ASSESSMENT OF LOGISTICS DISTRIBUTION METHODS AND PROBLEMS OF SAJ FOODS LIMITED IN NORTH WEST, NIGERIA

BY

Nuhu Abubakar ABDULLAHI B.URP, (ABU) 2009

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DECLARATION

I hereby declared that this thesis; *Assessment of Logistics Distribution Methods and Problems of SAJ Foods Limited in North West Nigeria*, is composed and written by me, and that it is the outcome of my research work. It has not in anytime, anywhere to the best of knowledge, been presented for the award of any degree. All source of information are properly acknowledged by means of references.

Nuhu Abdullahi ABUBAKAR

……..... …… ……

Name of Student Signature Date

CERTIFICATION

This thesis titled: *Assessment of Logistics Distribution Methods and Problems of SAJ Foods Limited in North West, Nigeria* by Nuhu Abubakar ABDULLAHI meet the requirement for the award of the degree of Master of Science (M Sc) Transport Management of Ahmadu Bello University, Zaria. It is herby recommended for its contribution to the knowledge and literary presentation.

Dr. I.J. Musa		
Major supervisor	Signature	Date
Dr. A. E. Ubogu		
Minor supervisor	Signature	Date
Dr I.J. Musa		
Head of department	Signature	Date
A.Z. Hassan		
Dean,School of Post-Graduate Studies	Signature	Date

DEDICATION

The research work is dedication to Almighty Allah for sparing my life and giving me strength throughout the program and to my wife, Hajiya Fatima Musa and children Hauwa'u and Zulaihat Nuhu Shagali.

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All praises are due to Allah the most gracious, the most merciful. The Words cannot be enough to express my profound appreciation to my supervisors; Dr Ibrahim Musa Jaro and Dr Ubogu Adrew Egba and also to Mal Shehu Abbas and Abubakar Salisu for their positive criticism and suggestion.

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ABSTRACT

The study centered on the assessment of logistics distribution methods of Sanusi and Jamila (SAJ) Foods limited. The study attempts to assess the present distribution logistics methods employed in distribution of its products to various distribution outlets across seven states in the northwest. The transportation of perishable products and the minimum time it requires to reach destination to avoid defected products were the key issues that necessitated the research. The study identified the products and production sages; explained the distribution methods; and examined the logistics problems in SAJ Foods limited Zaria. The data were collected from the staff and distributors using questionnaire. Eighty four (84) copies were administered and retrieved. The data was analyzed using descriptive statistics and presented in the form of tables, charts and graphs. The result indicates that yoghurt was the major product of the firm and as well the most patronized product. The result also reveals that 38.6% of distributors used buses as their distribution facilities. Greater share of the company's product (38.8%), were consumed between 100-200 kilometers away from the production plant. The improper time scheduling was considered the major problem with 65.5%. The marketing strategies of competitors may likely affect the firm with 34.5%. On the basis of aforementioned findings the recommendations are: regulate the time for issuing goods; employ professionals; improve order processing time; the firm should partner with distributors to facilitate distribution and establish a unit to oversee the whole chain of distribution process.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The necessity for distributing perishable products arises because of spatial variation between the points of production and the points of consumption, as well as differences in the time of production and demand. Distribution may seem quite simple, but it is complex and consists of different activities. All distribution activities are associated with certain risks and dangers which if not properly managed would have effect on the quality of products.

Distribution is the process of making a product or service available for use or consumption by a consumer or business user. Distribution is therefore one of the four elements of the marketing mix; i.e. production, distribution, pricing and promotion. Distribution logistics have as main tasks the delivery of the finished products to the customer. It consists of order processing, warehousing and transportation. This is necessary because the time, place and quantity of production differ with the time, place and quantity of consumption (John, 2012). Numerous production institutions globally adopt various forms of logistics and distribution methods in enhancing timely delivery of their goods and services. (Dikki, 2006).

Globalization and the competitiveness of market have brought a lot of changes due to the development of new commercial and financial technologies implemented by the companies. The logistic activities of movement and storage have been used by companies for many years. The current innovation is on the coordinated management of the interrelated activities, which have developed from the traditional management format to the integrated management or inter- functional coordination, responsible for processing the incoming product to the plant and distributing the final products to the

consumers and place where they have been requested at the least possible cost (Stock and Lambert, 2001 and Ballou, 2004). This add values to the companies' products when the stock is correctly placed to facilitate the sales (Bowersox and closs,1996).

Therefore, managing and enhancing the logistics activities is one of the most important tasks for companies, as customers and shareholders are putting more pressure into the companies to seek ways to decrease their costs while at the same time increasing performance by improving the efficiency and effectiveness of their operations (Stock and Lambert, 2001 and Kujawa, 2003).

In the past, most perishable products had to be consumed around the area where the company is situated due to lack of transportation facilities (Heap, Kierstan and Food 1998; Huttner, 2005.) But recently with advancement in transportation, facilities have made it possible to reach many areas around the globe (Heap Kierstan and Food1998). However, the transportation of perishables is more complicated due to products' deterioration over time. Therefore it is very important to note that, transportation time and other requirements have to be well planned in order to maintain the product characteristics when it reach the customers. This can be achieved through effective logistics operation.

The operative performance for logistic activities is measured in terms of availability, operational performance and flexibility. By availability it means that the company must have enough products to supply to the customer at the right place and time. Operational performance on the other hand, refers to the time between the act of receiving the order and delivering the order, while flexibility has to do with the capacity of the company to respond to unexpected situation (Bowersox and Closs, 1996 and Ballou, 2004).

Logistic is thus playing more and more of an important role in a company performance, in particular for the company seeking to improve their competitive advantage and co-operate profitability. Competitive advantages gained through the use of logistic can place the company in a better position in terms of customer's preferences. This is obtained when a company has the ability to differentiate itself in the eyes of the customers from its competitors and to operate at a lower cost, and therefore a greater profit than its competitors. Competitive advantage is therefore obtained when the activities of the companies such as designing, producing, marketing, delivery and supporting its products are integrated (Kujawa, 2003) Logistic is responsible for the movement of materials and products, through the use of equipment, labour, and intellectual; in such a way that the consumers have access to the product at the right time, and at least cost that they agree to pay for it (Dias, 1993). Therefore logistic is fundamental in purchasing and supply.

According to Gargouri and Hammadi (2007) time is the most important factor when any transportation decision is taken. Thus, it is also necessary to look at the time spent during the transportation from A to B as during the time the product is not available and therefore cannot be used. Furthermore, the longer the transportation time the greater is the cost. Transportation time also increases the uncertainty about the delivery of the products and may affect the final quality of the product. The logistics for small scale enterprises is a key for reducing costs in the food industries. In addition to this purpose, adequate logistical planning and management can significantly lower transportation cost, thereby increasing profits (Ballou, 2005). It also makes many differences in the assessment of priority and distribution of the product on demand. Yet the search for a better logistics operational system of a company depends not only on

employees but also the operational capacity to resolve unforeseen problems that may arise during the distribution process.

Economic entities, partnership business, Multinational Corporations, public corporations and even sole-proprietorship businesses are established with the aim of capturing market relationship with the customer and with the ultimate motive of making profit. The major determinants of this profit making are; planning, control, accuracy, timely logistics and efficient distribution techniques (Dikki, 2006).

This therefore means that, the success of any business venture in Nigeria, points to the ever growing awareness that the firm is enhanced through the even distribution of goods and services, from the point of production to the final consumer (Adedeji, 2005). Hence, an effective logistics and distribution mechanism are essential for qualitative and quantitative delivery services to customers.

One of the numerous business entities in Nigeria is the emerging and dominating food industries. There are many food industries located in different parts of Nigeria. They include C-way foods Limited, Nestle foods Plc., NBC and 7up bottling company among others. Food industries that operate in northern part of Nigeria include Jamil Yoghurt, Shagalinku Foods and Drinks, SAJ foods limited, Habib Yoghurt, Al-madina Yoghurt, among others. This study is therefore set out to assess the logistics and distribution methods of SAJ Foods limited, across the North-western part of Nigeria.

1.2 Statement of the Research Problem.

Distribution of Perishable products has become one of the major challenges facing dairy companies, especially when it comes to logistics of transporting products, from the production plant to their various distributors. This is why it is very important for industries and industrialist to have detailed study of their logistics and distribution system, in order to operate efficiently and effectively. The need to transport goods to customers (distributors) not only imposes direct money costs on manufacturers but also gives rise to time costs. There are so many cost implications which could arise both in the long and short runs, when products are not well distributed after a successful chain of production process had already been achieved. Hence, this eventually leads to the tying up of the working capital in the overall production cost of a Firm.

Sanusi and Jamila (SAJ) Foods Limited have been into competitive and distributive process for quite some time. It is doing whatever it takes within the complex and dynamic market changes to survive. As such, the increasing demand from customers coupled with technical innovations, economic changes, power outages, condition of road infrastructures, insecurity, shortage of supply, unreliable distribution facilities and threats from other multinationals, are affecting the growth and expansion of the industry. It is obvious that SAJ Foods suffers some distributive challenges. Therefore, it is paramount to examine the present stateof logistics and the distribution system of the organization, with a view to suggesting the most suitable ways for the distribution of SAJ Foods products in order to minimize cost and maximize profit.

Several studies have been carried out with regards to this, which includes Luis (2009) who carried out a study on the logistics of dairy collection between New Zealand and Brazil. The author suggested that all dairy products should be moved from

production plant to the market so as to avoid damages or lose. The study also noted that lack of quantitative and qualitative warehousing facilities in developing countries hinder the successful operation of many industries in the region.

Also, a study has been conducted by Adedeji (2005) on the impact of total quality management on customer's satisfaction with SAJ Foods products. The study observed that the success of a business firm depend on the quality of its products, and its delivery which guarantees customer's patronage. This implies strong relationship between the quality of the products and customer's satisfaction level. A study by Yusuf (2010) was on the evaluation of production and marketing of San Yoghurt in Zaria. The study claimed that delivering of product quality and beautiful packaging ensures customer's satisfaction in the study area.

It can be observed that all these studies carried out by different authors emphasized mainly on quality of the products and packaging. They failed to address the logistics and transport aspects of the products and the minimum time required by the goods to reach the customer, especially considering its perishable nature. This is the identified gap in knowledge, which this study intend to bridged. It is to this effect that this research was set out to assess the logistics associated with the distribution methods and problems of SAJ Foods Limited Zaria, Nigeria. Hence, the research has the following questions to answer:

1. What are the types of goods produced by SAJ Foods Limited?
2. What kind of distribution system operates in SAJ Foods Limited?
3. What are the logistics problems in SAJ Foods Limited?

1.3 Aim and Objectives.

The aim of this study is to assess the logistics distribution methods and problems of SAJ Foods Limited in North-western Nigeria. This can be achieved using the following specific objectives, which include to:

i. identify the products and explain the production stages in SAJ Foods Limited;
ii. explain the distribution methods in SAJ Foods Limited;
iii. examine the logistics problems in the distribution of SAJ Foods Product.

1.4 Scope of the Study

The study is designed to cover the present outbound logistics and distribution system of the firm. The study was centered on the firm and its distributors across the Northwest geopolitical zone, with spatial extent of seven states, comprising of Kaduna, Kano, Katsina, Sokoto, Kebbi, Zamfara and Jigawa states.

1.5 Significance of the Study

Distribution plays a vital role in making products available for patronage; the method used in distribution equally varies from one company to the other in the nature and characteristics of the factories' demand, taste and socio-economic background of the consumers. A strong logistic planning that is well structured and committed to goal of the firm tends to be a very important and supporting tool for the functioning of the whole process as well as the growth of company itself. This eventually reduces operating costs and at the same time maximized profit.

This study will therefore, try to assess the logistic distribution methods employed by firm. Hence, this study will extend the frontier of knowledge and will serve as a future reference to researchers, logistics companies and the beverages industries within Nigeria and beyond.

CHAPTER TWO: CONCEPTUAL FRAMEWORK, THEORETICAL ISSUES AND LITERATURE REVIEW

2.1 Conceptual Framework

Theories, models and concepts are tools used to mirror reality. In other words, the application and use of theories is necessary for the better understanding of this type of research work. The need to provide adequate explanation on the importance of distribution on the effective and efficient movement of products were the driving force for searching of appropriate theories, models and concept for this study. Those theories and concepts considered appropriate and useful for this study are:

- The concept of logistic Distribution
- Concept of Just-in-Time Inventory
- The Distribution Centre Concept

2.1.1 Logistics

2.1.1.1 The concept of logistic Distribution

One of the first indications of logistics activities was in old Greece. Due to the long distance it was necessary to study how to supply the troops with the weapons, foods, medicines, information and strategies about where the troops should be established in order to conquer victories (DHL web site. 2008).

During the Second World War, logistics was used to supply the United States' allies with food and weapons. After the war, the American population was anxiously prepared to meet the demand with agility. Neither its production nor its distribution was capable to supply the huge demand. At that time, the managers realized they were

losing sales, not meeting their customers' needs and logistics was used to deliver the products faster and with quality.

In Europe the consumption was at a slower pace compared to the U.S. because it took longer for them to recover from the outcome left after the war. The European concern was about how to carry its production to the whole continent.

Logistics started being used more frequently by companies around the world when information Technology (IT) was developed and implemented in the companies (Dias, 1993; Stock and Lambert, 2001). Logistics is thus responsible for the movement of materials and products, through the use of equipment, labour and installations, in such a way that the consumer has access to the product at the right time, and at the least cost that they agree to pay for it.

Logistics has gone from being a military matter to being one of the key business issues today. The underlying factor to this situation is, in fact, that logistics is a cross functional subject, cutting across functional boundaries. From initial purchase of material or component, the system of logistics adds value by moving inventory when it is needed and where it is needed. Logistics is the process of strategically managing the procurement, movement and storage of material, parts and finished inventory (and related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfilment of orders (Luis, 2009).

There are a number of theories and methods that are described in the business literature about how to succeed today and stay competitive in the future. Companies must recognize that the competition today is through their capabilities and competencies. By managing their core processes better than their competitors,

organizations can create superior value for customers. The core processes include such activities as new product development, supplier development order fulfilment and customer management (Luis, 2009).

The environment that companies do their business in is constantly changing, example of this are the customer service which has gone through an extensive development; the global area of performance and the integration of organizations in order to achieve the ultimate goal which is to satisfy the customers. But one of the most visible changes has been in the way which time has become a critical subject in management. Today product cycles are shorter than they need to be, Customers and distributors take for granted just-in-time deliveries and users are more willing to accept a substitute products, if their first choice is not available at once (Christopher, 1998). The physical product is not as important as the services that surround the product and the effort of logistics services is needed to compete and to satisfy the customer (Radzele and Krievina, 2009).

Logistics is a combination of five basic activities that wok together and depend on each other i.e. Purchase, Storage of material, Information flow, Flow of material (goods) and Delivery of material (Stock and Lambert, 2001).The fundamental of logistics encompasses purchasing and supply, materials handling, materials management, production planning production control, transport, storage, distribution, project management, installation and servicing, re-use and recycling and strategic management. The management of these activities helps companies to increase the value of their goods which strengthens the customers' satisfaction (stock and Lambert, 2001; Ballou, 2004; Chopra and Meindi, 2007). Globally, a good integrated logistics system can positively impact on the profit of companies (Stock and Lambert, 2001).

The terms “supply chain management and logistics” are frequently used interchangeably. Nevertheless, they have different meanings and describe different areas of business operations. Logistics management is that part of the supply chain management that plans, implement and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the part of origin and the part of consumption in order to meet customers’ requirements (Council of supply chain management professionals, 2008).

Logistics is seen as a part of the supply chain management, which itself encompasses the planning and management of all activities involved in sourcing and procurement, conversion and all logistics management activities. It also includes coordination and collaboration with channel partners, which can be supplier’s intermediaries, third party service providers and customers. In essence, supply chain management integrates supply and demand management within and across companies (CSCMP, 2008).

The major differences between the two terms is that supply chain management take a holistic view over the entire supply chain regardless of company boards, while logistics management is more concern about the flow of goods and liaises with other areas and functions only to support this task. Logistics is thus a subordinated part of supply chain management.

2.1.1.2 Logistics and its Attributes

Logistics best practice is presented as a work in progress, subject to a continuous change based on the ecology nature (Bowersox, Closs and Cooper, 2002). With the use of logistics management the goal is to link the market place with the operating activity business in such a way that customers are serviced at higher levels

and at a lower cost. In order to achieve this, Christopher (1998) suggested the use of a total systems viewpoint of logistics management. The need of customers could be satisfied through the coordination of the materials and information flows that extend from the market place, through the operation environment of the firm and to the suppliers.

The focus of logistics management is to optimize flows within the organizations and to a planning orientation that seeks to create a single plan for the flow of product and information through a business. In this regard, information is not considered as a mere process, but a key enabler of supplier chain integration (stock and lambart, 2001). In support of this, Bowersox, Closs and Cooper (2002) also pointed out that product flow always take place only after information flows have been initiated. Thus, logistics is a functional silo within the companies, but also a bigger concept that deals with the management of material and information flows across the supply chain. Moreover, it has to be kept in mind that, even if logistics is described as an integrative concept that seeks to develop a system-wide view of the firm, it is still primarily a planning concept (Christopher, 1998). The mission of logistics management is to create a one-plan mentality within the business.

