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MODERATING IMPACT OF ERP TO IMPROVE SUPPLY CHAIN PERFORMANCE BY OPTIMIZING CONTAINER LOAD MANAGEMENT, LOGISTICS COST AND ORDER FULFILLMENT RATE IN SHAN FOODS (PVT) LTD

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Abstract
The purpose of this study is to elaborate the impact of ERP to improve Supply Chain Performance by optimizing Container Load Management, Logistics Cost and Order Fulfillment Rate in Shan Foods (Pvt) Ltd. The research follows lean approach while ERP acts as a moderator loss prevention We have analysis the issue faced by sales team, packaging team, order fulfillment team the issue is same highlighted by them that container not fully occupied due to certain scenario. In this research we have deeply identify the issues and by implementing ERP we can have improved supply chain performance. Data collected from literature and interview from Shan Food (Pvt) ltd representative that are effective from this issue. From literature review we examined that how ERP can improved supply chain performance. By using customized ERP software we can improve overall performance of supply chain. We will also highlight major loss faced by Shan Food (Pvt) Ltd due to non-optimization the container space.

Chapter 1 – Introduction

Introduction to the Study

Numerous issues have impacted Pakistan's export business because of the swift changes in global trade markets. Additionally, the Middle East and India are becoming bigger competitors for nations' exporters since they sell commodities to the global market at lower prices. Containerization (Vitasek, 2005) has become popular in ocean transportation and has gained notable acceptance in international distribution, because it saves transportation costs yet has increased accessibility via connections with other modes (rail and truck) and reduced risk of loss and damage (Coyle et al., 2003). However, a key concern of the container transportation industry is to design efficient and effective loading schemes for maximizing container space utilization, thereby reducing the container shipment volume and saving logistics costs (Zhou-Jing and Kevin, 2007).

Normally, calculation of carton volumes and a loading plan for a container depends on the customer's requirements. Optimum loading solutions are often not achieved. To arrange effective and efficient container loading is a complex problem, and it may be difficult to rely only on the hit and trial basis to achieve good utilization of space, which can affect company cost and profit. In order to maximize space utilization, highly sophisticated optimization techniques are required (Chua et al., 1998).

Container loading is at the core of many problems which arise in distribution and logistics. Therefore,

this research will be concerned with finding a method for optimizing a loading plan and number of cartons to achieve container space utilization through use of optimization computer software.

Introduction to the Local FMCG Industry

The market for consumer goods in Pakistan has grown significantly in recent years. Participation in the FMCG category does, in fact, demand a long-term approach when it comes to investment and presence, coupled with sustainable growth, for both large foreign and smaller domestic FMCG enterprises. Additionally, it is essential for FMCG companies doing business in Pakistan to be adaptable enough to take advantage of regional dynamics, while also developing or retaining nearby distribution hubs and forging a strong marketing presence. The main FMCG multinational corporations (MNCs) operating in Pakistan in 2018 were Unilever, Nestlé, Procter & Gamble, L'Oréal, and Coca-Cola.

In the FMCG industry, household consumption accounts for the majority of sales. Due in large part to long-term trends including a growing urban middle class with rising disposable incomes and shifting consumer tastes for typically Western products, this market's growth has accelerated significantly in Pakistan in recent years. The Spice industry of Pakistan also contributes in this.

Pakistan's spice sector has a multibillion-dollar growth potential. This sector's market capitalization is expected to be between 40 billion rupees per annum. Many new players have emerged over the past few years, including Shan, Eastern spices, National, Mehran foods, and others. These companies provide the market with high-quality, upscale packaged goods that are closely inspected by quality control agencies to maintain their premium status. The spice industry is essentially a part of the food industry. Over the past two years, we have witnessed a growth of over 50%. Giants like Shan, National, and Eastern Spices are revolutionizing the market by elevating it to new heights. As Pakistan's population increases, it is expected that in the coming ten years, spice consumption would increase by about 30%.

https://easternspices.com.pk/spice-manufacturers-in pakistan/#:~:text=Spice%20industry%20of%20Pakistan%20is,mehran%20foods%20and%20some%20others.

Introduction Of Shan Foods Pvt. Ltd.

Shan Foods, is the leading food brand in the world of Spices, Seasoning, Pickles, Pastes, Desserts, Sauces, Chutney, Salt, Rice, and Frozen Foods (RTE). The journey of Shan's remarkable success started in 1981 when the dream of one man became a reality. Muhammad Sikander Sultan, Founder, and Chairman, Shan Foods has dedicated his entire life to transforming a business from a single-room operation into one of the most reputed International Food brands, having a global footprint.

Mr. Sultan became part of the spices business when he felt that there was a lack of authentic traditional recipe solutions for regular consumers. With an ambition to preserve the rich cultural taste of the Indian subcontinent for generations to come, he started with just a three-variant portfolio of recipe mixes in 1981, recognizing the potential in both the local and international market. He worked tirelessly to maintain product consistency, improved quality, and introduced innovation which led to rapid growth over the years.

Shan has premium-quality products which are delivered after careful sourcing and selection of the finest ingredients from around the world. The color, taste, and aroma of our recipe mixes are retained through Cryogenic Technology and preserved by advanced V-Lock Packaging for a fresh consumer experience.

Today, we are present across the globe with production facilities in Pakistan, the USA, UK, UAE & KSA, as well as regional offices in Sharjah, Makkah, and Manchester. Shan Foods has won global recognition at multiples forums for its commitment to providing quality food solutions and continues to represent the best of Pakistan.

Moving forward to the markets where it operates. So, Shan Foods has huge coverage in the local and international market serving 8 regions with more than 60 countries worldwide.

