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Food Safety in Food Supply Chain Management.

¹Jyoti Pawar, ²Mrs. Manish Mali

¹M-tech

¹University of Pune

Abstract- Food safety is top priority for a lot of industries right now, maintaining food security has become difficult when it comes to customer demand. The food put on the market has to be of good quality and safe for use, as well as not be a source of any infection. For this reason, securing food safety and quality is a matter of the responsibility of food producers and governments. During the process of distributing food products it will go through all stages of the supply chain, i. e. all processes from farm to the consumers' tables, is to achieve full supervision of food safety in the modern world, because the journey leading from food production to the consumer is very time-and space consuming. There are many dangers of food during the transport, food storage, or food preparation. In order to enable food quality and sanitary safety of food products, companies have to follow rules and regulation, standards, and norms at every stage of the supply chain. The aim of this paper is to show how food safety is important and the ways in which industry ensures a temperature level that different kinds of food products require.

I. Introduction

FSCs have a modernization of the food system, characterized by the development of supply chains based on long-distance trade. Resistance

consists within the incontrovertible fact that , by selling on to consumers, farmers bypass intermediaries and thus can develop autonomous marketing strategies supporting differentiation. These strategies give farmers the likelihood of keeping a much bigger share of the value-added within the farm and within the local economies.f

FSCM has been coined to depict the activities or operations from production, distribution, and consumption so as to keep the safety and quality of various food under efficient and effective modes. The differences of FSCM from other supply chains such as furniture logistics and supply chain management are the importance reflected by factors like food quality, safety, and freshness within the limited time, which make the underlying supply chain more complex and difficult to manage.

II. Supply chain management for the food industry

FSCM is a basis for manufacturing, processing, and transforming raw materials from major activities such as forestry, agriculture, and so on. Identify the relationships among different items, interpretive structural modeling (ISM) was used to establish a hierarchical framework. understand the interactions. The ISM-enabled framework was also used to support

risk management in identifying dependencies among food supply chains and risks at different levels. It is a structure in FSCM through a step-by-step process on several manufacturing stages. Information plays an important role in making FSCM more efficient.

A. Many aspects come under risk management

There are many factors such as weather, infrastructure issues, or damage to a supplier location impacting the food industry. Losing a dependable supplier can impact the quality and consistency of foodservice providers. Devising risk management strategies like ensuring insurance protects the products can help the corporate avoid such losses. Brand innovation: Consumer demands keep evolving within the food industry.

Brand innovation: Consumer demands keep evolving within the food industry. Firms must have to change trends and incorporate innovation in their products and packaging as a part of risk management to avoid losing customers to competitor brands. They should also develop new types of packaging, a wider variety of flavors and have facilities dedicated to organic, allergy-free foods.

Product quality: Ensuring product quality is a crucial aspect of risk management for food companies. Customers expect their products to be safe and fresh no matter how long the availability chain. Companies, therefore, must compete to the simplest of their abilities to supply high-quality perishable goods at rock bottom possible cost while improving on-time delivery performance.

B. Models

In this section, we present related work using various models for considering five major aspects like food quality, supply chain efficiency, food waste, food safety, and value chain analysis.

1. Food quality

The food placed on the market has got to be of excellent quality and safe for consumption, also as not be a source of disease and infection. So as to enable food quality and sanitary safety of food products, companies need to follow legislation, standards, and norms at every stage of supply chain

2. Supply chain efficiency

Reducing losses in the supply chain have the potential to save production costs and increase profitability for farmers and companies. There are a variety of techniques, technologies, and investments that can enable farmers to grow more 'crop per drop' of water, with the potential for improvements vast.

3. Food waste

Analyze your supply chain and improve visibility Understand your processes and make intelligent modifications Stay efficient and enhance collaboration

4. Food safety

The food supply chain is particularly complex to manage. These new regulations also offer a chance for stakeholders across the industry to enhance food safety supply chain management by leveraging technology to enhance compliance, make the recall process faster and more accurate, and reduce costs.

5. Value chain analysis

The value chain is a set of activities creating product values, which can make a profit. Value chain analysis is a method that focuses on analyzing the product flow, information flow, and the way that information is managed on the whole chain.

III. IT systems for FSCM

A. Decision making and traceability

In FSCM, decision-making such as planning-scheduling, fleet management, collaboration, integration is also widely used in the food industry.

Traceability of a food refers to a data trail that follows the food physical trail through various statuses.

IV. Implementation of FSCM

One of the main objectives customers have by implementing FSCM is to improve their cash flow and working capital. The process within the main must be implemented by a cash collection team and thus truth thanks to maximize your benefit is by ensuring the planning meets the business requirements and the team implementing the processes are skilled to ensure a satisfactory outcome. The FSCM solution by itself will not provide the best results, later on, in this article, I will introduce the key factors to consider. A simple analogy is a race car. You can build a great race car, but to maximize the benefit you need to ensure the driver is skilled to drive it and that the car is tailored to the driver's requirements. As mentioned in my earlier blogs the FSCM product can be configured in a very simple way. SAP has delivered a number of key BAPI's (specific areas where custom code can be added) to aid the personalization of the solution for the customer. The key to making sure this is often done correctly is to find out how the customer currently implements the business process of collecting cash also as providing them ideas to enhance the current processes. This could be performed by simply reviewing the current processes and systems with the current team to work out what works and what does not work. When business users are employing a system day in outing the straightforward changes to supply benefits can easily be missed or ignored.