Logistics has been described through its attributes and logistics is concerned with the flows within the chain. The flows in logistics include monetary, information, material and resources. Monetary flow is concerned with invoicing and payment, while resource flow represents the resources that are needed to move the material within the chain and the material flow is the goods to be moved. The information flow is the initiator for both monetary flow and material flow (Boehlje, 2003).

Today the information flow within the logistics has become vital, as this flow enables chain to respond in real time with accurate data. Recently companies look at information flow as an asset. Since it is not possible to have efficient and reliable material flow without it (information) i.e. material flow cannot be isolated from information flow (Radzeler and Krievina, 2009). These show strong linkages between the physical flow and the information that flows both upstream and downstream. To manage and communicate a material flow today, information technology is necessary.

According to Alexander (20011) timely and accurate information is necessary for an effective logistics distribution system. He therefore recommended that organization should ensure the following:

- Customers receive information about order status, product availability delivery schedule, shipment tracking and invoices as necessary elements of total customer service.
- Information increases flexibility with regard to how, when and where resources may be utilized to gain strategic advantage.
- Enhanced information transfer and exchange capability utilizing the internet is changing between buyers and sellers and redefining the channel relationships.

2.1.1.3 Logistics of Transport system

Transport is the way used by companies to move goods/products from A to B through the many stages of the supply chain. The transport activity has enormous influence on the level of the services and on the efficiency of the supply chain. The choice of transportation model will have a great impact on the customer perception of the service provided. The preference for a faster transportation mode will reduce the

delivery time, on the other hand, it will increase the transportation cost. Transportation activity plays an important role as an indicator of the stock levels and localization of the installations in the supply chain (Chopra and Meindi, 2007).

Companies use transportation activity as a competitive tool, to provide a better service for the customers, as well as for companies, while transportation cost is critical for their results and consequently must be optimized. Considering the stock level as one of the crucial factors for the performance of the supply chain, the companies must find the balance between the stock level and transport cost in order to reach efficiency in cost and offer high level of service in order to meet the customer's expectation (Smith, 1999). Transportation usually represents the most important single element in logistics cost for most of the firms. Freight movement have been observed to absorb between one-third and two-thirds of the total logistics cost (Ballou, 1999).

According to Chopra and Meindi (2007) all the decisions taken by the companies related to the project and operations throughout the supply chain must consider the following means of transport air, road, rail, water and pipe. Each of these modes has its specific characteristics with regards to the capacity, speed, dimensions, trustworthiness and flexibility. Before choosing the mode or intermodal to best meet the customer's needs in terms of service level and efficiency (Rushton, Crucher and Baker,2006) suggest that firms should consider the following;

- External factors: To consider the country/region infrastructures, trade barriers, license, law and taxation, financial institutions and services, economic condition of the region, communication system used in the region, as well as culture and climate. (international choice)

- Customer characteristics: This has to do with the service level requirements, delivery ports, constraints, credit rating, terms of sale preference, order size preference, customer's importance and general product knowledge. These need to be addressed for both national and international transportation mode choice.

- Physical nature of the product:- This has to do with the acquiring knowledge on volume to weight ratio, value to weight ratio, substitutability (product alternatives), special characteristics (hazard, fragility, perish-ability, time constrains, security).

- Other logistic components:- This has to do with the supply point locations, production plant locations, warehouse and storage facility locations, marketing plans and policies and existing delivery system.

Companies can choose from several types of transportation to move their raw materials and products. This availability allows the companies to contact the carriers companies whenever it suits them. That is, they can contract the carrier companies only when the need, or have contract with them or even have their own fleet. The carrier companies have taken the responsibility for all activities related to the transport, assuming the responsibility for planning, programming, collection, invoicing, delivery and control of information. Investment decisions regarding its equipment, such as trains, airplanes, trucks, ships and in some case the railway infrastructure. Make operational decisions in order to maximize profit from the use of their assets. On the other hand, the shipper uses the carrier service to minimize its cost related to inventory, transportation, I .T and others while providing good services for its customers, (Bowerseox and Closs, 1996; Chopre and Meindi, 2007).

2.1.1.4 Inventory Management

This is the effective management of stock, materials, parts and finished products, including additions and deletions (i.e. control of managements in and out). Essential for determining capital investment returns and viability of stock levels and for the avoidance of opportunity cost i.e. money tied up in stock that could be better used, (Lowe, 2002). In theory, the best solution for a company in servicing its customers could be to locate an inventory in each facility that is closest to the customers. There are few companies that could afford such a luxurious inventory commitment, because the costs are discouraging. Therefore, the objective of effective inventory management is to accomplish desired customer service with the minimal inventory level followed by lowest tied up capital in inventory.

According to Luis (2009) the Purpose of inventory holding (why firm hold inventory) are to: act as a buffer between different operation; allow for demand that are larger than expected, or at unexpected time; allow for deliveries that are delayed or are two small; buy items when prices are low and expected to rise; take advantage of price discounts on large orders; buy items that are going out of production or are difficult to find; make full loads and reduce transport costs and give cover for emergencies.

Inventories can be categorized into the following types, signifying the reasons for which they are accumulated (Stock and Lambart, 2001).

(a) Cycle inventory:- This is an inventory that results from the replenishment process and is required in order to meet demand under condition of certainty i.e. when the firm can predict demand and replenishment times (lead-times) perfectly.

(b) In-transit inventory: This encompasses inventory items that are en-route from one location to another. They may be considered as part of cycle inventory even though they are not available for sale and or shipment until they arrive at the destination.

(c) Safety or buffer stock:- These are inventories held in excess of cycle inventory because of uncertainty in demand or lead time. The notion is that a portion of average inventory should be developed to cover short-range variations in demand and lead time.

(d) Speculative inventory:- This is an inventory held for reasons other than satisfying current demand. For instance materials may be purchased in volume larger than necessary in order to receive quantity discounts, because of a forecasted price increase or material shortage, or to protect against the possibility of a strike.

(e) Seasonal inventory:- This is a form of speculative inventory that involves the accumulation of inventory before a season beings in order to maintain a stable labour force and a stable production runs.

(f) Dead inventory: This is the set of items for which its demand has been registered for some specified period of time.

2.1.2 Concept of Just-in-Time (JIT)

According to Christopher (2005), Just in Time (JIT) is a management approach, which originated in Japan in the 1950s. It was subsequently adopted by Toyota and many Japanese manufacturing establishments with considerable success in raising productivity by eliminating waste. Christopher (2005) observed that since its wide application in manufacturing in the 1970s, JIT has been widely regarded as an operations management approach designed for manufacturing firms to improve

performance through waste reduction. The management philosophy underlying JIT is to continuously search for ways to make processes more efficient with the ultimate goal of producing goods or services without incurring any waste.

Kaneko and Nojiri (2008) reported that in the face of challenging global competition, business firms are concentrating more on the needs of customers and seeking ways to reduce costs, improve quality and meet the ever-rising expectation of their customers. To these ends, many of them have identified Just-in-Time (JIT) management approach as an area to build cost and service advantages (Chase, Jacobs and Aquilano, 2006). Kinney and Wempe's (2002) definition cited in (Lai and Cheng, 2009) suggests that firms practicing JIT are associated with increased profit margins as the waste reduction emphasis of JIT helps reveal activities that add no value.

Generally, these activities and their related costs are either hidden by excessive buffer inventories, or are ignored because holding buffer inventories is a convenient solution to such problems as failure of production lines or other systems (Kumar, 2010). With the implementation of JIT excessive inventories are no longer allowed to mitigate these problems and the adopters of JIT are more inclined to develop cost-saving solutions, thereby increasing profit margins.

Lai and Cheng (2009) observed that the goal of JIT in reducing waste and improving services is relevant and applicable to distribution systems of manufacturing. Similar manufacturing JIT can be embraced as an operating management approach designed to eliminate waste. Waste can be defined as anything other than the minimum amount of equipment, space and workers' time, which are absolutely essential to add value to the product or service. As distribution initiatives involve activities in the supply chain, firms can embrace the philosophy of JIT to identify waste and improve

service in the processes. For example, to plan the manpower and facilities requirements to meet the distribution needs, to reduce product introduction time by responsive delivery, to improve distribution service quality by forging supplier and customer partnerships and so on. In sum, there are many areas where the philosophical emphases of JIT on waste reduction and service improvement can be applied to improve distribution systems performance.

Adebumiti (2007) reported that the theory of just in time (JIT) emerges as a result of the need to balance demand and supply. The just in time system aims at coordinating the 'How of resources' so that supply exactly matches demand and materials or products arrive as they are needed. Here, it means that the overall objective is aimed at increased sales and revenue generation to the company.

Kumar (2010) viewed JIT as an integrated, problem-solving management approach aimed at improving quality and enhancing timeliness in supply, production and distribution. Godfrey (1999) explains further that quality is an important issue when considering just in time operations. The author observed that the emphasis on quality should promote a discipline within the organization which will ensure that products moving through the system arrive first in time and every time. This is very important because goods need to reach consumer in time and in acceptable quality which in turn increase sales.

2.1.3 The Distribution Centre Concept

The distribution centre concept is a new innovation in warehousing. Kotler, Armstrong, Sanders and Wong, (1999) opine that distribution centres are large, centralized warehouses that receives goods from factories, repackage them into orders and supplies them to customers quickly. The focus of this concept is on movement of

goods rather than storage and as such it is designed for rapid flow of products in the sense that consumers will be well satisfied if he can get the products needed at the right time with minimum effort. The most important aspect of the distribution center concept is that it enhances customer service as well as increasing sales level.

The chartered institute of transport (CIT) in 1997 observed that customer service involves all activities that seek to accept process, invoice customer order and follow up on any activities that have lesser efficiency. The concept ensures product availability by maintaining full product line to a minimum, reduced cost, lower transportation cost, cut storage cost and also facilitates production by receiving and consolidating raw materials and providing final assembly for some products.

The distribution concept is quite relevant to this study in that dairy products are mostly channelled towards consumer goods market and they need to be reached and serviced adequate in other to improve customer service and improve sales level.

2.2 Theoretical Issues

2.2.1 Ullman's Theory of Spatial Interaction

This theory was postulated by Ullman in 1956. The theory explains the reason why movement takes place within a geographical space. The concept establishes the three principles necessary before spatial interaction can take place. This theory has been used to explain the basis of movement between places within the framework of distribution and market mechanism. The three principles are complementarily, transferability and intervening opportunity.

The concept explains the fact that for two spatially separated regions to interact there must be demand in one area and supply in the other area. This implies that geographically some areas are naturally endowed with the ability to produce certain

goods in surplus, while the others are lacking in the production of such goods (Ullman, 1956).

In addition, the area that is at advantage in producing goods as explained above is also lacking in the production of other goods, which may be at the advantage of the other region. Therefore, there must be an exchange of products between these communities, thereby leading to what is called regional integration. It is this complementarily of supply and demand which leads to the movement and spatial interaction between the production point of dairy products and the consumption centers (Ibid).

The principle of intervening opportunity according to Ullman (1956) reducespotential interaction between two complimentary regions due to the availability of alternative supply or demand centers. This could be obstacles to the possibility of interaction taking place between complimentary regions, should there be another area of supply standing in between them. This principle could be well explained using theexample of Dairy (yoghurt) products in the study area. Most of the distributors get there supply direct from SAJ Foods limited.

With regards to transferability, it is the ability to move goods. Transferability also refers to the ease with which the friction of distance is overcome and the transferability of a product is largely determined by cost of movement (time and money), hence interaction will only be possible when time and money cost of transferring goods for distance seem affordable or reduced drastically or even non-existent, despite complimentarily and absence of intervening opportunity. Therefore, one can infer from this theory that Ullman's assumption was base on the fact that regions cannot be independent on their own. That is why there is the need for

interaction to exist in order to gain access to things that are needed but not available in that location. This model therefore helps to explain the role of distribution in the efficient and effective movement of Dairy products from the point of production to the point of consumption.

2.3 Literature Review

2.3.1 Importance of Packaging in Logistic Distribution System

The most important functions of packaging are to contain the liquid, promote milk and provide storage (Lamb, Hair and McDaniel, 2000). Another function which is becoming increasingly important today is the recyclability of the package used. Companies are becoming more environments friendly by using a recycling package, which should result in less waste.

- Containing and protecting products

Packaging allows dairy companies to market milk in specific quantities. Physical protection is another obvious function of packaging. Most products are handled several times before they are purchased or consumed. Packaging therefore protects the product from breakage, leakage or infection of the product. An example of packaging used in the daily industry for milk is the sachet. The sachet is the cheapest form that packaged milk can be purchased in. The sachet packaging, however, is fragile and results in leaking milk. The damaged packaging causes a mess in retail stores and the product remains the dairy company's responsibility until the product is sold. The researcher's previous experience shows that dairy companies lose much profit by using this form of packaging. Some dairy companies are therefore moving away from this packaging and encouraging

consumers to purchase bottled milk. Dairy companies are enforcing this strategy by bringing the price of sachets in line with the slightly more expensive bottled milk, thereby making the consumer choose the more convenient (same priced) bottle over the sachet.

- Promoting products

Packaging differentiates a product from competing products and is also important in establishing a brand's image (Lamb, Hair and McDaniel, 1994). Lucas (1983) suggests that a brand should be clearly recognizable and the package should have a visual impact. Port Elizabeth dairy companies, for example, all use different colours on their milk packaging. Bonnita has red and white sachets, Bushy Park has green and blue and Towerkop has yellow sachets.

- Facilitating storage

Wholesalers and retailers prefer packages that are easy to ship, store and to pack. Consumers, however, look for items that are easy to handle, open and close (Lamb, Hair and McDaniel, 1994). Towerkop, for example, launched a screw top 1 litre bottle of milk. The consumer can therefore easily open or close this container, whilst freshness is maintained by presenting the milk from absorbing other odours.

From the foregoing it's noted that packaging has a significant impact on the efficiency and effectiveness of distribution, where improvement can be enhanced through the adaptation and development of the concept of packaging logistics. In order to achieve these improvements, models are required to facilitate the evaluations along supply chain and picture the activities involved in the packaging logistics process. Although packaging is recognized to be significant on the efficiency of logistical

systems (Twede, 1992; Ebeling, 1990; Lockamy, 1995) and activities such as manufacturing, distribution, storage and handling throughout the supply chain, many packaging dependent cost are frequently overlooked by packaging designed (Twede, 1997). The packaging specifications directly influence the time needed in completing the packaging operations which directly affects product lead time and due date performance (delivery) to customer, (Lockamy, 1995).

Packaging affects supply chain effectiveness because it represents an interface between the customer and supply chain, the end user and enables the chains primary task, i.e. survey and consumers, to be accomplished. This is especially in the FMAH (First moving consumer goods) supply chain. Packaging logistics is a fairy new concept that has during the last years developed and gained increased attention by both industry and scientific community (Johnson, 1998; Twede, 1997, Dominic, Johansson, Lorentzon, Olsmat, Tiliander and westrom, 2000;Ojmertz, 1998; Twede and Parsons, 1997; Henriksson, 1998; Saghir, 2002).

The concept of packaging logistics focuses on the synergies achieved by integrating the systems of packaging and logistics with the potential of increase supply chain efficiency and effectiveness. The improvement of both packaging and logistics related activities is the concentration of packaging development that benefits packaging related activities in the logistical system, often called logistical packaging.

Brody and Lord (2000) observed that there are many components of packaging such as material and equipment that contributes to cost increased in packaging. The cost of packaging may be greater than the cost of the raw product without being packed. The method of achieving greater profit is basically by reducing overall costs of packaging products, and materials used (Stewart, 1998). Most firms engage on

increasing brand share, developing and introducing new products, so as to compete strongly with a new outlook of products packages.

According to Byett, Bruyns, Glover, Oakley, Smithard and Tinkler, (1997) hazard for the product during loading and unloading not only happen at dispatch and receiving points, but also at transhipment point in distribution cycle. Attention should be given to internal handling methods and equipment so as to minimize hazards which are under the packaging companies control; therefore most hazards in the distribution cycle are not controlled. The hazards in the distribution chain that will and can affect the condition of packaging must be identified or known.

Distribution management activity has a distinct value added role to play in enhancing the acceptability of the market (Udo, 2010) packing according to (Adebumiti, 2007) is of one of those cost control measures aimed at lowering distribution cost and enable products to compete strongly in the market place packing is an essential in trade and industrialized part of the world and becoming more important in distribution system in developing country.

The packaging becomes imperative because of increase customers expectation by providing useful information about the product and function. In services outlook to understand packing requires customers focus or direction rather than product requirements. The overall offer, from services involved three parts.

Physical packaging is a requirement for service and the content of the packaging. Packaging can be defined as those activities in the product decision which pertain to the design, manufacturing and filling of the container or wrapper with the product item, in such a way that item can be protected, stored, handled, transported and identified effectively and successfully (Strydom, Jooste and Cant, 2000).

According to Vogt Pienaar and De wit (2005) observed that, packaging is the material which the product or group of products are wrapped and involved of the containment protection allotment and utilization of product, thereby adding convenience to customers and provide them with desired information regarding to the products. Packaging also enhances handling and outlook of products or items which in turn increased flow of goods through distribution channel to the customers or consumer.

Packaging according to levy highlighted three categories of package to primary packaging of products is the main protection line that is directly in contact with the product. It provides a boundary between the product and hazard.