The below map categorizes the visibility and availability of Shan products in different regions that include North America, UK, Europe, Pacific, Middle East, South Asia, Far East, and Africa ensuring their strong coverage everywhere.

This strong coverage ratifies how authentic the products are, that Shan Foods is offering to the taste buds with their best supreme standards of product quality, safety, and consistency Indeed, Shan Foods

is the brand that is leading Pakistan in the heart of consumers and on the shelves of the mainstream market, groceries, superstores.

Product Portfolio

Shan Foods offers a wide range of products to their delighted consumers of all ages. The list of delectable products they offer to meet kitchen needs is as follows:

- Recipe Range
- Arabic Range
- Oriental Range
- Instant Foods | Haleem Range
- Plain Spices
- Ginger Garlic Paste
- Pickles
- Cooking Sauces
- Chutneys
- Rice
- Lentils
- Salt (Himalayan Pink Salt and Regular Salt)
- Noodles
- Frozen Food (RTE)
- Desserts (Traditional and Contemporary)

Background of the Study

This study uses information from input of Supply chain and Int'l sales department of leading Spice manufacturer and exporter of Pakistan, Shan Foods private limited. Shan Foods Pvt. Ltd. is the leading food brand in the world of Spices, Seasoning, Pickles, Pastes, Desserts, Sauces, Chutney, Salt, Rice, and Frozen Foods (RTE). Shan Foods has huge coverage in the local and international market serving 8 regions with more than 60 countries worldwide. Its huge coverage shows the importance of the company's exports. The company's profit mainly comes from its exports. That means that the more sale volumes increase, the more profits increase. The company exports via marine shipments of containerization across the globe and carries 80 to 90 containers to be shipped every month. Since customers require different sizes of product in a container, manual calculation of the container load is required. There is no industry-wide standard for containers or the packaging and layout of the products they hold. The more different box sizes there are, the more challenging it is for staff to organize all cartons to be stuffed in a container. Alternatively, staff must recalculate how to fit boxes into the container.

Problem Statement:

Studies of the causes of the slow-down of Pakistan's exports reveal that there are external factors affecting the company which it cannot control. However, exporters can streamline their internal logistic management to cope with this situation by finding a way to increase company competitive advantage, reduce cost and provide value-added to customers besides maximizing profits.

So the company's problem is "Increased product leftover & logistics costs by non-optimization of container space utilization." This can be further explained as follows;

i. Unutilized container space

There is no container standard for packaging and space planning of the products they differ in volume and weight and are packed in boxes of different sizes. The more varieties of box sizes, the more difficult it is for employees to arrange all cartons into the container. Furthermore, normally customer orders of each shipment are not the same, space planning cannot be standardized. Staff must recalculate how to fit cartons into the container, shipment by shipment.

The product plan for loading a container is calculated manually by using an Excel spreadsheet, which can roughly calculate volume and weight of container restrictions without a load plan, often causing space underutilization (volume of total cartons is less than the volume of the container). The actual loading of cartons into containers relies on trial and error based on staff experience and their common sense.

Full capacity of 40'HQ is 70 CBM

Country	Container #	Container Type	Loading M3	Capacity Utilization %	Balance Space %
USA	WHSU523290-0	40 Ft	68.09	97%	3%
Europe	FANU 158854-9	40 Ft	68.53	98%	2%
Europe	BSIU 908341-0	40 Ft	63.52	91%	9%
Canada	TLLU 579765-5	40 Ft	68.90	98%	2%
Australia	TCKU 679638-6	40 Ft	62.02	89%	11%
Canada	TRLU 807629-4	40 Ft	63.89	91%	9%
Australia	CRSU 926368-4	40 Ft	52.53	75%	25%
Canada	TCKU 600718-0	40 Ft	61.22	87%	13%
USA	BEAU 645878-9	40 Ft	66.86	96%	4%
USA	BEAU 573998-4	40 Ft	66.21	95%	5%

Table 1: Used container space 40'HQ of Shan Foods Products in last 1 year.

ii. Increase In Logistic Cost

The company's transportation strategy is centered on utilizing every available portion of container space in each shipment. For instance, if a customer's entire order cannot fit into a container, the business must either try loading again and repackage the incorrectly calculated quantity or leave the excess for the subsequent shipment, which causes delay and wasteful, extra time. As a result, there are higher transportation expenses, including labor, product handling and container loading expenses. When it cannot complete the order that customer requests, it risks product damage from loading and unloading and short shipments in addition to creating an idle money cycle.

iii. Reduced Order Fulfillment Rate

As mentioned, if a customer's entire order cannot fit in to a container, it results in losing the opportunity to fulfill customers demand and non-fulfillment of required orders. The customer doesn't receive the entire quantity of the required product and must pay additional freight costs per unit while waiting for the next lengthy voyage, which results in lost sales to the company's competitors. This reduced order fulfillment rate causes lower service level to the customer.

Research Objective:

The Objective of the research is to improve the onboarding performance of logistics network via onboarding the technical system e.g., ERP such imitative will help manage the data of supply chain material quantity and size, logistics cost, warehousing cost and provide the solutions to get the best possible solutions for timely order completion. If supply chain performance is getting improve then it will be added overall performance of the firm.

This study aims to: First, optimize container space utilization. Second, reduce transportation cost. Third, reduce total order cycle time. Finally, apply optimization computer software decision support systems to solve container loading problems.

- Understanding of the current process.
- Finding the gap and loopholes in the process.
- Recommending ERP solution for the current problem.
- Comparing the existing ERP solutions.
- Calculating ROI for this research.

Research Questions:

Q1: How the competitive advantage is enhanced by the supply chain management practices?

Q2: What are the firm's performance benefits from the supply chain management practices?