A. The key process in the implementation of FSCM

1. Dispute Management: The key to dispute management is to record the dispute the customer has and to resolve the dispute in a timely manner. Disputes are often raised manually or automatically a well-designed solution can control the automation of dispute creation, however, an honest workforce is

required to make sure manual disputes are raised correctly. If the dispute isn't created correctly the resolution time increases and reduces the benefit to the customer. When designing a solution for dispute management KPIs need to be determined to control the resolution time of disputes as well as the volume of disputes that are being raised. Within Dispute Management various business users could be involved in resolving a dispute, the various different scenarios need to be defined to ensure the correct business user is chosen for the correct even. This could be controlled via some sort of the workflow to send disputes to different business users counting on the plant, dispute reason code, or customer. This means that the design of the workflow will be critical to the success of the implementation.

2. Collections Management: Within Collections Management the critical business process is to ensure prioritized customers are called to maximize the volume of cash that is collected. The key to the design is to make sure the critical customers are on top of the collections worklists so the collections team can call them in a timely manner. This could be the customer with the very best credit risk, the customer with the very best outstanding balance, or the customer who has had failed promises to pay. The design of the collection strategy is a critical success factor for the implementation. To ensure the design is correct for the individual customer the implementing team needs to look at the current pain points for effective cash collection. Customers may need to be grouped, and the customers that the cash collection team currently manages may need to be reviewed so that they can be distributed in a different way.

V. Current challenges and future perspectives

A. Supply chain network structure

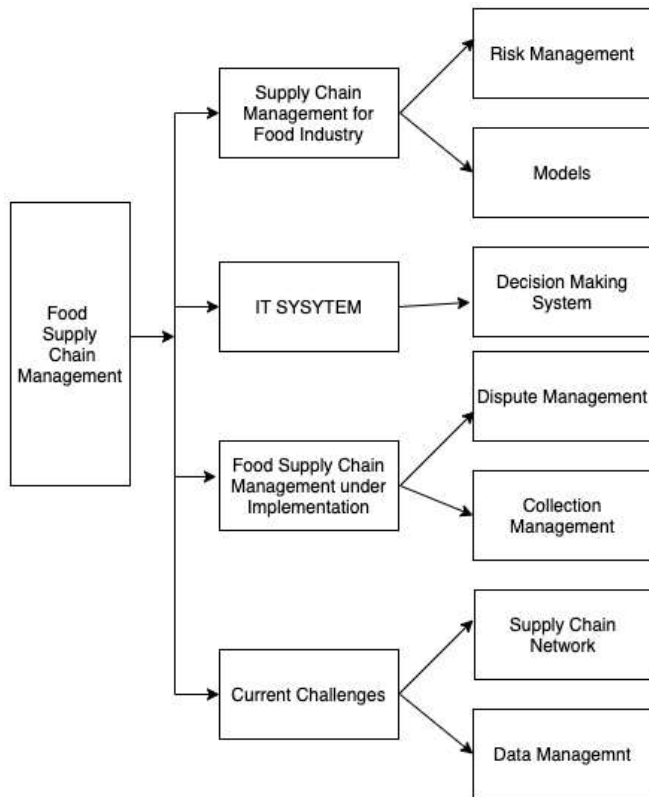


Fig. Food Safety in Supply Chain Management

B. Data Management

Data Management provides unique insights by:

1. Bringing all your data points into one, centralized location from one test to yearly trends; understand your data ecosystem by harmonizing content from internal and external labs into one location
2. Enabling collaboration – work together with your plants and suppliers in real-time by tracking interactions and finding the proper contacts when there's a problem
3. Visualizing issues and opportunities – with your data harmonized it becomes easy to layout interactive graphs to get to the heart of an issue or to help you tell your story.
4. Improving your response time – instant access to data keeps you recent on all of your

product information and allows you to react immediately to issues that are discovered.

C. Implementations: FSCM implementations from real-life industries are based on cutting-edge technologies that are used for addressing some issues faced by the food supply chain. Emerging cutting-edge techniques may contribute to system integration in the near future. First, Cloud technology has been used to integrate the segregated sector using minimum resources. It allows involved stakeholders to access various services via software as a service, platform as a service, and infrastructure as a service. In future implementation, giant companies play important roles in leading the food supply chain toward a green and sustainable direction.

D. Solution For Real World Problems: Supply Chain and Artificial Intelligence (AI)-based solutions for performance improvement and public Safety. In the implementation of computer vision image processing solutions combined with the planning, deployment and management of enterprise mobility solutions like Human Free Vehicle and Container Recognition, Automatic Identification and Data Capture (AIDC), Mobile Cloud Analytics, RFID (Radio Frequency Identification), and proprietary Mobility software. We have to implement AI technology to supply real-time surveillance and monitoring for Homeland Security, traffic & parking management, enforcement and access control applications also as supply chain management.

Mobility and Data Collection Technology: It provides our customers with total mobility and data collection technology solutions for application that help them automate processes and gain greater accuracy and efficiency. When you need technology to reinforce your operation within the four walls of your facility, beyond to increase across the yard, or maybe across the country, Quest Solution will tailor an entire mobility or data

collection technology solution to satisfy your business' specific requirements

VI. Conclusion

Food supply chain optimization is continuously changing in par with the development of new technologies, and environmental and social change. Social, environmental, and economic pressure also will change food demand and can influence the kinds of foods and presentations which will be produced.

VII. References

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