2.3.2 Channels of Distribution

In designing marketing channels, a balance needs to be found between what is ideal what is practical (Kotler & Amstrong, 1996). Channel systems are often developed to make the most of local opportunities and conditions. Certain factors such as consumer service needs, channel objectives and constraints and channel alternatives always need to be considered. Designing the distribution channel starts with finding out what values customers in various target segments want from the channel. For instance, do consumers only want to buy from nearby locations or are they willing to travel to distant centralized locations (Kotler & Amstrong, 1996).

The distribution of fresh yoghurt ,being a perishable product with limited shelf life of about seven to ten days, needs careful planning .It is important that all yoghurt packages have a sell by date printed on the product .This is an indication to the customer of the product's freshness .If the milk is uniformly priced, many customers consider their choice of purchase by checking the shelf life of the yoghurt .Shelf life

has become an important product benefit, which is associated with freshness. As competitive pricing strategies may urge customers to look for other benefits besides price, branding and quality become important .Most milk is delivered daily to various outlets to ensure quality and freshness .The perishable product require more direct marketing due to the shelf life of the product (Kotler,1997).

Modern logistics involves planning, implementing and controlling the flow of goods from the point of origin to the consumer, in order to make profit (Kotler &Amstrong, 1996).marketers today prefer market logistical thinking to that of traditional physical delivery, where distribution started at the plant and low cost solutions were used to get the product to the consumer .A logistics manager now needs to manage the entire supply chain. The tasks therefore include forcasting using information system, purchasing, production planning, order processing, controlling inventory, warehousing, and transportation planning (Kotler & Amstrong, 1996).

Oyedijo (1984) revealed that distribution is a critical marketing function and it deals with how to move goods from the producers to the consumers. That is why Ajiboye (2001) asserted that distribution is an important and complex marketing management variable which makes use of functional middlemen. In other words, in other to avoid the problems faced in the distribution of goods, an efficient and effective distribution channel is required to accomplish these tasks.

Distribution channels are a route through which goods move from the manufacturer to the final end user. Heidingsfield (1965) defined distribution channel as the sequence of markets or discrete exchange which a given product passes through under the supervision and control of middlemen from production point to the consumers. Wentworth (1985) described channel of distribution as asset of institution

which performs all the functions concerned with moving a product and its title fromproduction to consumption.

Oyedijo (1984) observed it simply as the course through which goods move from the producer to the buyer and consist of a series of institutions each of which performs separate marketing tasks to facilitate the flow of goods. Berry (2010) examined the channels of distribution as quality of organization which accomplishes all the tasks concerned with moving a good from production and the point of its consumption (Okon, 2002).

Fawcett and Christopher (1992) identified the channel of distribution as a route taken by a commodity between the point of its production and point of its sale or .consumption. They classified channels of distribution into five stages as follows:

Manufacturer---------Retailer ---------Consumer

Manufacturer .....Own Warehouse.....Retailer.....Consumer

Manufacturer---------Wholesaler's Warehouse---------Retailer.....Consumer

Manufacturer .....Retailer's Warehouse outlets .....Consumer

Manufacturer---------Third party distributor.....Retailer---------Consumer

Further explained that no matter the route taking by a product, the main objective is that it moves from its production point to its final destination.

2.3.3 Distribution Channel in Transport Logistics

Although the focus of this is on distribution logistic, it is important to view distribution as a decisive factor in an organizations marketing strategy. Hudson (2008) cited in Kotlers (1984) definition of marketing which entails the importance of logistic distribution as a major catalyst of marketing process. The process of planning and executing the conception, pricing, promotion and distribution of ideas, goods, and services to create exchange that satisfy individual customers and organizational objectives.

Distribution was defined by different authors under "place" element in an organization marketing mix for instance Kotler and Armstrong, (1989; 1996) and Stanton and futrell (1996) went further and viewed "distribution as synonymous with the term 'place" in the marketing mix. Dikki (2006) and John (2012) supported this point of view and emphasized the critical impotence of distribution in the marketing mix.

Distribution has been a critical aspect in the logistic and operational success of diary factories. For instance, soft drink giant and fan milks have achieved incredible success in their operation. It is also observed by Oyedijo (1984) that the importance of 'distribution' as part of the marketing mix depends upon the organizations needs to get access to international markets.

Distribution decision therefore is among the most important decisions that management faces, as directly affect every other marketing decision (Kotler & Amstrong, 1996).The company's pricing for example, depends on whether it uses mass merchandisers or speciality stores, similarly, the sales force and advertising decisions depend on how much persuasion, training and motivation the distributors need.

Whether a firm develops or acquires certain new products may depend on how well those products fit the abilities of the channel members. Furthermore, efficient physical distribution is of great importance for successful marketing, as physical distribution costs have increasingly become an important marketing cost (Kotle & Amstrong,1996) .Physical distribution of milk includes the planning of refrigerated warehousing ,modes of transport and stockholding.Corsten and Gruen (2003) highlighted the necessity of understanding how to get access to the customer to deliver the marketing message and the organization's products and services. Tielemans (2012) agreed with the view and emphasizes the importance of designing (distribution systems) to serve as a framework for making the organization's service available for customers.

2.3.4 Distribution Channel Selection

Tielemans (2012) named the selection of distribution channel as having influence on every other decision making. Various criteria were investigated to determine how to choose the distribution channel in the wider marketing contexts. Nouf and Thomas(2012) emphasized seven key criteria in relation to determining the quality of the channel, its dependability (consistency of services); time in transit; marketing coverage; the ability to provide door to door services; flexibility (handling and meeting the special needs of shippers) loss and damage performance and the ability to provide more than basic product delivery services.

2.3.5 Empirical Studies

Haruna (2010) has conducted a research on the problems associated with inter-regional movement of agricultural products from Zaria. The study identified major problems hindering the effective distribution of Agricultural produce as lack of efficient and effective storage facilities, high cost of transport, harassment by land enforcement agency and bad road.

The work by Adebumiti (2007) examined transportation and distribution of bottled products in Ibadan, the outcome of the study indicated that the effectiveness of distribution network based on the number of transport vehicle available at point in time in the system. Olasumbo (2001) the study revealed that transportation and distribution plays a significant role in the marketing of consumer goods which in turn enhances customer service and increased sales. Furthermore, Adebumiti (2013) has studied the distribution constraints of Dangote Obajana Cement, He found that the problems associated with Dangote cement distribution were that of inadequate spare parts ranked first while stoppages at road check points and bad roads hinders effective and efficient distribution of cement to various point of sales. The study also revealed that distribution system plays an integral role in transportation of cement.

Luis (2009) carried out a study on the logistics of dairy collection between New Zealand and Brazil. The author suggested that all dairy products should be moved from production plant to the market so as to avoid damages or lose. The study also noted that lack of quantitative and qualitative storing facilities in developing countries hinder the successful operation of many industries in the region. Another study by Yusuf (2010) was on the evaluation of production and marketing of San Yoghurt in Zaria. The study found that delivering of product, quality and beautiful packaging ensured customer's satisfaction in the study area.

The review of literatures has established the fact that effective distribution system is paramount to the producers of Yoghurt or soft drinks. Also there is the need to have an efficient transportation system in place, so that the product gets to distribution outlets or point of sales in good condition. Road transportation also plays a significant role in the sense that Yoghurt products are moved through road transportation. In conclusion, most of these literatures have in one way or other

expressed significant aspects of distribution only, however not much have been done about the constraints of logistics distribution of dairy products. As such, this study seeks to address the major problem facing SAJ Foods Limited.

CHAPTER THREE: STUDY AREA AND METHODOLOGY

3.1 The Study Area

3.1.1 Location and Size

The North-west zone lies between latitudes 7^{o}N and 13^{o}N and longitude 3^{o}E and 10^{o}E. It is the third largest of the six Geo-political zones of the country and lies on a land area of about 216,263km^2 (ABUCONS, 2007). The component states of the zone are seven, which comprises of Kaduna; Kano; Katsina; Jigawa; Zamfara; Sokoto and Kebbi states

3.1.2 Climate

Generally the region is influenced by five rainfall regimes. First is the area or zone characterizes with mean or annual rainfall of between 2032-2540mm, which is dominant around the southern part of Kaduna state. The second is the zone with mean annual rainfall of 1270-1524mm that dominated the central part of Kaduna state. Third is the zone with the mean annual rainfall of between 1010-1270mm, covering the northern part of Kaduna state as well as the southern parts of Katsina, Kebbi and Zamfara states. The fourth zone had a mean annual rainfall of between 762-1016mm, which stretches across Kano state and the southern part of Jigawa state and the central parts of Katsina and Zamfara states as well as the southern parts of Sokoto and Kebbi states. The fifth zone characterize with mean annual rainfall of between 508-762mm, which dominated areas around the extreme north of Sokoto, Katsina and Kebbi states (ABUCONS, 2007).

3.1.3 Geology

The crystalline basement complex dominates the southern section of the region. It is associated with highlands of the Hausa plains. The complex is undifferentiated mete-sediments of quartzite and granites. The younger granite of Jurassic age are exposed by the rugged hills of Kano and Zaria sub-regions. Sand, Mudstone, Shale and Limestone known as Rima group, are associated with the northwestern parts of the region. The Gundumi and Illo groups are to the east of the Gwandu formation, consisting of continental grits and clays. Tertiary sediments (the Sokoto group) are found in the Sokoto area making up the Gwandu formation. Many parts of the zone are covered by laterites consisting of thick layer of ironstone. The eastern part of the region around Jigawa state has extensions of the Chad formation, consisting of thich series of clays and Sands (ABUCONS, 2007).

The basement complex formation are not generously endowed with economic minerals. Gold and Tin are found around the younger granites, other solid minerals associated with the crystalline formation are Tantalite and Asbestos around Tsafe in Zamfara state; Kyanite, Graphite and Iron in Birnin Gwari area of Kaduna state; and Gold deposits at Anka and Maru areas of Zamfara state. Ceramic minerals of Koalin and Ball clay deposits are associated with some areas in Kano and Katsina states; and semi precious stones, (Amethyst) with the Zaria area. Deposits of Limestone and Gypsum are found in the Sokoto area (ABUCONS, 2007).

3.1.4 Economic Activities in the zone

The major economic activities characterizes the region is mainly puplic sector driven. The private sector appeared to be unorganized and underdeveloped having a marginal economic contribution in Jigawa and Kebbi states, but higher around the

industrial axis of Kano and Kaduna states. More so, the activity of the private sector is mainly in the secondary and tertiary sectors of the economy (ABUCONS, 2007).

The major economic activity in the zone is Agriculture which employs about 70% of the zone's population. However, this Agriculture that appears to be the major occupation in the zone is carried out mainly subsistence enterprise. The share of economic activity taken by the manufacturing sector is generally low in the region (ABUCONS, 2007).

3.1.5 SAJ Foods Limited Zaria

3.1.5.1 History of Establishment

Historically, what today constitute SAJ food limited (formerly known as SAJ Nigeria Enterprises) started as a small scale business. This was in December, 2000 when the proprietor established a small scale production firm and sales depot in Zaria, Kaduna state- Nigeria to produce yoghurt from milk powder. The experiment proved successful and consequently in November 2001, a small scale factory was set up in Zaria.

Exponential increase in demand for the company's product due to its quality and nutritional value among other things necessitated the establishment of a second factory (large scale), which was commissioned on the 8th of January, 2003. SAJ Foods Ltd is a sole proprietorship business owned fully by its Director/CEO, Alhaji Sanusi Abdullahi Abubakar. It boasts of over 100 staff at present and hoping for 100% increase in the future.

It has been one of the company's greatest achievements to have sold over 46.2 million liters of yoghurt before its first anniversary. At the moment the company operates two (2) factories within Zaria metropolis. The company was registered by the Corporate Affairs Commission on the 24th of June, 2002 with RC. No. (5101611) and

also identified with a Nigeria mark of quality (NIS) nob.FT-679. It is also registered with the National Agency for Food and Drug Administration and control (NAFDAC) on the 23rd of April, 2003. The company now manufactures yoghurt and flavoured drink

The company has in stock different varieties of yoghurt such as the one litre (LT), half litre (HL), 33cl bottle (flavoured and non-flavoured), 33cl Sachet, *BE* 23cl Sachet, 18cl Sachet, 10cl Sachet, and also many varieties of flavoured drinks with the introduction of Sip-Sip flavoured drink. The production capacity of the firm was 50 thousand litres per day.

3.1.5.2 Organizational structure of SAJ Foods limited

A modern organizational structure that has elements of line and staff with modified attributes to suit the company's peculiarities is used by SAJ Foods Limited. This is to ensure effective and efficient attainment of the goals and objective of the company, both in the long run and the short run.

Broadly speaking, there is a management team headed by a managing Director who is the Chief Executive of the company and deals with the day to day running of the affairs of the company. Under this Managing Director is directly his Personal Assistant who is a staff adviser to the Managing Director and he's answerable to him. Next to the Managing Director is the general Manager are divisions headed by Managers or divisional heads as they are sometimes called. By this is meant that the company is so divisionalized. The classifications of the divisions are broadly into six namely: the Productions Department, Marketing Department, Human Resources Department, Purchasing Department, Finance Department and Transport Department.

Under the Production Manager, there is the head of Production and under him are the production team and packers. The marketing Department has a manager and an assistant manager answerable to the manager. Under them are the field sales officers and marketing staff who are within the company. Also under the Human Resources manager is an assistant under who are the supervisors, the secretaries and securities. Under the purchasing manager are the purchasing officers and store keeper. The Finance Manager has under him the Chief accountant who is answerable to him. Under the accountant are accountants and the cashier. Lastly, the Transport division has the Chief transport Officer as its head and under him are drivers and maintenance officers who take care of the companies vehicles.

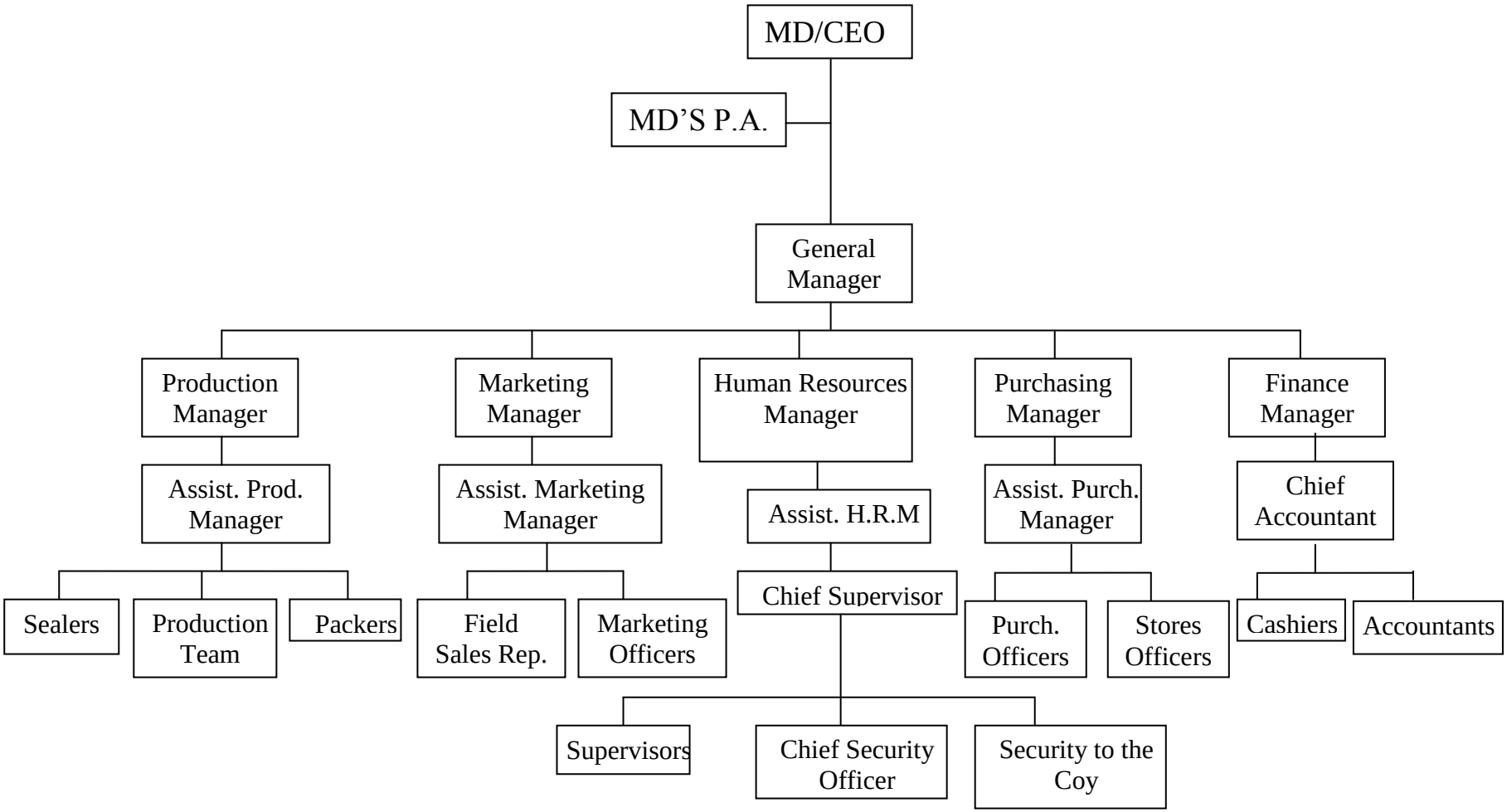


Figure 3.1: Organogram of SAJ Foods limited, Zaria.

