentioned below. In the survey, it was observed that only 60% has considered

managing global and/or external disaster in their BCP. Majority has considered multiple sourcing to manage similar failures

The perception about the level of satisfaction of procurement managers about the current BCPs was identified. Majority of the respondents (60 %) believe that they have a BCP which satisfies 80 % of their requirements. Among the respondents, 20 % believe that they have a BCP which satisfy 60 % of the requirements.

The different scenarios to be considered for improved BCPs in the Food & Beverage Sector were derived as natural disasters, global pandemics, riots, logistic imbalances, and breaches in networks, major failures in machineries, sudden insolvency of major suppliers, loss of major receivables, financial crisis, and loss of suppliers due to the pandemic, fire or any other natural crisis.

Based on the results of the data analysis which included the data collected from the virtual interviews with selected respondents, it was observed that the need for a documented business continuity plan is identified as a vital component in the procurement and supply chain in the food and beverage sector. However, these BCPs were only printed material in most of the companies where it had not been a text to refer very often only when something goes wrong. Majority was not fully aware about the content and the effectiveness of the BCPs, as those existing BCPs were prepared mainly for documentation purposes only.

However, during the prevailing pandemic, it was obvious to most of the companies that they lack an effective plan for managing such situations. However, even without a pre-prepared plan for that, most of the companies survived and some even have succeeded in their businesses by practically facing the crisis. By experience and by learning how to manage the worst, most of the companies are now in the process of fine-tuning their business continuity plans and the processes.

As a standard practice, usually a BCP is prepared to face internal disasters such as a fire / explosion, loss of facility / people / suppliers, etc. Nobody ever expected this kind of pandemic which has hit locally as well as globally. Even after 17 months, the entire world is still suffering and major businesses had to be closed down which resulted in people losing their jobs around the world, etc. It is now the time to review the how the companies think of managing local supplies to mitigate volatility in the global market

and logistics. However, the food and beverage industry cannot depend 100% on local suppliers or even from the region; as it needs various complex products not readily available everywhere. Therefore, procurement professionals should consider having both local and global networks also extended to different geographies. It will be more comfortable to have several compatible alternative suppliers developed and ready to order whenever the need arises. Also in general, failures / breaches in system networks and downtime in ERP are also a necessity. Also, managing the business when a top major supplier becomes insolvent is also a very important scenario where the procurement needs to be prepared for.

During a crisis management, nobody will be able to keep everything under control same as before and also keep the business running well. It is necessary to keep a track on everything which is critically required for the operation of the business. In the same time, it is required to identify non-critical areas which can be focused after managing the crisis or whenever the business arrives to a safe level. In a food and beverage business, the supply chain is the utmost priority. If the supply chain is not competent to face the challenge or challenges, it will be very difficult to succeed in managing the crisis. Also, within the supply chain, procurement is the vital role as it should have all the business continuity plans and readiness to overcome a crisis. Even if the other areas in the supply chain are ready but if procurement has gaps in the process, it will not be possible to run the show.

In addition to that, in an F&B company, there are lots of products in their portfolio. Those products may not have the same market demands as it may vary due to the season, location, etc. Therefore, when preparing a BCP, it is essential to identify how the business is planning to start the recovery process and how it needs to come back to normalcy. For that, they need to identify which products they need immediately and the time plan for each set of the products. For example, product A, B and C needs to be provided to the market by X number of dates after the disaster. Based on that, other functional timelines need to be planned. Likewise, products and services also need to be considered on a priority scale.

In a business, within the supply chain and also within the company; outside of the supply chain; it is not possible to work alone. There should be a strong relationship between cross functional teams. It is vital when managing a disaster as everybody

should be in line with the same plan. Especially; procurement needs a strong coordination with finance as their actions are really tied with the financial plans. During a crisis, this relationship is vital. In general, IT needs to be bonded with all departments and their support is required when managing a disaster. Therefore, when preparing the BCP, this coordination should be strengthened.

When any business is not operating sales even temporarily, finances are limited, especially in the F&B operation where it needs a high working capital and also have overheads such as salaries, machinery, etc. Therefore, it is better to have a good relationship with banks and insurance partners to obtain financial support when needed. However, that should be a part of the BCP and it needs prior discussions and agreements with the external parties and also included to the document as well. Also, companies can negotiate special provisions with insurance service providers for managing such situations. In addition to all these, companies especially of small and medium scale should always look at more investment options as their main BCP action to manage this type of double impact as their demanding power is much low with external parties and also it may be a better option when your financial requirements are not very high.

The conclusion of the research is that the firm business continuity plan is a must even with or without proper documentation. The research also highlighted to some extent that the procurement section in the F & B sector needs to have a practical BCP which could be implemented in a crisis situation. As the whole world is facing a biological pandemic situation though there is a BCP for procurement in the F&B sector, it was highlighted the financial constraints which also results in the lack of quality products to earn revenue. In this prevailing pandemic situation some of the companies were finding it difficult to fund the internal expenses which will include use of utilities, housekeeping, etc. Though the research was conducted using limited available resources the outcome of the data analysis gave a positive view on the objective of the study.

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Respondent Details

Details about you & your company

* Required

1. Name *

2. Company Name *

3. Designation Level *

Mark only one oval.

☐ Top Management

☐ Middle Management

☐ Executive

☐ Other:

4. Brief description about your job responsibilities

5. Industry Category *

Check all that apply.

- ☐ Manufacturing
- ☐ Trading
- ☐ Services

6. Scale of company

Check all that apply.

- ☐ Large
- ☐ Medium
- ☐ Small

7. Industry *

Business Continuity Plan

Do you have a BCP?

8. In the event of a disaster or significant disruption, does your company have a documented BCP? *

Mark only one oval.

- ☐ Yes *Skip to question 9*
- ☐ No *Skip to question 21*

Existing Business Continuity Plans

What is the current process?

9. What are the failure scenarios considered in the BCP? *

10. Does the BCP establish critical business functions with recovery priorities? *

11. What is the expected recovery time for your critical functions? *

12. Does the BCP considered on managing cross functional requirements in a situation? *

Check all that apply.

☐ Yes

☐ No

13. If the answer for the above is "Yes", explain how? *

14. Does the BCP considered on managing financials? *

Check all that apply.

☐ Yes

☐ No

15. If the answer for the above is "Yes", explain how? *

16. Does the BCP considered on managing global &/or external disaster?

Check all that apply.

☐ Yes

☐ No

17. If the answer for the above is "Yes", explain how? *

18. Does the BCP considered on managing a pandemic?

Check all that apply.

☐ Yes

☐ No

19. If the answer for the above is "Yes", explain how? *

20. How would you scale the existing BCP? *

Mark only one oval.

	1	2	3	4	5	
Totally Dissatisfied	☐	☐	☐	☐	☐	Totally Satisfied

If BCP is not available?

21. Do you think that a BCP is required *

Mark only one oval.

	1	2	3	4	5	
Strongly No	☐	☐	☐	☐	☐	Strongly Yes

22. Explain the reason for the above answer *

What is your view?

23. Do you think a BCP is required? *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	☐	☐	☐	☐	☐	Strongly Agree

24. What are the best / failure scenarios to consider? *

25. What are the priorities to focus? *

26. What should be the compatibility with cross functions such as IT, Finance, etc.? *

27. With the recent experience during the pandemic, what are the additional aspects should be covered in a BCP? *

28. Any other suggestions?