Q3: How ERP system improves company performance?

Q4: Why ERP system boosts a company's competitive advantage?

Research Hypothesis:

H1: The ERP system improves company performance. ERP frameworks supplant complex and, in some cases, manual connection points between various frameworks with normalized, cross-practical exchange mechanization. Reduced order cycle times can improve throughput, customer response times, and delivery speeds (Cotteleer and Bendoly, 2006). Cycle times are the time between placing an order and receiving the product or service. The findings of Hunton, 2003), the ERP system brings about significant shifts in behavior and culture models, which are the primary sources of economic advantages.

H2: The ERP system boosts a company's competitive advantage.

When compared to its rivals, an organization typically has a competitive advantage if it possesses one or more of the following capabilities: lower costs, better caliber, higher reliability, and more limited conveyance time (Li, 2006). The opportunity to improve their own economic performance and compete with the company's rivals is provided by competitive advantage. Only by improving the quality of its products can a business boost its profit margin and return on investment. By being able to accelerate product launches, innovative businesses can increase sales and market share. Maintaining relationships with a small number of suppliers, fostering communication throughout the logistics chain, and developing a strategic relationship orientation all help businesses gain a competitive advantage (Chen, 2004). As a result, it is possible to propose a positive connection between organizational performance and competitive advantage.

Scope of the Study

This study concentrates to improve the current logistic process of Shan Foods for managing & loading export containers and focuses on implementing a software to manage container load calculations automatically to reduce complexity of the process and reducing empty container losses & managing left over stock in the process. In this study, the emphasis will be on required Full Container Load (FCL) to the customer at the time of dispatch resulting better supply chain performance.

Thesis Definition

Chapter 2 - Literature Review

Introduction to Chapter

It is identified that very limited investigation has been carried out with the goal to determine the supply chain risk in FMCGs. Mostly firm neglect this container space issue and facing a huge loss and this may create a death stock that major loss faces by any FMCGs. In this literature review we analysis that how this factor effect supply chain performance and effect the cost of shipping product to end user.

Literature Review:

Container optimization it is challenging to arrange cargo properly so that the container is used to its full potential. The goods is damaged to a greater extent, which is also expensive. as the item is being loaded into the container, the location and motion Consideration is being given to rotation so that it can be repositioned if it is not put in the appropriate area. However, repositioning takes time as well. The management of space optimization is expensive and exceedingly challenging. The various operational research and optimization model schemes. Container optimization it is challenging to arrange cargo properly so that the container is used to its full

potential. The goods is damaged to a greater extent, which is also expensive. as the item is being loaded into the container, the location and motion Consideration is being given to rotation so that it can be repositioned if it is not put in the appropriate area. However, repositioning takes time as well. The management of space optimization is expensive and exceedingly challenging. The various operational research and optimization model schemes (manoj)

Information management tools that integrate procurement, operations, and logistics from raw materials to customer satisfaction are at the center of Supply Chain Management. In addition, it increases management complexity as well as manufacturing flexibility, transportation speed, and information availability. Managers in practice and academic researchers have realized that SCM has been an important part of competitive strategy to increase organizational productivity and profitability in light of these obstacles (Paganelli and Kovacs, 2003).

The term fast moving consumer goods (FMCG) refers to products that are sold quickly at relatively low prices. The FMCG industry can be identified by a few characteristics. FMCG products come in a wide range and frequently cater to necessities, comfort, and luxury items. They are small-value products that customers tend to purchase frequently and do not take much time to choose from (Singh, 2014). In FMCG markets, the number of customers is one important resource because sales volume affects sellers' ability to negotiate the display shelf, another important resource. Their incomes additionally set up with the use on promoting, which is fundamental for building client steadfastness. Forecasting future demand is difficult for FMCG businesses. The communication, organization, information, and estimation generation phases of the demand prediction process made up the majority of the process. Establishment of internal, external, and technological advancement-related communication. Internal communication is primarily used for business estimates, while external communication estimates are based on communication between an organization's customers and suppliers. The connection between internal and external communication was made possible by technological advancements.

An FMCG company's demand forecasting requires additional demand history information (Adebanjo 2003). Businesses in the fast-moving consumer goods (FMCG) sector face the extremely challenging challenge of creating a competitive advantage through differentiation or low-cost strategies. The primary reason is that costs drop quickly, and competitors match or even surpass innovations (Kunc, 2005).

For Fast Moving Consumer Goods (FMCG) companies, customer loyalty becomes more important as consumers switch. You can quickly move from one product to another. The challenge in the current environment is to retain customers Ensure the long-term viability and profitability of the company. Therefore, managers of these companies are asking for An opportunity to attract potential customers and retain existing customers. Customer loyalty remains unchanged An important topic repeatedly discussed in the literature, moderation, mediation, independent variable. The purpose of this white paper is to explain the most important factors or variables. Contribute to the development of customer loyalty in the FMCG sector. Customer loyalty is verified by That customer behavior, the customer may be very satisfied and yet not loyal. Islam (2008) predicts: Relationship between trust, switching costs, corporate image and customer loyalty. research results All independent variables, such as switching costs, trust, and corporate image, Degree of association with independent variables i. H. Customer loyalty; but customer retention is strongest Trust relationship. Similarly, Chiou and Drug (2006) described relationships between customers. Satisfaction and Trust as Behavioral Loyalty Milestones

The Fast Moving Consumer Goods (FMCG) sector is a major contributor to Pakistan's economy. The fourth largest sector in Pakistan's economy, it employs about 3 million people and accounts for about 5% of the country's total factory employment. These products are consumed daily by all segments of society, regardless of social class, income group, age group, etc. The fast-moving consumer goods sector is more favorable due to its low penetration, well-established distribution network, low operating costs and low per capita consumption. A large consumer base and simple manufacturing processes for most products keep capital expenditures relatively low. The industry is highly competitive due to the presence of

multinational companies, domestic companies and unorganized sectors. Most of the market has been taken over by unorganized players who sell large volumes of unbranded products.