Source: The Author's work, 2013.

3.2 Methodology

3.2.1 Reconnaissance survey:

A reconnaissance survey was done, both within the company's premises and the major distribution depots across the seven states, particularly the state capitals. This is to enable the researcher have a better view on the various form of logistics distribution methods adopted by SAJ Foods.

3.2.2 Types of Data

The following are primary data and utilized in carrying out this research

- Type of goods produced in SAJ Foods Limited
- Quantities of goods distributed
- Production stages in the firm
- Method of order placement
- Duration for order processing
- Distribution method of the firm
- Delivery pattern/method of conveying goods
- Types of distribution facilities
- Reason for distribution of SAJ Foods products
- Distributors' peak period of business
- Transportation distance covered.

- Products' shelf life at various depots

3.2.3 Sources of Data

Two sources of data, primary and secondary were useful in the course of conducting this research.

3.2.3.1 Primary Source. These data include information acquired through reconnaissance survey, questionnaire, interviews and the researcher's observations. Some of these data included types of goods, type of vehicles used, storage facilities and transport cost and distance covered etc. All these were obtained from the field.

3.2.3.2 The secondary source: these were acquired through the use of textbooks, thesis and internet materials, as well as publications related to logistics and distribution methods, which were used mainly for literature review. Other important data were acquired from the various departments within the company; such departments include marketing, production and research department.

3.2.4 Sample Size and Sampling Techniques

The sample size was designed to cover all the distributors' across the seven states and management staff of SAJ Foods Limited. The population of the study were distributors, which are ninety five (95) in number and management staff of the Firm, which are twelve (12) in number. The sum total of the population was 107. The distribution of study population and questionnaire administered are shown in Table 3.1.

Table 3.1: Sample Selection

Category of Respondents	Population	Percentage	No of Questionnaire administered
Distributors	95	88.8	76
Management staff	12	11.2	8
TOTAL	**107**	**100**	**84**

Source: Author's Field work, 2014.

The sample size was determined using Taro Yamene (1967) formula:

Formula $n = \frac{N}{1+Ne^2}$

Where n = sample size

N = Population size

e= level of significance

1 = constant

Based on the sum total of the population for the study which is 107, and by substitution with level of significance of 0.05.

$$n = \frac{107}{1 + 107\ (0.05)^2}$$

$$n = \frac{107}{1 + 107\ (0.0025)}$$

$$n = \frac{107}{1 + 0.267}$$

$$n = \frac{107}{1.267} = 84$$

$$n = 84$$

Out of this sample size (which is 84) 10% (or 8 copies) were administered to management staff of the firm, while the remaining 90% (or 76 copies) were administered to distributors. The copies of questionnaire were distributed using systematic random sampling technique, where management staffs were arranged hierarchically, and then one was left out after picking every two of the management staff. This process was continued until the required sample was obtained. On the other hand, the distributors were arranged according to their States in alphabetical order (Appendices A) where first four were selected and the fifth one was left, until the sample size was exhausted.

3.2.5 Method of Data Analysis

The data collected, for example type of goods produced, quantities distributed, customer demands, distribution depot, among others were analyzed using simple descriptive statistics. The data obtained were presented in form of tables and charts.

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Socio-Economic Characteristics of Respondents

4.1.1 Age of Respondents

Table 4.1 shows the age distribution of respondents. The table reveals that majority of respondents fall within the age of 30-39 years and accounted for 46.4%, followed by 21.4 percent for those between the ages of 40 -49. The result of the analysis further indicates that 14.3% are range 20-29 years, while those between the age group of 50-59 years and above 60years accounted for the 13.1% and 4.8%, respectively. The higher proportion of 46.4% for the age range of 30-39 years was basically due to the fact that respondents fall within their active productive age. The lesser share of respondents above 60 years is perhaps attributed to nature distributing activities which require personal involvement into the matter. Finally all distributors irrespective of age are given the same play ground for the distribution of SAJ Foods products.

Table 4.1 Distribution of Respondents by Age

Age Group of respondents	Frequency	Percent
Less than 20 years	0	0.0
20-29 years	12	14.3
30-39 years	39	46.4
40-49 years	18	21.4
50-59 years	11	13.1
60 years and above	4	4.8
Total	**84**	**100**

Source: Author's field work, 2014.

4.1.2 Educational Background of Respondents

Figure 4.1 shows the educational background of respondents. It revealed that majority of respondents 42, representing 50% percent are those with tertiary qualifications. Further analysis reveals that 31 respondents 36.9% had secondary certificates as their qualification, followed by 9 respondents 10.7% with primary certificate. The table also reveals that 2.4% are those without any form of formal education. The findings also reveal that tertiary qualifications holders participated in the distribution with the help of their boys because most of the distributors had other activities which consumed their time, while those with lesser qualifications were fully engaged in the distribution of the firm products.

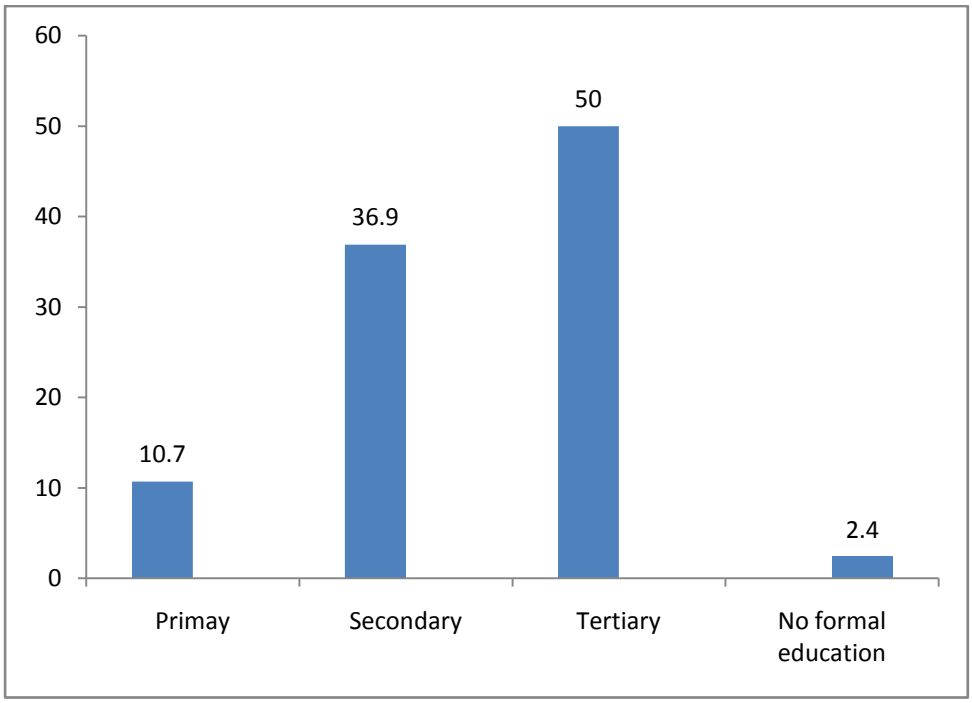


Figure 4.1: Educational Background of Respondents

Source: Author's field work, 2014.

4.1.3 Other Occupation of Respondents

Figure 4.2 illustrates other occupations of respondents apart from distributing SAJ products. It shows that 29 respondent 34.5% are also in civil servants, followed by 21 respondents or 25% for those without any other occupation apart of being distributors. The figure also revealed that 9 respondents or 10.7% were also into farming as their secondary occupation; while 19 respondents 22.6%are into other occupations e.g. tailoring and petty business. Lastly there are 6 respondents or 7.1% with no response. The respondents with no other occupations were observed to be directly engaged in the distribution of SAJ Foods products without employing any helping hands.

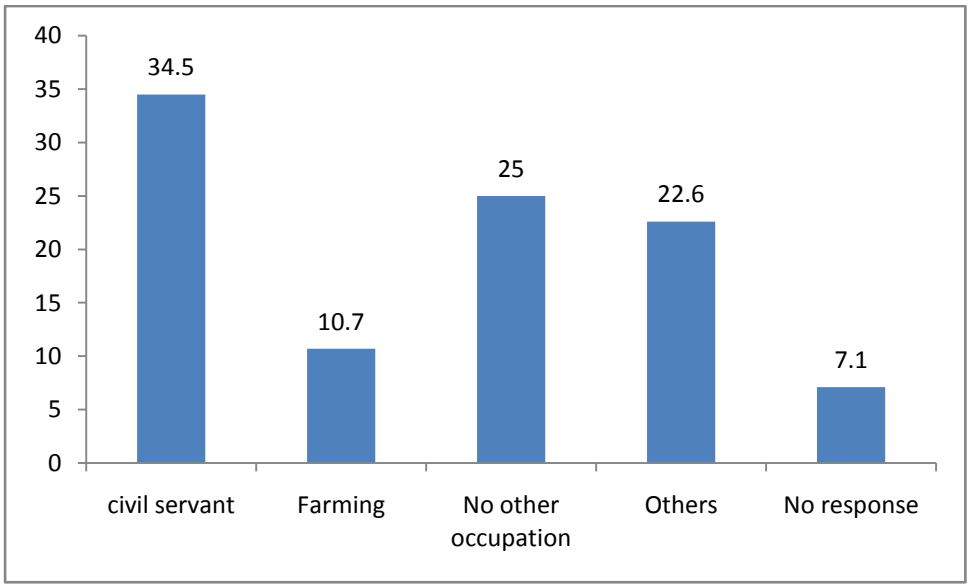


Figure 4.2: Other Occupation of Respondents

Source: Author's field work, 2014

4.1.4 Monthly Earning of Distributing SAJ Foods Products

Table 4.2 shows earning income of distributors of SAJ Foods limited. It shows that majority of respondents (37) representing 44.0% had an income of between ₦50,000 and 100,000. Likewise 26 respondents (or 31.0% earned less than ₦50,000. The table also

highlights that 16 respondents 19% earned ₦100,000 to 150,000, while 4 respondents 4.8% had income between ₦150,000 to 200,000 and lastly 1 respondents 1.2% earned above ₦200,000. The analysis justified that distributors of SAJ Foods products are making profit based on the turnover of distributors.

Table 4.2 Average Monthly Income of Distributors

Income in Naira	Frequency	Percent
Less than 50,000	26	31.0
50,001-100,000	37	44.0
100,001-150,000	16	19.0
150,001-200,000	4	4.8
Above 200,000	1	1.2
Total	84	100

Source: Author's field work, 2014.

4.2 Inventory of Products and Production Stages

4.2.1 Inventory of products

Yoghurt is the major products of SAJ Foods limited followed by juice, the varieties and sizes of different categories of goods produced by the Firm are shown in table 4.3 below.

Table 4.3 the various types of products produces by SAJ Food limited, Zaria

Bottles	Sachets
330ml yoghurt	230mlBe yoghurt
500ml Hlt yoghurt	230ml Bg yoghurt
250mlQlt yoghurt,	330mlBex yoghurt
1000ml yoghurt	150ml,Smb yoghurt
350ml, plate ordinary yoghurt	150ml Sbg yoghurt
400ml, plate V.I.P yoghurt	100ml Sm yoghurt,

Source: Marketing Department, SAJ Foods

4.2.2 Method of Packaging in SAJ Foods

The packing of bottles products are in different sizes which dependent on the category of product itself and revealed in Table 4.4. The sachet products are packed 50 pieces per packaging polythene, except *Sm* which is 100 pieces per packed, before onward delivery to distributors, see plate 4.1.

Table 4.4 Quantity per SAJ Food Products Pack

Packaging by Quantity	Number of Pieces Per Pack
1Litre	10
500ml Bottle	20
330ml Bottle	25
250ml Bottle	30
Plate	30
Plate V.I.P	12

Source: Production unit, SAJ Foods.



Sbg and 330 ml



Sm yoghhurt



HL and 330 ml



B e Yoghurt



Bg Yoghurt



1 L Yoghurt

Plate 4.1 Products Packaging in SAJ Foods Limited, Zaria.

4.2.3 Production Stages in SAJ Foods Limited

4.2.3.1 Flow Chart for Yoghurt

Cold water, of 1000 litres and 200kg of powdered milk is poured into a mixer of 2200 litres, hot treated water 1,830 litres is added to the mixture to raise the volume and temperature to about 1500L and 75ºC-80ºC respectively. Pasteurization then takes place for about 15minutes and the mixture is allowed to cool naturally to about 40ºC-45ºC. Prepared starter culture 3litres is added and mixed properly. The mixture is then drained into 240litresPVC vessels arranged in the fermentation chambers and allowed to ferment for 7 hours at 40^0C-45^0C, under the influence of energy bulb, and a tarpaulin covered chamber.

4.2.3.2Preparation of Starter Culture

20 litres of a PVC vessel, a mix of 1g DVS culture, 4kg of milk, hot water of about 85°C is added to a volume 10 litres Cold treated water is added to make up the volume to 20 litres, and to bring the temperature to about 75^0C by observing the thermometer. The mixture is allowed to naturally cool, until a temperature of 40ºC-45ºC is reached through observing the thermometer and then fermentation proceeds for about 7 hours.

4.2.3.3Preparation of Sugar Syrup for Each 240L PVC Vessel

Hot water of volume100 litres and temperature approximately 100ºC is added to 200.6 kg of sugar, and stirred properly until the sugar dissolves almost completely to form a syrup. The mixture is then covered and allowed to pasteurize for ten minutes. After pasteurization, 7litres of the syrup is fetched, and transferred into the PVC vessels containing the fermented yoghurt of 228litres to make the volume up to 240litres. The yoghurt is then blended for about four minutes, sieved and then passes through two channels as follows:

- To the dispenser for the bottled and plate yoghurt,

- To the automatic packaging machine for sachet yoghurt.

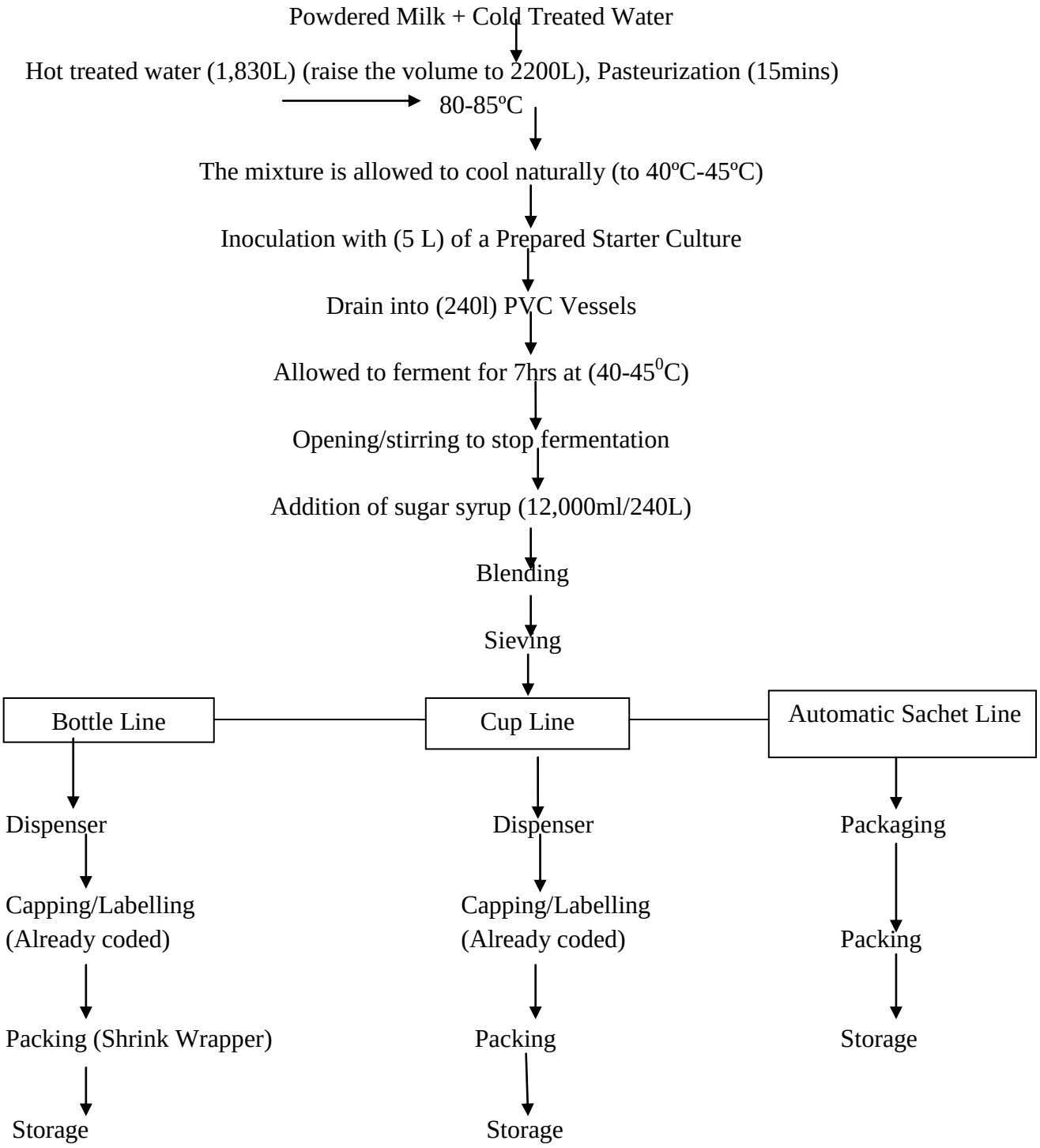


Figure 4.3Production Flow Chart (Yoghurt)/2200 Litters

Source: The Author's Work

4.3 Distribution Methods in SAJ Foods Limited

The structure employed by the firm in distribution of its product include all aspects of outbound logistic, in such a way that product passes through many processes before reaching the end user.

Manufacturer---------Wholesaler---------Retailer--------Consumer

Manufacturer---------Wholesaler---------Sub-distributor---------Retailer--------Consumer

Manufacturer---------Wholesaler---------Consumer

The proportion for each of the above mention chains of distribution in SAJ Foods limited is indicated in figure 4.4 having 48.4 % being the highest and 13.4 % being the lowest.

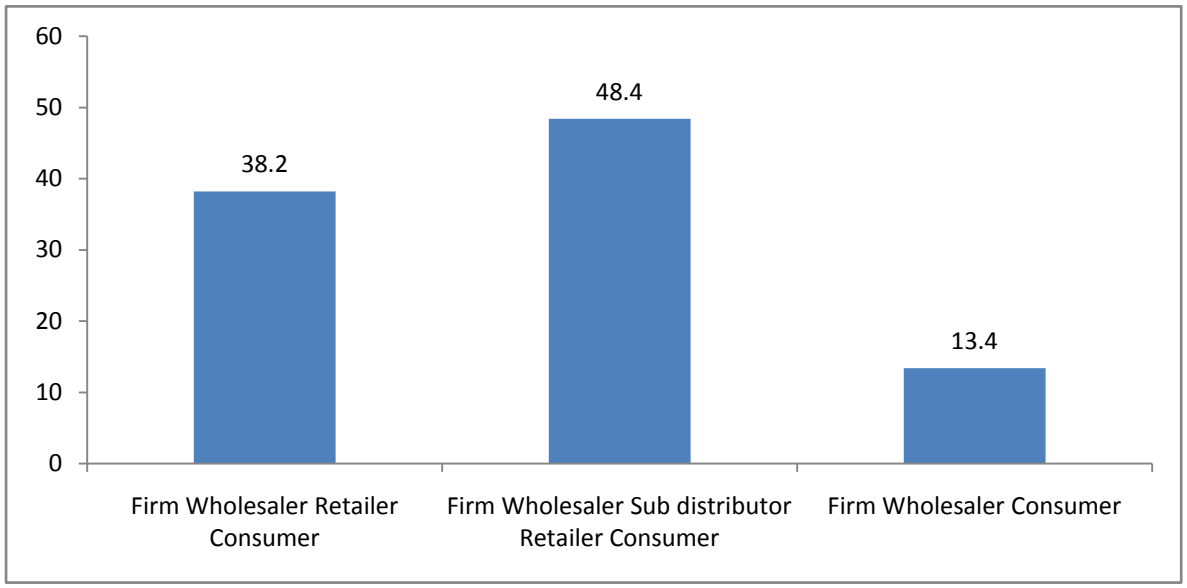


Figure 4.3: Distribution Methods of SAJ Foods

Source: Field survey, 2014.

The results of the analysis revealed that, the firm enjoyed long chain of distribution where by more people are involved in the process of making the products available in most of the states within the study area thereby bringing about high turnover. The cost price from the firm seems to be attractive because of the profit margin to accommodate the sub distributor and in a nutshell the final prices are not affected by the chain and in fact more efficient, more products are distributed. The shortest chain of distribution gives little room for engaging more people and perhaps compare with long chain the turnover is low.

4.3.1 The Distribution Chart

The production department is responsible for the products and packaging of all varieties of goods produced by SAJ Foods. After a successful production is completed the goods are forwarded to the Quality Control Section, where the products qualities are examined and certified. It is during the examination process that the products are classified as accepted or rejected products. After this form of classification, the accepted products are channelled to the marketing unit, while the rejected products are returned back to the production unit.

The marketing department do receive orders placed by individual distributors. This unit is responsible for the processing of such orders, after which the unit come up with successful and unsuccessful orders. At this point, the unsuccessful orders are expected to be placed again by the affected distributors, while the department releases the successful orders based on scheduled days.

This marked the time when distributors can have their products with respect to their category of orders. Finally the products are dispatched from the company for onward delivery. However, even after reaching destination (to various individual distributors), the

products can be returned when there is any defect. After which, the various distributors come for their goods on scheduled time given by the firm.

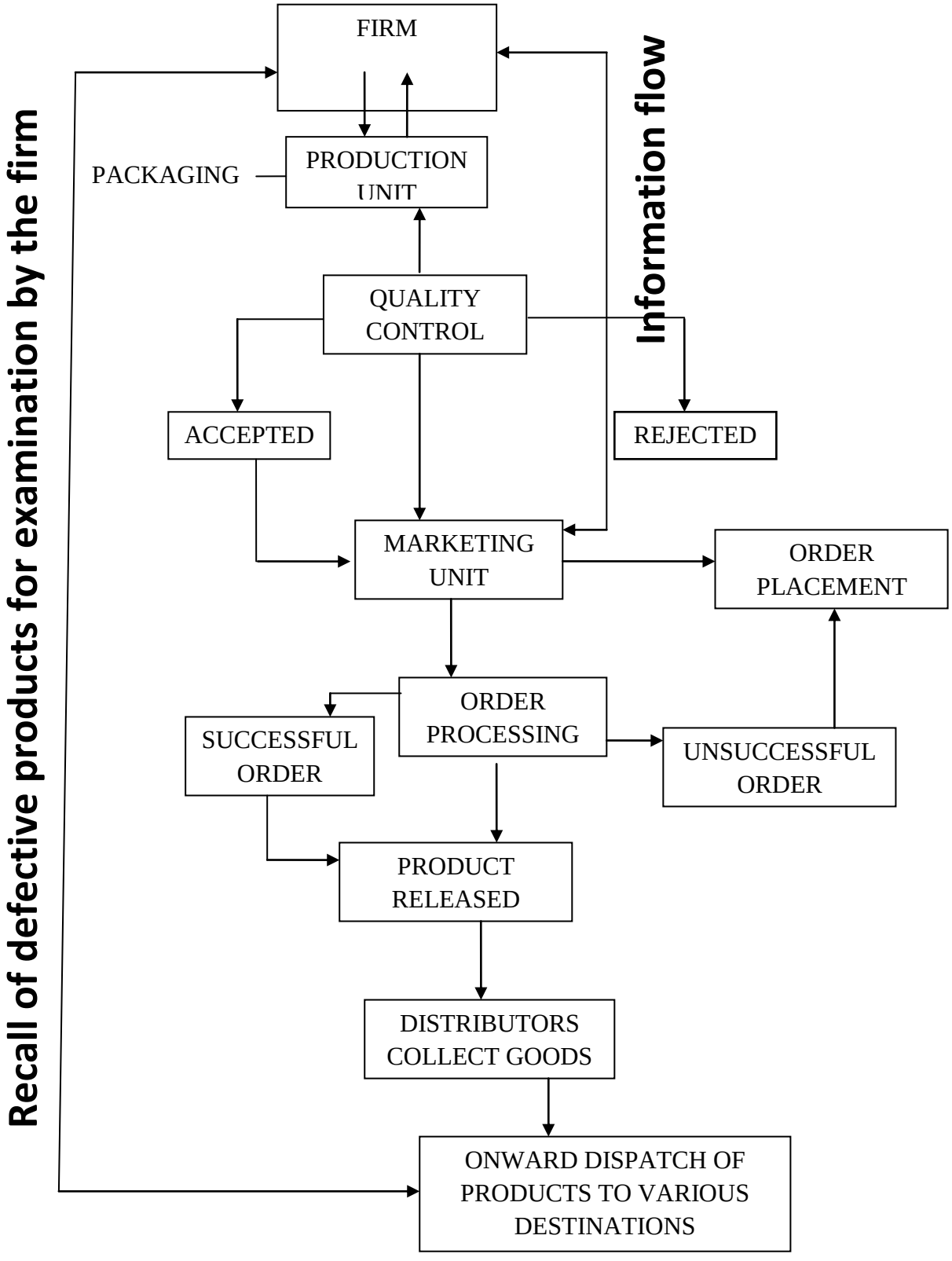


Figure 4.4: Distribution Chart in SAJ Foods Limited

Source: The Author's work, 2014.

4.3.2 Methods of Order Placement in SAJ Foods limited

Figure 4.5 revealed distributors means of request or order for products of the company. It revealed that 71 respondents representing 84.5% usually channel their request direct to the company, followed by 9 respondents or 10.7% which were channelled through agents. The higher proportion of respondents with 84.5% placed their request directly to the firm, because it is faster. The finding reveals that direct order placement is more efficient.

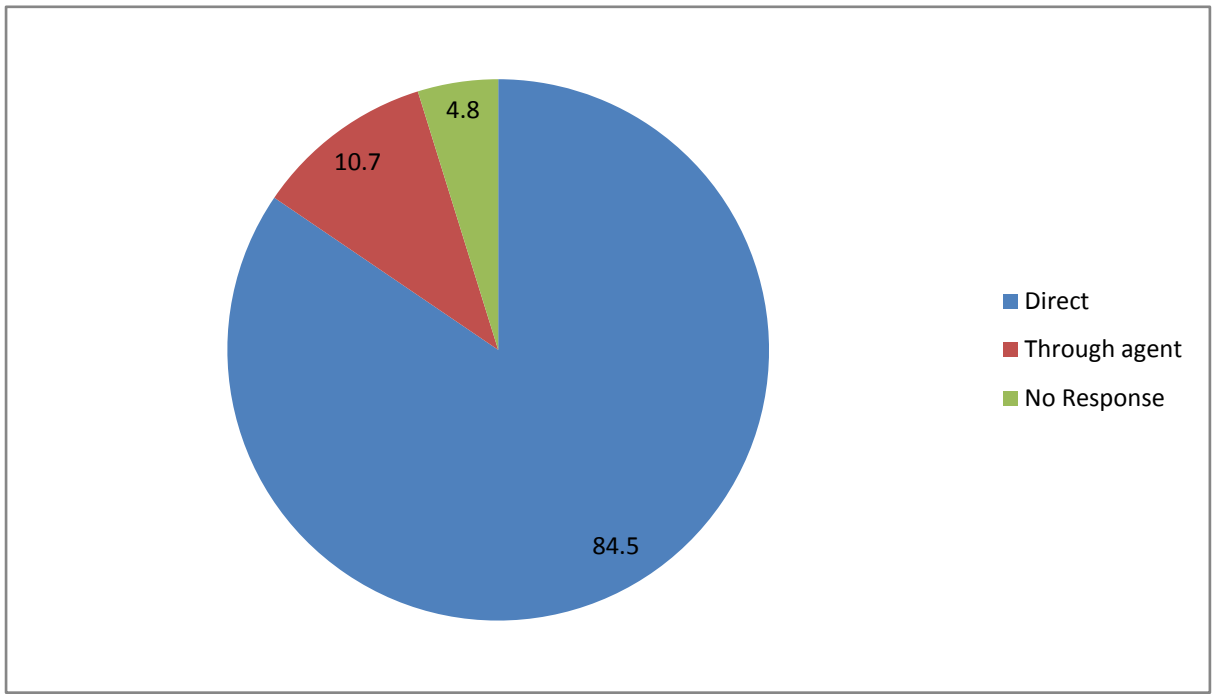


Figure 4.5: Means of request channelling in SAJ Foods

Source: Author's field work, 2014.

4.3.3 Time Duration for Order Processing in SAJ Foods

Table 4.4 reveals the distribution of respondents by duration of order processing. It shows that most of the respondents 42.9%have their order processed in 2 to 3 days, followed by 27.4 % for 3 to 4 days. In the same vein, 21.4%, 2.4% and 6.0% are for the respondents whose their order duration lasted for 1 to 2 days, 4 to 5 day and above 5 days respectively.

The highest share of 42.9% implies that most of the order is processed within 2 to 3 days after order placement has been achieved. The distributors received goods some once, twice, in a week depending location and demand.

Table 4.5: Distribution of Respondents by Order Processing Time

Days	Frequency	Percent
1-2 days	18	21.4
2-3 days	36	42.9
3-4 days	23	27.4
4-5 days	2	2.4
Others	5	6.0
Total	84	100

Source: Author's field work, 2014.

4.3.4 Types of Goods Distributed by Respondents

Figure 4.6 illustrated the various categories of goods distributed by respondents. Majority of the respondents 64 or 76.2% distributed yoghurt product, as against 5, representing 6.0% for those who distributed sip–sip. However 15 of the respondents, representing 17.9% distributed both yoghurt and sip-sip. The higher proportion for 7. Yoghurt 76.2% was justified by the fact that yoghurt is the major product produced and more consumed product of firm. There were distributors that patronised all the products because some customers preferences'.

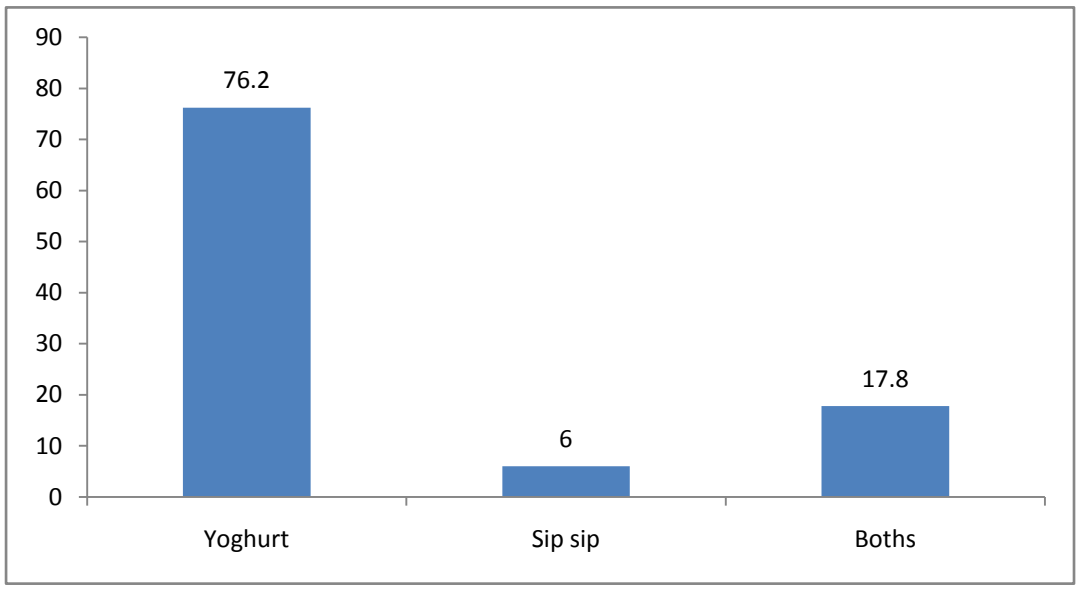


Figure 4.6 Types of Goods Distributed by Distributors

Source: Author's field work, 2014.

4.3.5 Cumulative Goods Purchased by Distributors

Table 4.5 indicates the respondent's view on quantity of goods (Bottles and Sachets) supplied to their depot. The table reveals that some distributors, with 30.1% received quantity of goods range between 10,000 – 20,000 pieces per transaction, followed by 30,000 to 40,000 pieces with a share of 28.6%. More so, 1000 to 10,000 pieces accounted for 16.7% while 20,000 to 30,000 pieces amounted for 15.5%. Lastly the table also reveals that only a small proportion of distributors accounted for 8.3% who received quantity of goods above 40,000 pieces. The lesser proportion of 8.3% was basically due to the company's policy of payment before receiving goods as well as limited quantity of products to shared among the various distributors mostly during peak transaction period which are between March to June and on most moving products like 330ml bottle, 230ml sachet, 150ml Sachets. (Marketing Manager SAJ Foods Limited)

Table 4.6: Cumulative Goods Purchased by Distributors

Quantity	Frequency	Percentage
1000-10000pcs	14	16.7
10001-20000pcs	26	31.0
20001-30000pcs	13	15.5
30001-40000pcs	24	28.6
Above 40,000pcs	7	8.3
Total	84	100

Source: Author's field work, 2014.

4.3.6 Cumulative Sachet Products of SAJ Foods Limited Sold to Distributors for the Month of March 2013

Figures 4.7 reveals the most consuming sachet products were Sms (100ml) and Smb (l50ml) because of the small nature of there sizes and affordability by customers. Therefore these category of products are vitually high at Kano, Kaduna, Katsina. The analysis further elaborated that 230ml of Sachets is the next most patronizing products in the market, despite its price which is higher than 100ml and 150ml, though with greater quality. The content of 330ml sachet was the highest among the sachet products, yet the least interms of patronge by customer, the quality was the same with 230ml but differs in content and price.