This has led to a proliferation of localized brands offered loosely in small towns and rural areas where brand awareness is low. Over the past decade, domestic companies have provided fierce competition to multinationals. In fact, they outperform many multinationals in terms of growth and market capitalization. Between 2005 and 2014, multinational profits increased by 14%, while domestic profits increased by 24%. Pakistan's urban areas account for his 66% of his total FMCG consumption, while Pakistan's rural areas account for the remaining 34% of him. However, Pakistan's rural areas account for over 40% of the consumption of key FMCG categories such as personal care, fabric care and hot beverages. Companies such as Hindustan Unilever Ltd and Dabur Pakistan generate half of their sales in rural Pakistan, with Colgate Palmolive Pakistan and Marico each accounting for nearly 37%, according to ASSOCHAM analysis.

The Pakistani economy is largely dominated by the FMCG industry which accounts for 64% of Pakistan's total exports. The fast-moving consumer goods segment is a lucrative market in Pakistan, contributing to revenue growth, and showing signs of resilience in times of economic instability. In Pakistan, demand for frozen foods and beverages is on the rise as the country's population continues to grow, as well as the daily consumption of frozen foods and beverages in our homes. That's why, the strong competition in the FMCG sector has forced businesses to improve their HR procedures. These businesses strive hard to foster an environment that increases employee happiness and satisfaction in addition to providing generous pay and benefits.

A company must have a competitive advantage in a similar industry in order to gain market share and generate profits. Competition is how companies implement processes to produce better, cheaper, and faster products and services than their competitors. Therefore, when competing in various industries, strategies in the form of efficiency and effectiveness are required. According to Anas (2011). To increase the company's competitiveness in terms of efficiency. That one he can achieve by integrating his chain activities with the company's supply. Integration of all elements of the company to meet consumer demand: unification of suppliers, manufacturing, delivery processes and customers. This is very complex because so many parties are involved in the supply chain management chain. A fundamental aspect of running a company is performance management and continuous improvement. This is necessary because the supply chain needs to work well not only for internal companies, but also for suppliers. The evaluation of supply chain management performance among suppliers, companies, and customers can be measured by one of the models used to measure supply chain management performance: the Supply Chain Operations Reference (SCOR) model.

	SHAN FOOD	NATIONAL FOOD	MEHRAN
AREA	Shan Foods is a producer of packaged spice mixes and other food products.	National Foods is a producer and distributor of food products.	Mehran is a spice and food production company.
Founding Date	1981	1970	1975
Type	Private	Private	Private
Tags	Food& Beverage ecommerce food additives processed food	Food & Beverage processed food	Food & Beverage food additives processed food
Employees	1,451	1,074	499

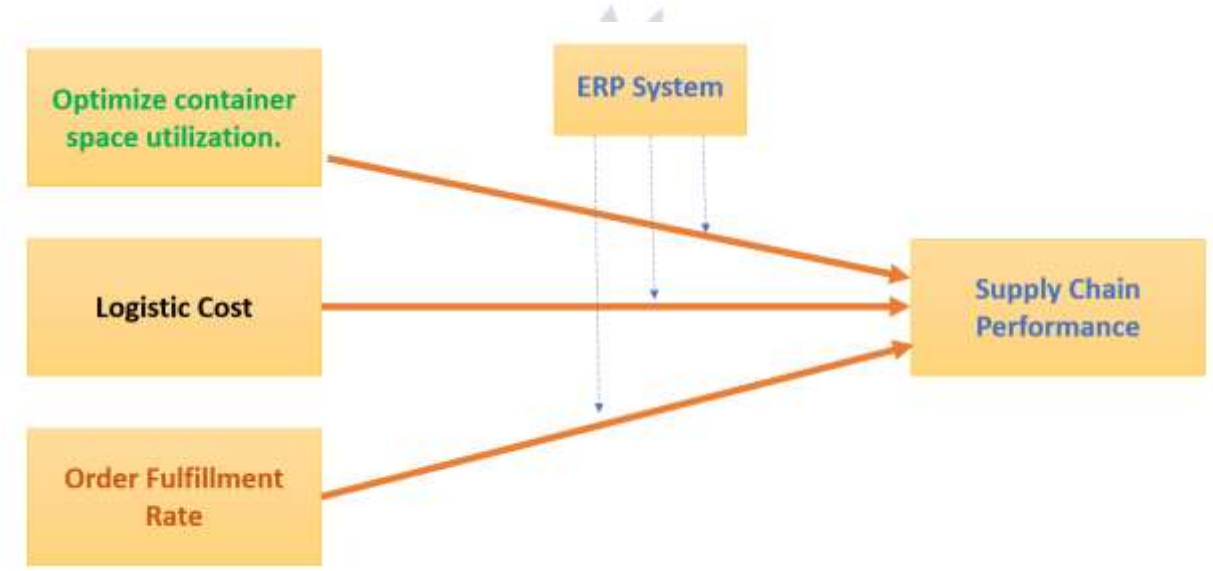
Table 2: Show Comparsion Between Shan, National & Mehran