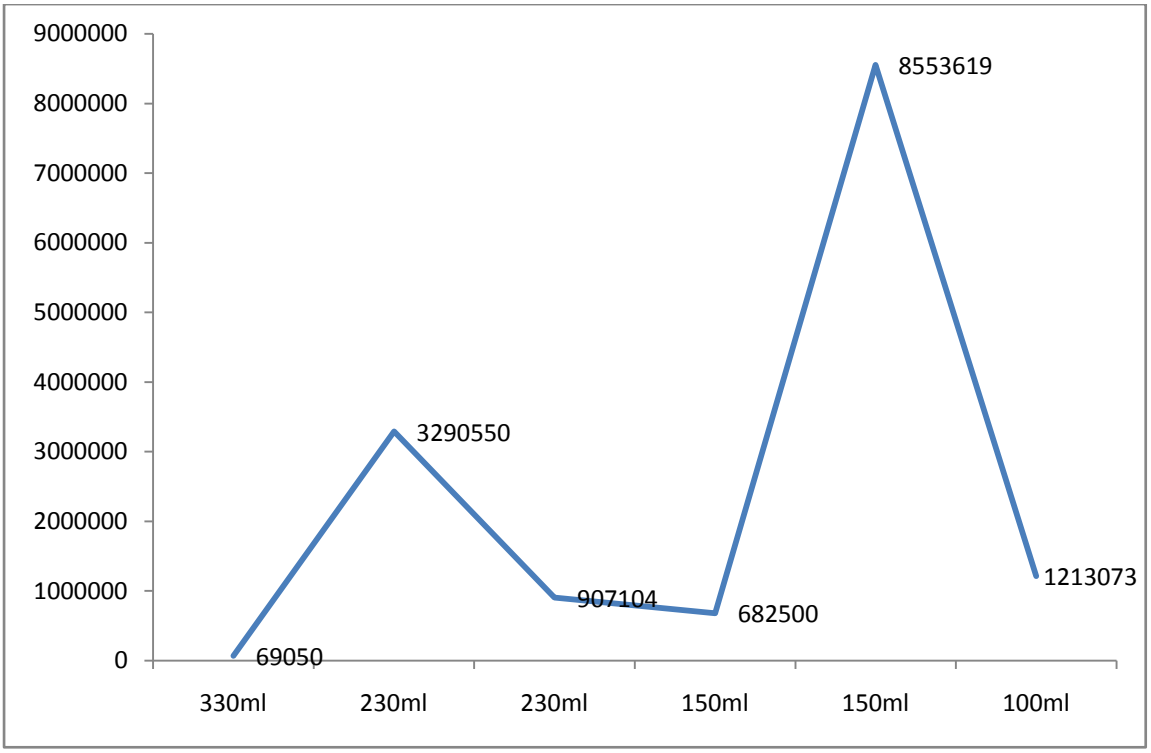


Figure 4.7 Production of Sachet for the Month of March 2013

4.3.7 Cumulative Bottle Products of SAJ Foods Limited Sold to Distributors for the Month of March 2013

Figure 4.8 reveals that 330ml bottles was the most consumed products, because most yoghurt producers used 330ml bottle because of its small size same in nature except the 400ml VIP pack that is in plate with high viscosity meant for some class of people, they patronise the product because of its high quality but its price is higher compare to the small bottle. The 330ml bottles are found in all the distribution outlets.

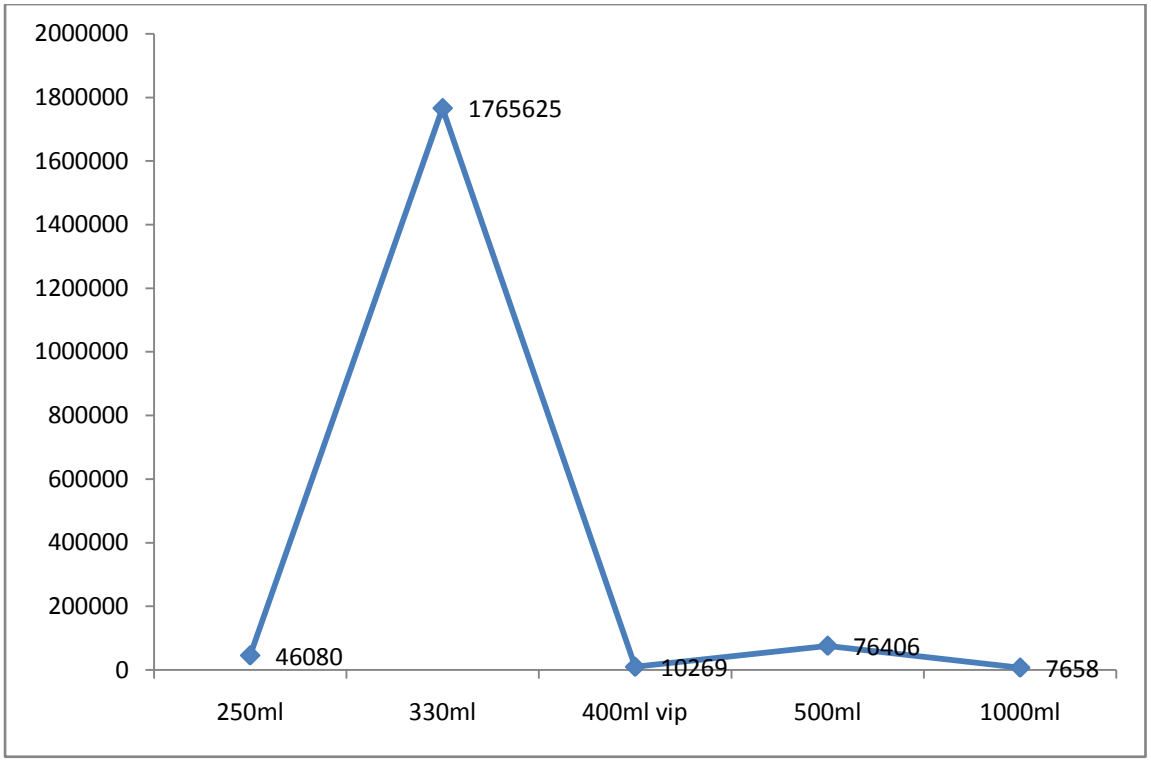


Figure 4.8 Cumulative Bottles for the Month of March 2013 in SAJ Foods

Source: Field survey, 2014.

4.3.7 States and their Cumulative Consumption for the March 2013.

Figure 4.9 reveals the consumption rate of the states where Kaduna was the highest in products patronage because of distance and availability of the product as well as nature of facilities used, while Kano ranked 2nd followed by the least consumption rate being Kebbi state and it was the farthest away from the location of firm, the decrease in the consumption was as a result of distance and availability of close substitutes products from other competitors.

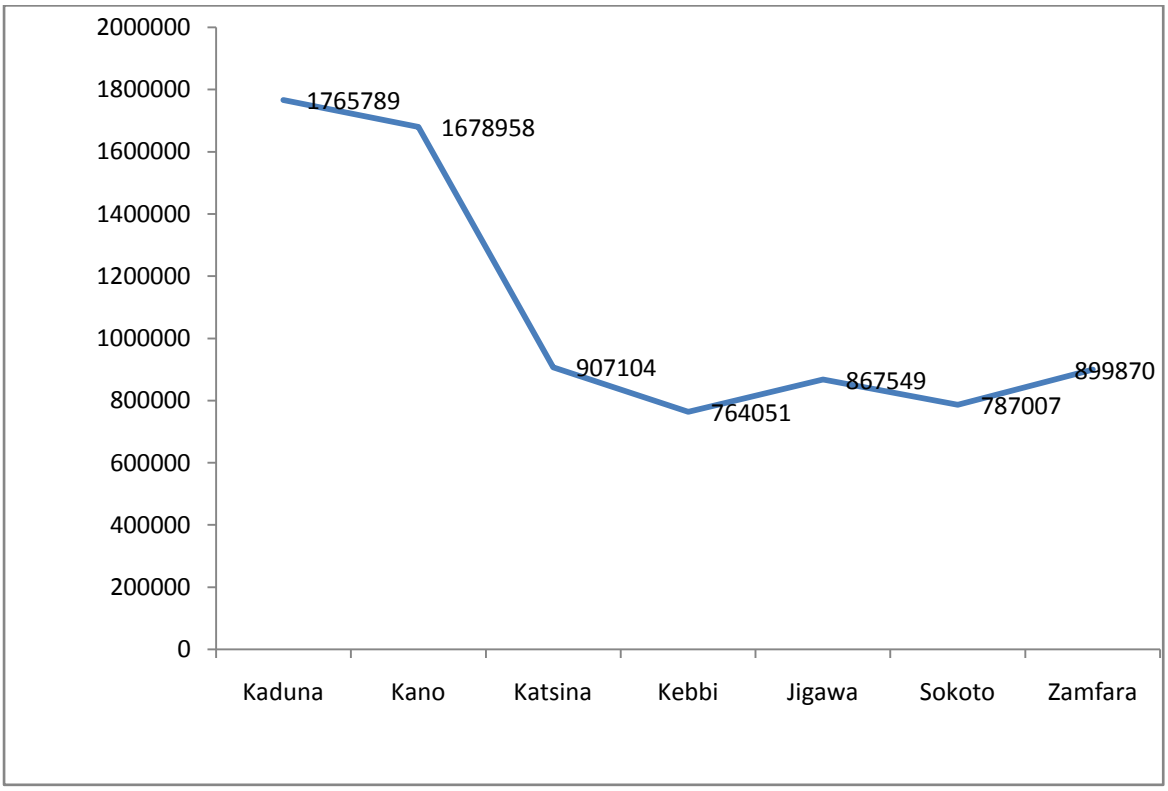


Figure 4.9: The Shares of SAJ Food Products According to States in Northwest Nigeria

Source: Author's field work, 2014

4.3.8 Factors Determining the Distribution of SAJ Foods Products

Figure 4.10 reveals why distributors engaged in distributing SAJ foods products. The figure highlights that majority of the respondents, representing 47.6%, are those who considered product quality as their major factor for distributing SAJ Foods products. The figure also reveals that profit-making as indicated by 22 respondents' 26.2 % become second is also a factor among distributors. The remaining 15 respondents, 17.9%, and 7 respondents, 8.3%, are for product market and access to the product respectively. The higher proportion of 47.6% for product quality is in line with the statement "the only way to earn strong confidence, increase profit and reduce loss of high net worth individual and corporate

customers to other companies is through the production of quality goods, as perceived by customers are the reason for the establishment of the firm" (Adedeji, 2005).

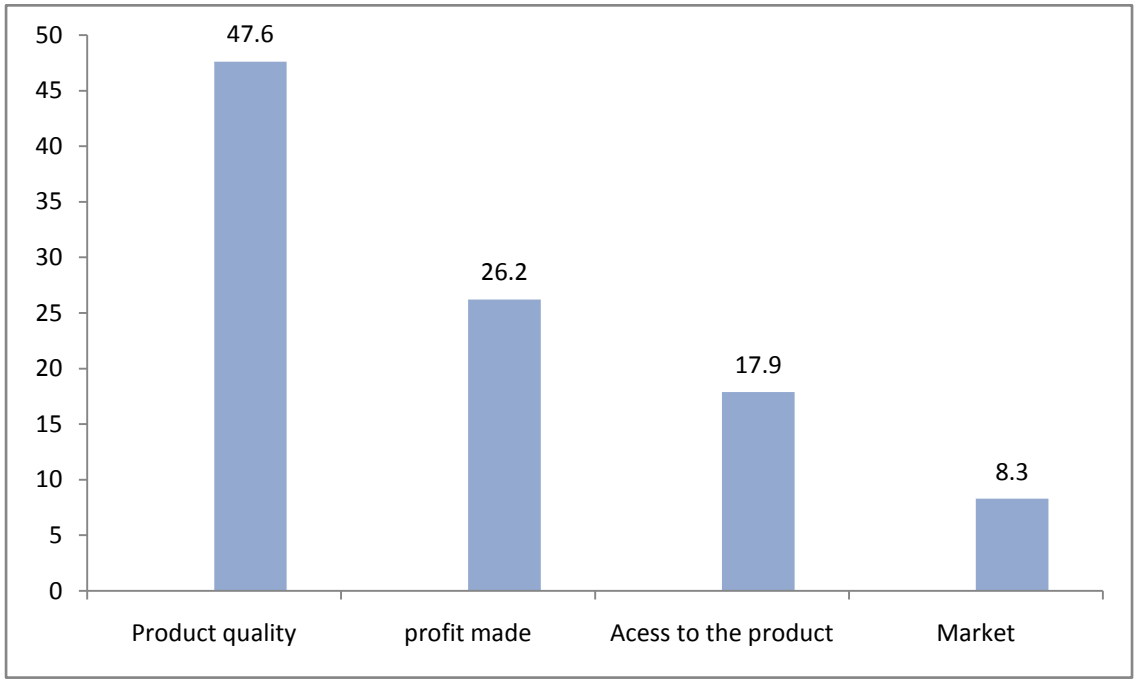
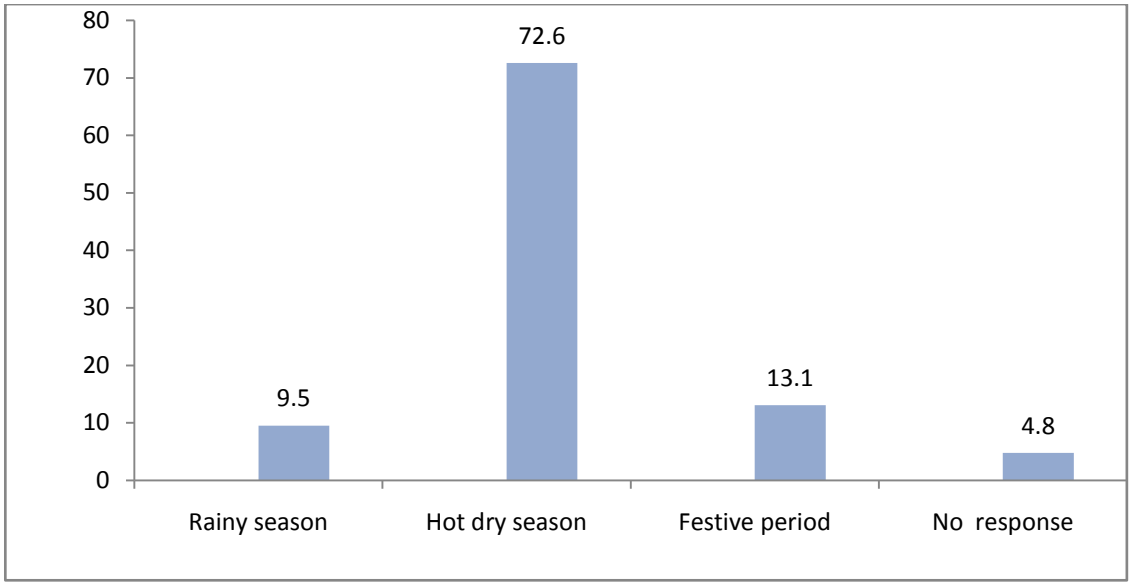


Figure 4.10 Reasons for Involvement in Distributing SAJ Foods Products

Source: Author's field work, 2014

4.3.7 Distributors' Peak Period of Transaction with SAJ Foods Limited

Figure 4.11 indicates the respondent's peak period of market. The response shows that a greater number of respondents, 72.6 percent, affirmed that summer period (i.e. .March to June) is the peak period of business, while 13.1 % are of the opinion that festive periods (Like Sallah, Christmas and new year) are the peak periods of business, while 9.5% considered rainy season as the peak period for their business. The higher ratio of 72.6% for hot dry season is perhaps due to the harsh weather associated with the area. This made consumption of the products to be very high to the extent where by the firm could not meet the increasing demand posed by its customers based on its facilities on ground at the time of this research.



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Figure 4.11: SAJ Foods Products Peak Periods

Source: Author's field work, 2014.

4.3.8 Distribution Facilities Used in Conveying SAJ Foods Products

Table 4.6 reveals the distributors conveying facilities for distributing SAJ foods products. The majority of respondents 36.9% use buses as conveying facility, followed by 34.4% who use minivan. The values on the table further shows that 8.3% of respondents used cars as conveying facilities, while 7.1% used cold van. In the same table other means of conveying facilities (Tricycle & Motorcycle) accounted for 31.1%. The majority of the respondents with 36.7% used buses due to its low carrying capacity as their distribution facilities and the fact that the cold vans owns by the firm are grossly inadequate. The buses are used mostly for distribution in Kaduna state, while mini vans are used for Kano and Katsina, while cold van are used for Sokoto, Kebbi and Jigawa states due to distance and harsh weather. The NAFDAC office of those states authorises the use of cold van facilities for the conveyance of perishable products from distant areas.

Table 4.7: Distribution Facilities Used

Facilities	Frequency	Percentage
Cars	7	8.3
Buses	31	36.9
Mini vans	29	34.5
Cold vans	6	7.1
Others	11	13.1
Total	84	100

Source: Author's field work, 2014.





Bus Delivery Facility **Mini Van Delivery Facility**





Car Delivery Facility for SAJ Products Cold Van Delivery for SAJ Products

Plate 4.2 Facilities Used in the Distribution of SAJ Foods Products

4.3.9 Existing Load Carrying Capacity of SAJ Foods

The findings on the study reveals that, the firm had established standard carrying capacities for various hierarchies of distribution facilities based on quantities whether the

facilities are owned by the firm or commercially owned vehicles. It is also observed that most of the commercial vehicles operators violate the standard and overload, which is more common in buses and minivan, see plate 4.2.