The innovations emerging in internet technology in recent years bring about changes in the retailing sector. In addition to the many advantages, the internet offers to businesses, the use of online channels by consumers increases and leads to its adoption. This creates a rivalry between physical and online stores. The competition also causes a change in consumer behaviour and consumers trying to benefit from this competition in a positive manner start using one channel for different purposes during a purchasing behaviour and making purchases from the other channel. This new competitive environment and changes in consumer behaviour force retailers to operate simultaneously on many channels. This necessity is felt more during the campaign periods like Black Friday etc. While businesses offer advantages such as product variety and price through online channels during campaign periods, they can deliver some products to consumers in a month or later since the logistics services are insufficient due to sales density

On the contrary, while businesses can deliver instantly from physical stores, they can offer less variety and price advantages compared to online channels. In both cases, customer satisfaction is not sufficient. Therefore, in order to survive in the competition, many businesses start operating on more than one channel at the same time. In this multi-channel and competitive environment, retailers

are becoming more innovative in delivering products and services via channel integration. Today, large retailers such as Wallmart, Best Buy and Gap offer their customers services such as delivery and returns of products purchased through online channels from physical stores (Gallino et al., 2017). Thus, retailers combine the strengths of each channel with channel integration and gain a competitive advantage by reducing their weakness.

Framework Elaboration



Optimization Container Space Utilization

There are three approaches or procedures for optimization. The first are traditional methods of optimization, the second are numerical approaches, and the third are sophisticated methods of optimization. Optimization is the main branch of operational research. The proper arrangement of the cargo within the container's specified dimensions and utilization of the container's maximum volume constitutes space optimization.

The best solutions for continuous and differentiable functions can often be found using classical optimization approaches. These analytical procedures locate the optimum spots by using differential calculus techniques. The practical uses of traditional optimization techniques are limited because certain

practical issues include objective functions that are not continuous and/or differentiable.

Linear programming, quadratic programming, integer programming, nonlinear programming, dynamic programming, stochastic programming, and infinite-dimensional optimization are all examples of numerical optimization techniques. The case in which the optimization strategy is based on dividing the problem into smaller sub-problems is the subject of the dynamic optimization study.

Hill climbing and simulated annealing are components of advanced optimization techniques.

The space can be optimized through the use of genetic algorithms. The local search method known as a genetic algorithm (GA) is used to approximate solutions to optimization and search issues. Another advanced optimization method is the ant colony optimization.

Logistic Cost

In recent years, increasing competition, specialization is growing. Many companies choose to outsource their logistics requirements, accompanied by the rapid development of e-commerce, so the speed of the logistics company's development is greatly accelerated. The rapid development of the logistics industry not only accelerates the delivery speed of goods and capital flow, but also improves the circulation speed of logistics and the economic growth rate. In order to maintain the rapid and healthy development of the logistics industry, countries introduce a number of incentive measures and policies. However, there is considerable room of development. Joseph Sarkis (2012) pointed out that the composition of the supply chain cost theory consists of three aspects, namely, cost, relations and products, and established the corresponding frame system which consists of three levels: transaction costs, operating costs and direct costs . Viswanath Cvsa (2014) proposed the supply chain and even the finished products and raw materials connected, and sold finished products to consumers a versatile network tool. Song Hua extensively researches the costing accounting method about enterprise logistics that can be applied in the logistics cost accounting. Logistics cost accounting is particularly suitable distribution industry and manufacturing industry, but there are not a lot of studies on the costs of third-party logistics control.

Order Fulfillment Rate

Order fulfilment includes all processes that take place from the time a customer makes an online purchase until they receive their product (Lummus and Vokurka 2002; Pyke et al. 2001). It can determine whether an online business succeeds or fails. For instance, in online retailing, breaking order fulfilment commitments can hurt sales since out-of-stocks have a negative correlation with customer loyalty to a webstore (Rao et al. 2011b). Online merchants must use certain methods and strategies with regard to the design of distribution networks, inventory management, and delivery given the significance of order fulfilment in the online retail supply chain (Maltz et al. 2004).

ERP System

Integrating a wide range of information about organizational resources in order to create synergies with business partners, satisfy customer requirements, and improve operational performance is the primary goal of ERP. The solutions that are integrated with the business processes and functions of a company are referred to as ERP systems (Al- Mashari, 2003). ERP is the preferred package system for the company because it automates and integrates all business processes by sharing easily accessible information with all project participants in real time (Egdair, Rajemi, Nadarajan 2015). Through effective information flow, resource utilization, coordination among supply chain partners, and integrated decision making, the study demonstrated that ERP are important tools for improving organizational performance. Additionally, the study demonstrated that technology-related factors moderated the positive relationship between ERP adoption and organizational performance (Njihia and Mwirigi 2014). ERP is a crucial solution to a company's inventory management issues (Momanyi 2014). Because each company implements an ERP system for a different reason, it is challenging to define the ERP system's perceived benefits. It tends to be substantial or elusive. An ERP framework enjoys a few benefits. Computerization of trading processes, normalization of company procedures, integration of facilities and data, increased flexibility, fewer employees, strengthening the globalization system, and problem resolution are some of these. A competitive advantage is provided by an information

system that integrates the ERP system with the logistics chain (Akkermans 2003). The ERP system is analogous to a company's central nervous system, which receives information about the positions of various business units and relays it to other crucial parts. Emphasized the crucial factors that influence the successful implementation of ERP systems, one of which is employees' lack of proper ERP system training. ERP training and education was defined in the study as "the process that offers management and employees proper logic and complete understanding of ERP systems," and it was found that employee training is an essential component of ERP functionality. (Vayyavur 2015).

ERP implementation is a complicated process, and numerous adopters have encountered issues at various stages. There have been numerous reports of ERP implementation failure due to terminations or cost and time overruns. An ERP implementation can take many years to complete and cost tens of millions of dollars for a small business, hundreds of millions for a large one, and so on. Even though a well implemented ERP system has significant advantages, the cost of a poorly implemented system is substantial. The success rate of ERP system implementation was only about 33%, and approximately 90% of implementations were either late or overbudget (Mishra & Mishra, 2010).

For an ERP implementation project to be successful, top management must demonstrate their commitment to the entire organization, particularly the project team; coworkers must participate in the implementation process; ERP implementation requires complex coordination of people, process, and technology; and members of the internal and external team must be experts in their fields (Agarwal, 2014). The company has saved a lot of money by connecting its suppliers, stockiest, and retailers through an extended enterprise system to form a business network system, using enterprise systems successfully to increase business value across the board (Jaiswal, 2005).

An ERP system is neither cheap nor risk-free to implement. Therefore, it is important to investigate the aspects that, in large part, determine whether or not the implementation will be successful. There are a number of features that, in the opinion of (Umbel, 2003), are essential to the success of an ERP implementation. The identified factors are Data accuracy, extensive education and training, focused performance measures, organizational change management, a great implementation team, clear understanding of strategic goals, commitment from top management, excellent project management, and multi-site issues are all important. It is possible to adjust the ERP system to fit the advanced commercial processes, but this is a contested area in both the academic and business worlds. The majority of ERP systems are designed to be configurable, and the majority of businesses require this feature. Return on assets (ROA), return on investment (ROI), and asset turnover (ATO) are all indicators that ERP systems contribute to economic expansion. The FMCG companies' new ERP system implementation has resulted in some actions that increase value. With the integrated use of ERP, innovative data collection, and other manufacturing advancements, industrialists have significantly improved their operations in recent years. The best manufacturers of today have realized that they need to combine the large amount of data they receive into completely new insights.

Supply Chain Performance

The usage of complex vocabulary in SCM conversations has been observed as hindering management's comprehension of the idea and its viability for real-world application (Ross 1998). This section looks at, categorises, and summarises some of the often used definitions of "supply chain" and "supply chain management" in the fields of academia and industry. The creation of a single, comprehensive description that managers and upcoming researchers can build upon is the aim of this discussion.

A typical supply chain involves obtaining raw materials, having products made at one or more factories, shipping them to warehouses for storage, and finally shipping them to customers or merchants. Effective supply chain plans must consider interactions at many levels in order to minimise costs and improve service levels. define supply chain management as follows: "Supply chain management is a set of techniques used to effectively combine suppliers, manufacturers, warehouses, and retail outlets so that goods are produced and distributed in the right quantities, to the right locations, and at the

right times, in order to reduce system wide costs while satisfying service level agreements."

Chapter 3 – Methodology

Introduction

The methods, research design used for the study were described in depth in this chapter. It elaborates sample design, data collecting techniques, research procedures, and data analysis methodologies used to carry out the study.

Research Philosophy

The Objective of the research is to improve the onboarding performance of logistics network via onboarding the technical system e.g., ERP such imitative will help manage the data of supply chain material quantity and size, logistics cost, warehousing cost and provide the solutions to get the best possible solutions for timely order completion. If supply chain performance is getting improve then it will be added overall performance of the firm.

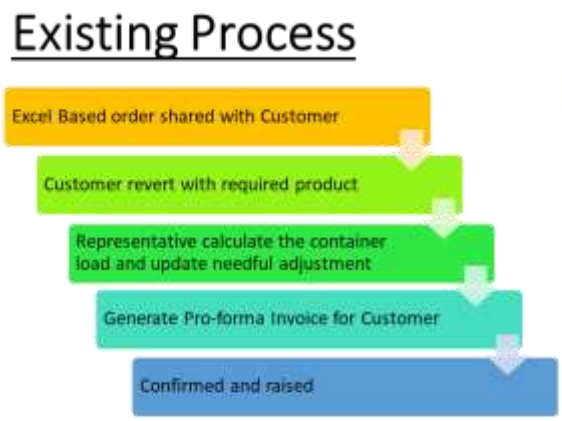
Research Approach

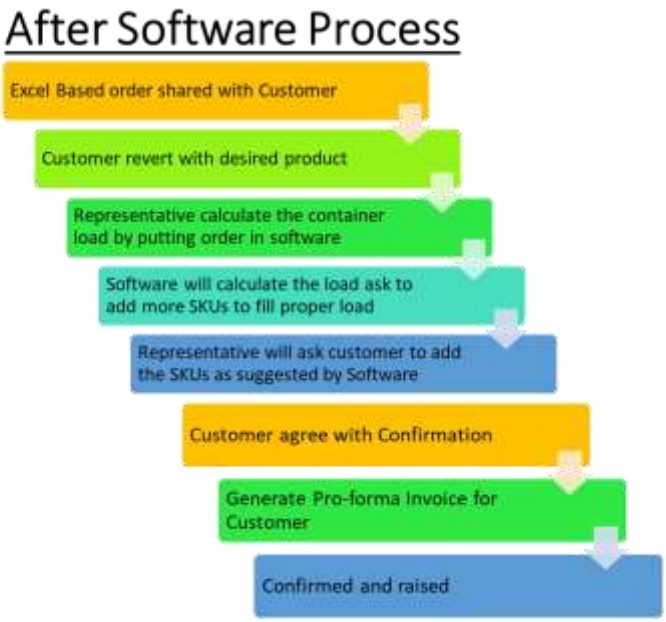
Quantitative Approach and Qualitative Approach is applied in this research. It is also known as mix research methods. This is an approach which involves collecting both quantitative and qualitative data, merging the two types of data, and employing unique designs that may include philosophical assumptions and theoretical frameworks. The basic aspect of this type of investigation is that combining the qualitative and quantitative approaches offers a more comprehensive picture of a research problem than either approach alone (W.Creswel, 2014). The interview was used as a tool to collect information from key personnel that deals in respective domain, The primary data was analyzed based on the participants responses. The key response was based on different people's knowledge and their relevant department. The primary data was collected tailored to our research needs. The questions were carefully designed posed to our target audience. The primary data was recorded keeping in line the objective of our research and the essence of our problem.