Table 4.8 Existing Load Carrying Capacity in SAJ Foods

Types of Vehicles	Product Specifications	Recommended carrying capacity	Existing Situation
Cars	Sachets	5000 pieces	5500 pieces
	Bottles	3000 pieces	3000 pieces
Buses	Sachets	10000 pieces	13000 pieces
	Bottles	6000 pieces	7500 pieces
Fords	Sachets	20000 pieces	25000 pieces
	Bottles	15000 pieces	17000 pieces
Cold Vans	Sachets	60000 pieces	60000 pieces
	Bottles	35000 pieces	35000 pieces

Source: Author's Field Work, 2014



Plate 4. 3 Car Over Loaded with Yoghurt

4.4.10 Distribution Distance Covered with SAJ Foods Products within the Study Area

Figure 4.12 shows spatial distribution extent of SAJ food products within the study area. The figure shows that, majority of the respondents 32 representing 38.1 % covered a distance of between 101 to 200 kilometre followed by 28 representing 33.3 % for less than 100 kilometres .The analysis reveals that, 19 representing 22.6% stands for those with spatial coverage of between 201 to 300 km while 5 representing 6.0 % extended to 301 to 400 km.

The higher % of 38.1 reveals that majority of the SAJ Foods products are consumed within the radius of 100 to 200 kilometers, see figure 4.13.

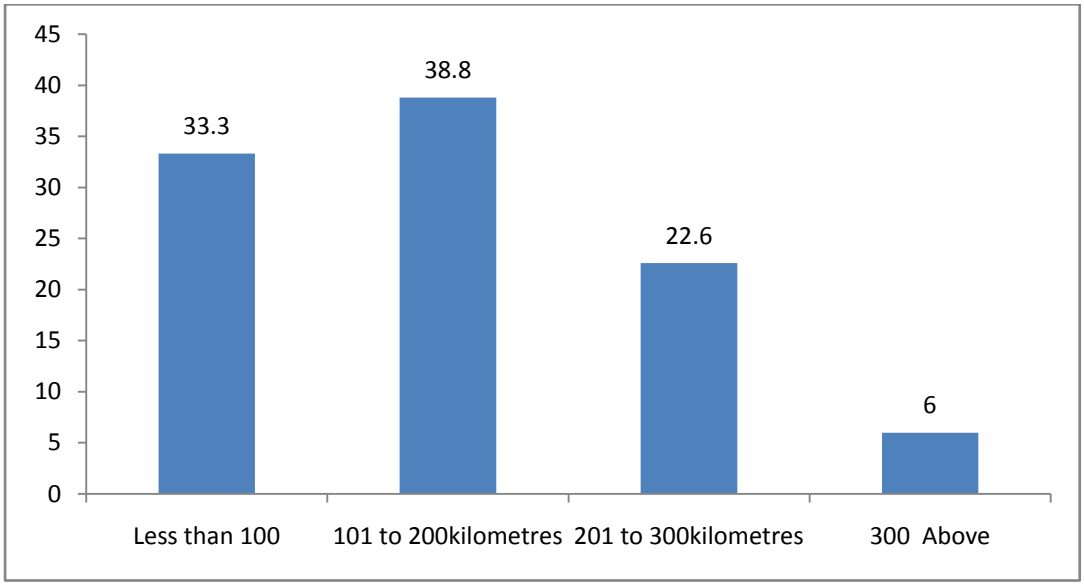


Figure 4.12 Distance Covered by SAJ Foods Products

Source: Author's field work, 2014.

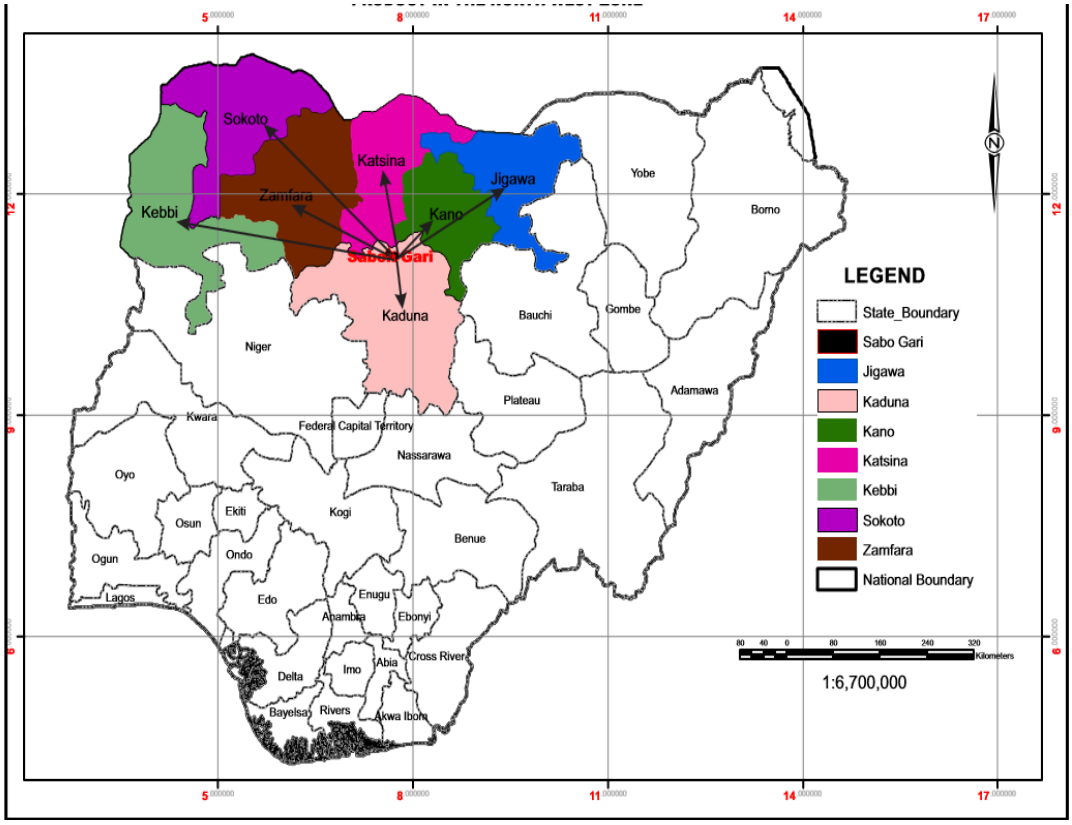


Figure 4.13 Distance Covered by SAJ Foods Products

Source: Field Survey, 2014.

4.4 Distribution Constraints

4.4.1 Duration for order processing in SAJ Foods required by distributors

Figure 4.14 shows the respondents' choice of order processing time. The figure indicates that most of respondent 20 representing 23.8% want their order to be processed in one day, followed by 14 representing 16.7 % less than one day. While 5 representing 6.0 % for those who like their order to be processed in 2 days. The higher proportion of the respondents with 23.8 % signifies that most distributors are not satisfied with current order processing time in SAJ Foods.

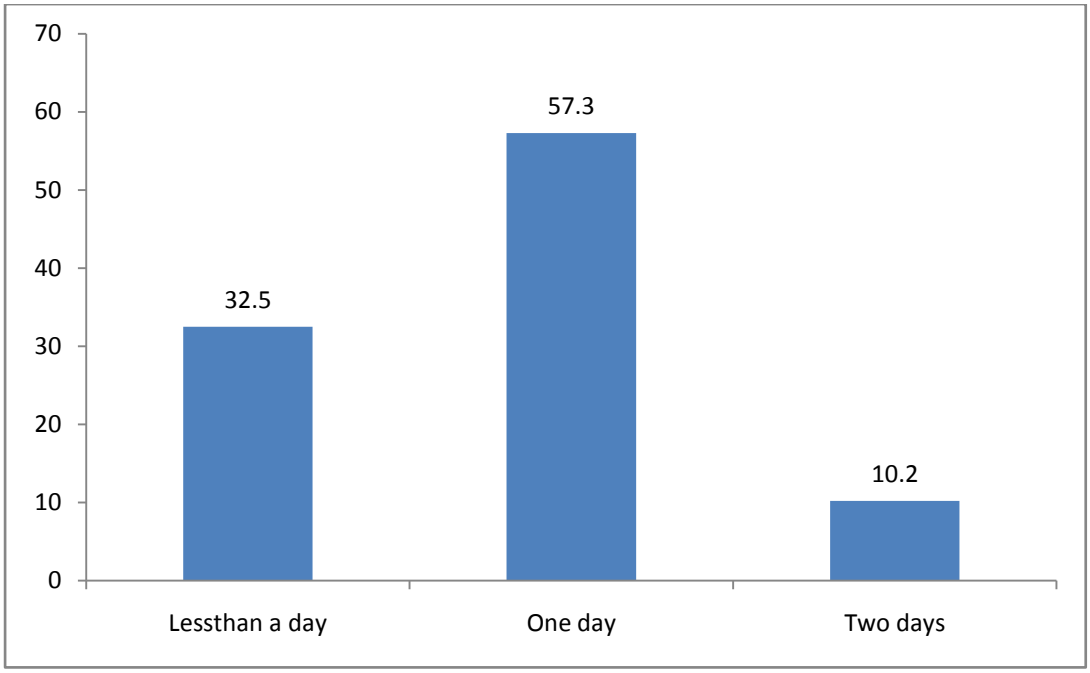


Figure 4.14: Desired Duration for Order Processing in SAJ Foods Limited

Source: Author's field work, 2014.

4.4.2 Required Time for Products to Reach Destinations

Figure 4.15 reveals the respondents suggestion about the time frame needed for goods to reach distributor's outlet. It shows that majority of respondents, with 48.8 percent, are of the view that it should not take more than 2 to 4 hour for product to get to their depots, this is followed by 29.8 % that suggested 1 to 2 hour, while 17. 9 % and 3.6 percent are for 4 to 6 hours and above 6 hours respectively. The higher proportion of respondents with 48.8% reveals need for the firm to regulate on the possible time limit required by the company's product to reach Sokoto, Kebbi, because of distance and harsh weather in dry hot season in order to regain the designated quality of the products.

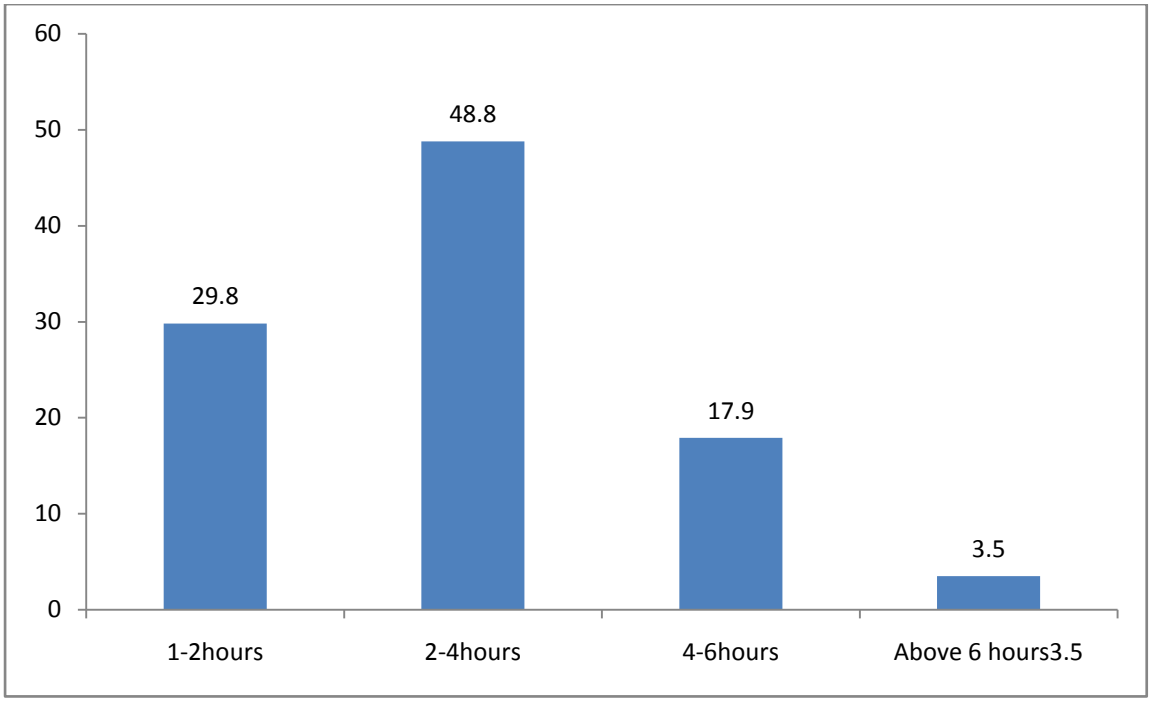


Figure 4.15 Appropriate Time Duration for Products to Reach Destination

Source: Author's field work, 2014.

4.4.3 The Products Shelf Life at Individual Depots

Table 4.8 shows the shelf life of goods at various depots across the study area. It has been revealed that 66.7 percent of respondents being the majority agreed that 6 to 7 days was the maximum life span of the products. This is followed by 14.3 %maintained that 5 to 6 days was the maximum. The table further highlights that 7.1 % of respondents said 4 to 5 days; 3.6 % were for 2 to 3 days and 3.6 % for 3 to 4 days. The higher proportion of 66.7 % justifies the fact that SAJ Foods Limited produces qualitative product that can meet the customer's requirement.

Table 4.9: The Shelf life of SAJ Food Products at Various Depots

Days	Frequency	Percent
2-3 days	3	3.6
3-4 days	3	3.6
4-5 days	6	7.1
5-6 days	12	14.3
6-7 days	56	66.7
No response	4	4.8
Total	84	100

Source: Author's field work, 2014.

4.4.4 Time for Exhausting Purchased Products at various Depots

Table 4.9 shows respondents time frame for exhausting goods at various depots. It reveals that 40.5 % of respondents selected 2 days, being the period used in disposing their supplied products; 31.0 % believed that, their goods were usually exhausted within 3 to 4 days as against 19% that disposed their products on daily basis. The analysis also shows that 8.3 percent agreed that their products become exhausted within 4 to 5 days

Table 4.10: Time for Exhausting purchased Products

Days	Frequency	Percent
1	16	19.0
2	34	40.5
3-4	26	31.0
4-5	7	8.3
No response	1	1.2
Total	84	100

Source: Author's field work, 2014.

4.4.5 Major Distribution Constraints in SAJ Foods limited

Figure 4.16 Distribution problems associated with SAJ Foods products is contained in figure 4.15. It indicates that 55 respondents, representing 65.5 %, considered improper time scheduling as the major problem, while 21 of them, representing 25.0 % considered used of commercially owned vehicles. It further shows that 6 respondents, representing 7.1 %, viewed poor delivery facilities, while 2 respondents 2.4 % cited bad roads and insecurity as an issue. The improper scheduling affects the transaction with the firm because most order placed by distributors is not always meeting the request based on the present facilities as well as the attitude of the staff toward time for distribution, transporting are not considered as priority which finally resulted in delay in delivery as well as product defects.

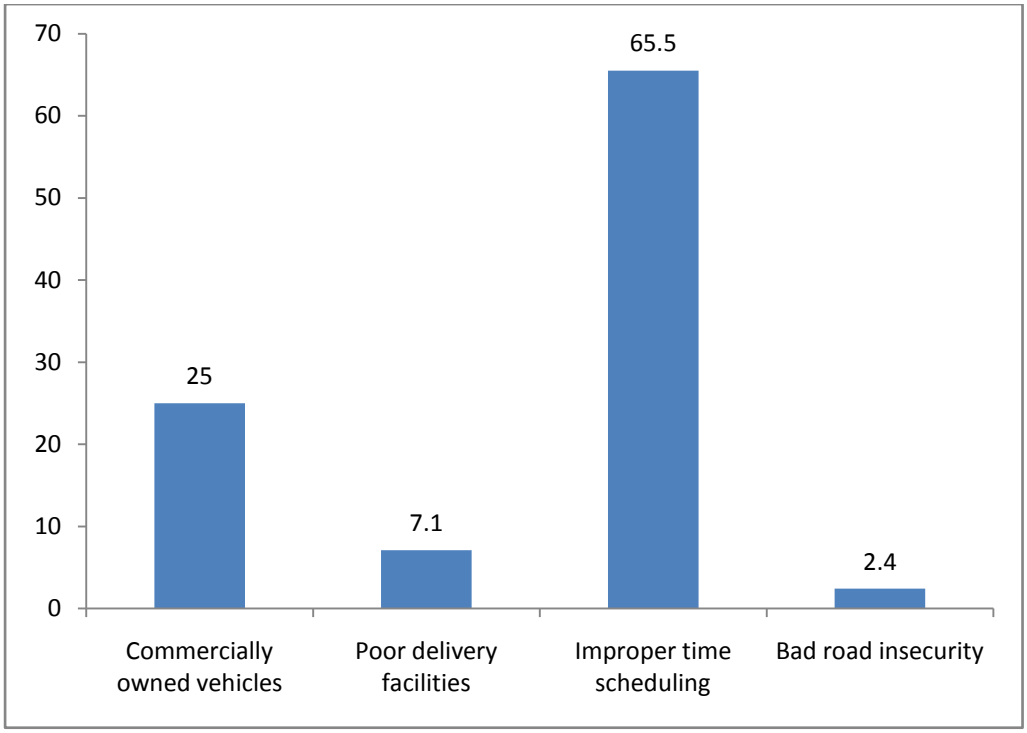


Figure 4.16 Major Distribution Problems of the Firm

4.4.7 Storage facilities used at various depots

Figure 4.17 shows the distributors storage facility at various deports. The figure indicates that 41 representing 48.8 percent used cold room as storing facility followed by 32, representing 38.1 % uses deep freezer, also in the figure, 8 respondents 9.3 % had fridge as storing facility while only 1 representing 1.2 % use other means of storing facility. The higher ratio with 48.8 % of distributor uses cold room as their storage facilities signifies that, they are the major consumers of sachets products kano, Kaduna and katsina.

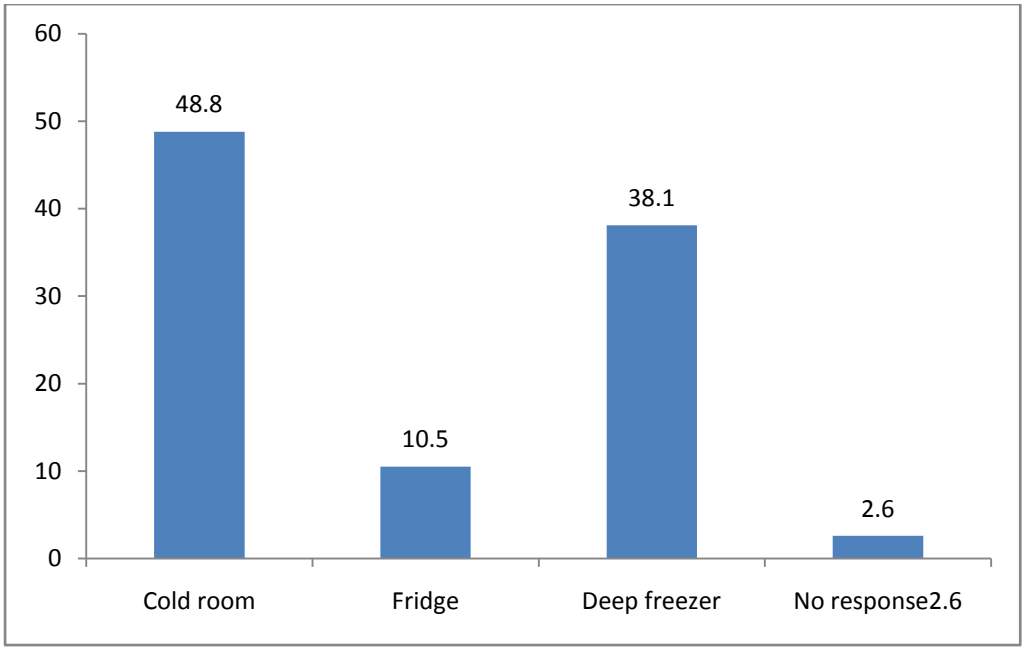


Figure 4.17 Storage Facilities Used at Various Depots

Source: Author's field work, 2014.

4.4.6 Effects of other Competitors' Marketing Strategies on SAJ Foods Products

Figure 4.18 shows the distributor's response on the influence of other competitors' marketing strategies on SAJ Food products. It entails that 29 respondents representing 34.5 % were of the opinion that other competitor's likely affect the business, while 21 representing 25.0 were neutral; that is the figure also revealed that 19 representing 22.6 % were of the opinion that they were not likely to affect the business and also 11 representing 13.1 %, believed likely to affect the business. The higher proportion of 34.5 % implies that, the effects of other competitor's affect the business if chance is given by the firm then the competitors may take advantage of deficiency and take over part of the market. In summary no matter the quality of products produced by the firm could not guarantee continuous patronage unless the firm provide more effective and efficient flow of product to from origin to destination and at right time and least cost that consumers are willing to pay for it.

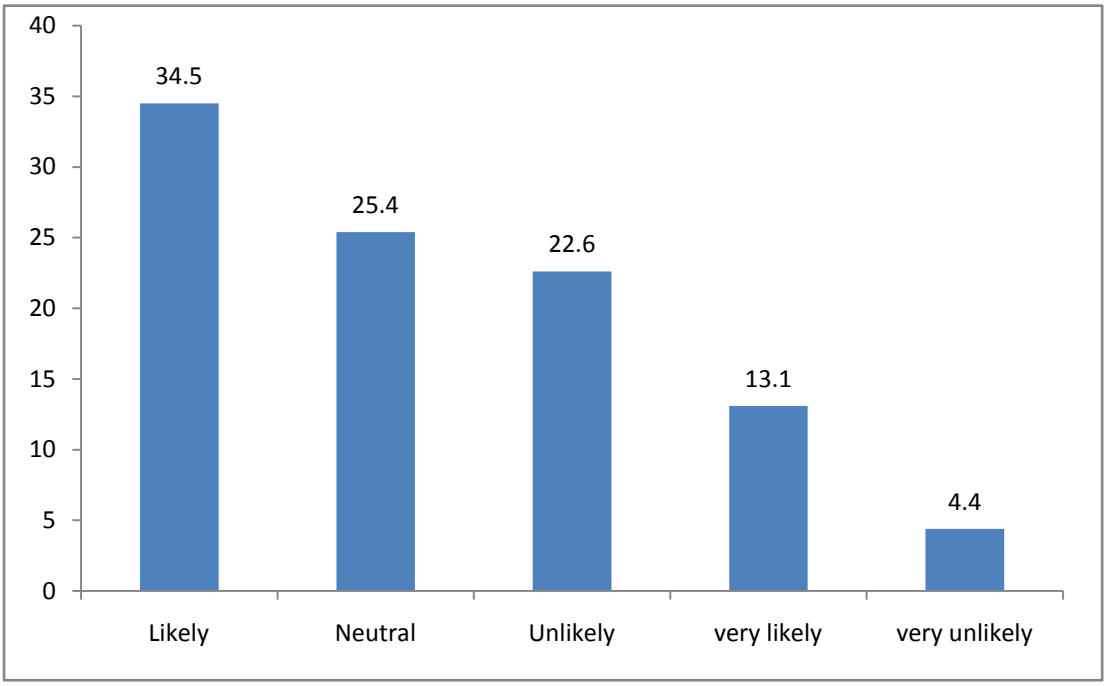


Figure 4.18 Magnitudes of Competitors Effects on SAJ Foods Products

Source: Author's field work, 2014.

4.4.9 Measures Suggested by Distributors to Overcome Supply Shortage in SAJ Foods limited

Table 4.10 depicts respondent's view on possible measures for the company to overcome supply shortage at various outlets. The analysis on the table reveals that majority of respondents accounted for 33.3 %, are of the view that, the company can overcome the problems of shortage in supply by mere improvement of distribution pattern. Secondly a share of 26.6 % suggested an increase in production while 25.0 % suggested for provision of high capacity machine. Increased labour, and others opinion accounted for 4.8 % and 8.3 % respectively.

Table 4.11: Respondents Suggestions to Overcome Supply Shortage

Suggestions	Frequency	Percent
increased production	22	26.2
Increased labour	4	4.8
Provide high capacity machine	21	25.0
Improvement of logistics	28	33.3
Others	7	8.3
No response	2	2.4
Total	84	100.

Source: Author's field work, 2014.

CHAPTER FIVE: SUMMARY, CONCLUTION AND RECOMMENDATIONS

5.1 Summary of Major Findings

This study was an attempt to assess the logistics distribution methods employed by the firm in the process of making its products available for consumption within seven states in the Northwest geopolitical zone comprising of Kano, Kaduna, Katsina, Sokoto, Zamfara, Kebbi and Jigawa states of Nigeria. The findings revealed that most of respondents fall within the age of 30 to 39 and were civil servants. The company produce two categories of products. i.e Yoghurt and Juice, and employed three chains of distribution method.

The order of the product were placed direct to the firm and processed within 2 to 3 days. The peak of the firm was dry hot season. The 330ml bottle was the most patronized among bottles products, followed 100ml and 150ml on the sachets products. It was also reveals that most of the products are consumed within 100 to 300 kilometres. The production capacity of the firm as at the time of conducting the research was 50 thousand litres per day. The shelf life of the products at various depots was also found to be 7 days. The facilities used in distribution of the product were owned by the firm and commercial operators. The storage facilities used by most of the sachets consumed states like, Kaduna, Kano, katsina, used cold rooms because of the freezing capabilities.

The findings further revealed that order placement in the firm needs to be treated on daily basis as most of the distributors disposed their products within 2 days after receiving the products from the firm. The results also indicated that releasing and conveying finished products from the firm to various depots was found to be slow thereby affecting the performance of distributors and perhaps reduced turn over. Majority of respondents convinced that marketing strategies of competitors has a direct implication on SAJ Foods

products in a nutshell most of the respondents suggested for improvement in the distribution methods and increase in production.

5.2 Conclusion

Effective and reliable distribution process of perishable products from the production plant to the various points of sales is essential for better performance of dairy companies irrespective of its geographical location. The distribution process in SAJ Foods Limited was highly influenced by the firm. However there exist some roles played by individual distributors within the chain of distribution. The existing distribution methods adopted by the firm prove to be in effective looking at the fact that the firm produced yoghurt and is perishable. Time is crucial in distribution of the product but in the case of the firm timing is not regarded to critical.

Therefore it can be concluded that, the distribution methods in SAJ Foods Limited appeared to be the major contributing factor that cause supply shortage in the market, whereas the attitude of distribution in conveyance process reduces the shelf life of the products.

5.3 Recommendations

On the basis of the above findings, therefore, the following recommendations were prosper for possible solution.

- The firm should partner with the distributors to provide more effective and reliable distribution facilities.
- There is need for the firm to employ professionals in the field of logistics operation to facilitate the chain of distribution process. This will ensure efficiency in the operative performance of firm.

- The firm should increase its production capacity by increasing work force together with high speed filling and packaging machines.

- The firm should improve upon the existing order processing time. This will make distributors to access the products on time and meet their market requirements of their loyal customers.

- The firm should establish unit to manage distribution process (from origin to destinations), the over load issues, as well as the refrigerating facilities at various depots.

Suggestion for further studies.

- A study could be conducted on the assessment of inbound logistics and problems of SAJ Foods Limited.
- A study could be conducted on comparative studies of logistics and distribution problems of SAJ Foods Limited and Mai Dabino Yoghurt
- A study could be conducted on the impacts of logistics distribution on the growth and development of SAJ Foods Limited.

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APPENDICE A: States and their Distribution Outlets in Northwest Nigeria

Table 1.Northwestern States and their Distributors Delivery Points

STATE	DISTRIBUTORS DELIVERY POINT
Kaduna State	Central Market, Kawo, Tudun Wada and Badarawa, munaflaj Nigeria, ABU zaria, global concept samaru, Aminu Ado sabon gari, Ayoola Abbey, Badiko, Abakwa, Hayin Rigasa, Albarka cinema, Anguwan Sarki , Kwangila Hanwa, Barnawa, Likoro, PZ, Afna ventures, Rafin Guza, Soba, barnabas, Club street, Uche road, Marmara, Kabala Doki, Birnin, Gwari, unguwan Dosa, KJ Enterprises, Dogarawa, Post office, Aminu road, Makarfi, Giwa, Marabar Jos, Jaji.
Kano State	Mandawari, Behind NITEL(civic centre), Bompai and Dorayi Fanshekara, Lawal Fashion, Aliyu Abdullahi, Hamza Kano, Usman Lawal, kura, Imawa, Murtala, Husaini Roda, Alhaji Sanusi, Tudun Wada dan kade, Kwanar Tudun wada,shanono,bichi,kwanar dangora .
Katsina State	Kofar Sauri, IBB way (behind nakowa) and Usman Nagogo street,mulumfashi,funtua,bakori,kankara,dabai,danja,faskari,sabuwa,daura.
Zamfara State	Lalan, Tudunwada and bye-pass,Gusau,Shinkafi,kaura namoda,talatar mafara,Gamji store, maru,
Kebbi State	Gesse and UBA Road, kanba, bagudo,bunza, zuru, yauri.
Sokoto State	Rogo Road, Behind GiginyaHotel and Hubbaren Shehu, Emir yahaya, gidan dare.
Jigawa State	Market Road, Hadejia, Babura,Gumel,

Source. Field survey, 2012

APPENDICE B: Questionnaire

SECTION A: Socio-Economic characteristics of respondents.

(1) Gender.
(a) Male. [ ] Female. [ ]
(2) Age.

20-29 years. [ ] 30-39 years. [ ] 40-49 years. [ ]50-59 years. [ ] 60 years and above[ ]

(3) Marital status.
Married. [ ] Single. [ ] Separated. [ ] Divorced. [ ]
(4) Level of education attended.
Primary school.[ ] Secondary school.[ ] Tertiary school. [ ]
No formal education. [ ] Others specify.....
(5) Income level per month.
Less than 50,000. [ ] 50,001-100,000. [ ] 100,001-150,000. [ ] 150,001-200,000. [ ]
Above 200,000. [ ]

SECTION B: Individual characteristics of Distributors and their logistics operating system.

(1) What factors impress you to become a distributor of SAJ Foods product(s)?
Product quality. [ ] Profit. [ ] Market. [ ] Access to the product. [ ]
Others specify.....
(2) What is the quantity of goods supplied to your depot?
1000-10,000pcs [ ] 10,000-20,000 [ ]20,000-30,000 [ ] 40,000-50,000 [ ] 50,000 and above
(3) How often do you transact with SAJ Foods limited.
Daily. [ ] Twice a week. [ ] Three times a week [ ] Weekly. [ ] At random. [ ]
(4) Do you consider your answer in (3) above as adequate enough to satisfy your customers demand?
Yes. [ ] No. [ ]
(5) If your answer is (b) in (4) above, how do you wish to receive the company's products.
Daily. [ ] Twice a week. [ ] Three times a week [ ] Weekly. [ ]
Others specify.....
(6) Which of the following SAJ Foods products do you frequently purchased.
Yoghurt. [ ] Sip-sip. [ ] Boths [ ]
(7) Why do you purchased such category of products stated in (6) above.
Long shelf life. [ ] Profit making. [ ] Availability in stock. [ ] Market [ ]
Others specify.....
(8) Who bear the cost of transporting SAJ Foods product to your depot.

Company [ ] Distributors [ ] Collectively [ ]

(9) How effective is the method.
Highly effective. [ ] Effective. [ ] Ineffective. [ ] Highly in effective. [ ]

(10) Which factor do you consider as distribution problem of SAJ Foods products?
Lack of coordinated supply chain. [ ] Poor Delivery Facilities [ ]
Improper time scheduling. [ ] Others
specify.....

11. How frequent does the problem occur

Very high [ ] High [ ] Moderate [ ] Low [ ] Very Low [ ]

(11) How do you channel your products request to the company?
Direct to the company. [ ] Through an agent. [ ] Others
specify.....

(12) How long does it take, for your request/order to be processed?
1-2 days. [ ] 2-3 days.[ ] 3-4 days. [ ] 4-5 days. [ ] Others
specify.....

(13) Are you satisfied with the time frame selected in (12) above?
Yes [ ] No [ ]

(14) If your answer is (b) above, how do you want your order to be processed.
Less than one day [ ] one day [ ] two days [ ]

(15) When your request failed to be processed on its due time, how does it affect your market level?

.....
.....

(16) How do you overcome the situation?

.....
.....

(17) What measures do you normally take to avoid the reoccurrence of supply shortage at your depot?

.....
.....

(18) What measures do you suggest for the firm to overcome the problem of supply shortage to the various depots?
Increase product [ ] Increase labour [ ] Provide high capacity machine [ ] improve logistics facilities [ ] Others
specify.....

(19) Which time do you consider appropriate for the product to reach your depot, in order to ensure better distribution and effective marketing of SAJ Foods products.
1-2hr [ ] 2-4hr [ ] 4-6hr [ ] 6 and above[ ]

(20) As a distributor, tell us your perception and complaints received from your customers when product is not on stock.

.....
.....
.....
.....
.....

(21) Please identify in order of preference, the challenge(s) ever encountered before accessing SAJ Foods product(s).

(a) .....

(b) .....

(c) .....

(22) What is the range of distance covered in kilometer while transporting SAJ Foods products to your depot?

Less than 100 kilometers. [ ] 101-200 kilometers. [ ] 201-300 kilometers. [ ] 301-400 kilometers. [ ] Above 500 kilometers. [ ]

(23) Which type of distribution facilities used for the conveyance of your product(s).

Cars. [ ] Buses. [ ] Mini vans. .[ ] Cold vans. .[ ] Others specify.....

(24) Which mode of storing facilities used in your depot.

Cooler [ ] Fridge [ ] Deep freezer. [ ] Cold room. [ ] Others specify.....

(25) Which time do you consider to be the peak period of your business?

Raining season [ ] Winter period [ ] Sumer period [ ] Festive period [ ] others specify.....

(26) How long do you normally keep products at your depot without developing any defect?

1-2days [ ] 2-3days [ ] 3-4 days[ ] 4-5 days [ ] 5-6days [ ] 6-7days [ ]

(27) How do you recall defect goods/products to the company?

.....
.....

(28) How long does it normally take you to exhaust your purchased products?

Daily [ ] 2days [ ] 3-4 days [ ]4-5days [ ]

(29) How do you lodge complaints to the firm in case of any problems encountered with your products.

Email [ ] personal [ ] Phone [ ] Others specify.....

(30) How does your competitors' marketing strategy affect your product?

Very likely [ ] likely [ ] Neutral [ ] Unlikely [ ] Very unlikely [ ]

(31) Suggest the possible measures to improve the recent delivery pattern for SAJ Foods products.

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