Data Collection & Types

The process of gathering data information that the researcher needs in order to answer specific objectives and research questions is known as data collection. Close-ended questionnaires, unstructured interviews and observations through websites and customer reviews are the methods for data collection and are used in our research study. A questionnaire is a research tool which consists of a number of questions for the aim of collecting the data from the respondents. It enables the researcher to consume less time in gathering a huge amount of data within a short period of time (W.Creswel, 2014). An unstructured interview is considered as the in-depth, open ended interview or the long interview and has been the favorable method in research (Mike Saks, 2007). Observation is considered as the basic method in all the methods of research. In qualitative research, it is conducted through observing the human activities and the physical settings and as far as the quantitative research is concerned, it is conducted in the settings which are typically the natural place of the activity (Norman k. Denzin , 2011)

Flow Chart of Current Order Booking Process





Sampling Technique

Non-probability sampling technique is used in our research study. Sampling technique refers to selecting elements that depicts the entire population and helps us to make generalized findings. They can be probability sampling or non-probability sampling (W.Creswel, 2014). We chose purposive and snowball sampling method. Purposive technique refers to taking information from specific target groups. It is bound to such people who have the desired information or maybe they reach certain criteria for the researcher. Snowball sampling
involves selecting the participants through other participants and seeking information from key informants about details of other 'information-rich cases' in the field if they are hard to access (Suri, 2011)

Data Analysis

The process of gathering data information that the researcher needs to answer specific objectives and research questions is known as data collection. Open ended questions, unstructured interviews are the methods for data collection and are used in our research study. Literature review from relevant research articles has added value to our research as it consists of information relevant to the topic and industrial background I,e FMCG. It enables the researcher to consume less time in gathering a huge amount of data within a brief period (W.Creswel, 2014). An unstructured interview is considered as the in-depth, open-ended interview or the long interview and has been the favorable method in research (Mike Saks, 2007). In qualitative research, it is conducted through seeing the human activities and the physical settings and as far as the quantitative research is concerned, it is conducted in the settings which are typically the natural place of the activity (Norman k. Denzin , 2011)

Secondary Data:

In the first phase we have analyzed different literature review of articles available on different research websites that covers same topics moreover there were some case studies on same topic that drawn interest towards ERP and its importance for the overall supply chain optimization.

Primary Data:

This part of research is based on getting the right information through Primary Research method. Interviews were conducted for our research with the key personnel from the supply chain department of Shan Foods, the major aim of interviews was to get the first-hand knowledge with the right people who are mostly involved in the export containerization process

so that the challenges can be uncovered and ground facts can be mentioned for the successful outcome of our research.

Chapter 4 - Data Analysis and Findings

Introduction To Chapter

Data Collection

- All cartons are various sizes of rectangular
- All cartons load in a single container and are exported by FCL (Full Container load) to the same customer
- All DRYRANGE cartons are loaded into a container directly (without pallet) DEADPILE
- All WETRANGE cartons are loaded into a container with pallet PALLETIZED
- Mixes of DEADPILE and PALLETIZED cartons are loaded in multiple orders
- All DEADPILE cartons can be placed on any dimension
- All PALLETIZED cartons can be placed on single dimension (Face Up only)

Information such as cartons, containers and transportation cost in this study was collected between April to Oct 2022. The information as follow: Container database Container type: 20ft & 40ft high cube Container size: Depth, width, height Volume: Maximum volume capacity Quantity: Quantity of container

Container Size	Maximum Capacity	Dimensions (Feet)		
		Length	Width	Height
20' container	28 cbm (Stretch to 30)	19' 5"	7' 8"	7' 9 1/2"
20' HC container	65 cbm (Stretch to 70)	39' 6 1/2"	7' 8 1/4"	8' 5 1/2"

Table
Source: https://www.flexport.com/help/117-container-size-volume/

Carton Database

- Carton's name and category wise
- Carton's detail: Grammage, Piece per carton, Range
- Pack: Number of products or cartons
- Per Carton Dimension/Volume: M3, Gross Weight, Pallets
- Full Load Dimension: Order M3, Gross Weight, Pallets
- Quantity: Quantity of cartons
- Carton type: Box or pallet
- Other product on top: Allow or not allow
- Load position: Specific product on the floor

					Per Carton Dimensions			Full Load Dimensions		
Category	GM	Pcs per Carton	Order Qty	Range	Ord M3	Gr Wt	Pallets	Ord M3	Gr Wt	Pallets
Bulk	1000	48	40	Dry Range	0.06	6	-	2.42	224	-
Chutney	315	12	40	Wet Range	0.01	7	0.01	0.42	275	0.24
Cooking Sauce	300	12	40	Wet Range	0.01	7	0.01	0.53	290	0.29
Dessert	100	48	40	Dry Range	0.04	7	-	1.42	263	-
Dessert -- CUSTRAD	200	48	40	Dry Range	0.04	14	-	1.70	565	-
Dessert -- Falooda	125	48	40	Dry Range	0.04	14	-	1.70	565	-
Dessert -- Jelly	80	120	40	Dry Range	0.05	12	-	1.85	482	-
NOODLES	65	72	40	Dry Range	0.03	6	-	1.27	223	-
PASTE	700	6	50	Wet Range	0.02	8	0.01	0.75	383	0.42
PASTE	310	12	50	Wet Range	0.01	7	0.01	0.66	363	0.37
Pickles	1000	6	75	Wet Range	0.01	7	0.01	1.05	507	0.59
Pickles	300	12	75	Wet Range	0.01	7	0.01	0.79	513	0.44
Plain Spice	400	24	50	Dry Range	0.04	11	-	1.84	565	-
Plain Spice	200	48	50	Dry Range	0.05	12	-	2.53	611	-
SALT	340	12	50	Dry Range	0.01	7	-	0.40	337	-
SALT	310	12	50	Dry Range	0.01	7	-	0.40	355	-
SALT	800	18	50	Dry Range	0.04	16	-	1.93	805	-
SALT	400	24	50	Dry Range	0.04	11	-	1.75	568	-
SALT	800	24	50	Dry Range	0.02	20	-	0.97	985	-
Spice	1000	12	100	Dry Range	0.06	21	-	5.64	2074	-
Spice	40	48	50	Dry Range	0.02	4	-	1.11	188	-
Spice	100	72	90	Dry Range	0.05	10	-	4.49	923	-
Spice	70	144	100	Dry Range	0.06	14	-	6.16	1376	-
Spice -- INSTANT FOOD	300	48	100	Dry Range	0.06	17	-	6.12	1720	-
Spice -- Pet Jar	500	12	100	Dry Range	0.02	8	-	2.03	760	-
Spice -- Pet Jar	600	12	100	Dry Range	0.02	9	-	2.03	880	-
Spice -- Promo Pack -- DP	100	72	100	Dry Range	0.05	10	-	4.98	1009	-
Spice -- Promo Pack -- DP	120	72	100	Dry Range	0.05	12	-	4.98	1153	-
Stand up Pouch	100	18	100	Dry Range	0.04	3	-	3.91	306	-
Stand up Pouch	200	18	100	Dry Range	0.04	5	-	3.91	486	-
								69.76	**19751.38**	**2.34**

Table:

Financial Database

Description	Amount in PKR
Freight Charges # $3,000 Avg	666,000
Warehouse Fare per Month for 35,000 Cases	2,000,000
Per Carton Handling Cost	306.00
Per Carton Fare Per Month	57.14
Per Carton Fare Per 3 Month	171.43
Handling and Transportation Cost Per Month	45.00
Handling and Transportation Cost Per 3 Month	135.00

Analysis

According to historical company data, issues can be divided into three categories: Extra transportation costs due to Handling costs like labor and rental cost of warehouse for access leftover stock, long order cycle due to time due to non delivery of required stocks from order, and under-utilised container space due to manual calculation and staff experience, Therefore, the business sets the following goals in an effort to identify solutions to such issues.

- To optimize container space utilization
- To reduce logistic cost
- To increase order fulfillment rate

Finding and selecting alternative solutions

To maximize container usage. The organization is looking for a new alternative way to replace manual computation and employee experience to find a cost-saving solution for container loading issues. The organization compared three different load optimization software, including
Easycargo, CargoWiz and Cargo Planner.

Easy Cargo

The cost of this software is USD 16,000 per year for 20 user licenses.

CargoWiz

The cost of this software is USD 14,250 ONE TIME only for 20 user licenses.

Cargo Planner

The cost of this software is USD 16,800 per year for 20 user licenses.

Offering the same functionality for container loading optimization, the CargoWiz, has the cost advantage and on this basis Shan Foods chose CargoWiz, to address container loading issue.

To lower the logistic cost, the software calculates accurate container load at any point of time, while on booking order time, of any adjustment time, when a product is not available. The software will ensure every portion of the available container space to be utilized, confirming the maximum freight utilization & maintain the order fulfilment rate.

Waiting: In many multi-step processes, significantly more time is devoted to waiting between process steps than is spent in the entire processing step combined.

-Where are the longest waits occurring in the process?

-What are the causes of these delays?

-What actions can be taken to reduce or eliminate the time spent waiting?

-Does the organizations or supply chain need additional capacity in terms of facilities, equipment or personnel?

Non-value-added-activities

When examining supply chain processes, it is worthwhile to determine the value that is being added by the overall process and individual process activities. Activities that do not add value should be eliminated.

Serial versus parallel operations

Many supply chain process activities are conducted serially, such as first complete activity 1, followed by complete activity 2 and so on to activity N. Are there opportunities in the process for activities to take place in a parallel or simultaneous manner, as opposed to the currently used serial or sequential fashion?

Repeating Process Activities

A significant cause of poor supply chain cycle time performance is the need to repeat process steps due to product or service quality problems. -Are parts of the process repeated owing to an inability to get it right the first time?

-What are the causes of these problems?
-What actions are necessary to resolve these problems?

Batching
Batching occurs when some quantity of materials or orders is accumulated at one step in the process or organization in the supply chain before it is released to the next process step or supply chain member organization.

Excessive Controls
Many organizations have discovered that their rules and regulations serve only to increase their response time to customers and that many of these control mechanisms are more of a burden than a benefit. -How much time is spent and potentially wasted following the rules and regulations governing processes within and among supply chain member organizations?

Lack Of Synchronization In Materials Movement
Are materials being moved across the supply chain in the most effective manner? Are product movements across the supply chain managed so as to ensure that the right quantity of the right product is getting to the right location at the right time?

Implementation And Evaluation
The company compared performance between manual calculations using an Excel spreadsheet and optimization computer software (named CargoWiz) with the company data to optimize container utilization to ship out products to customers and to generate the maximum profits to the company. The chosen solution was tested with past data before being implemented with the current shipment. The following experiments for using container space were used to test the new solution.
Experiment 1: Applying optimization software with shipment 1 into 40'HQ
Experiment 2: Applying optimization software with shipment 1 into 40'HQ
Experiment 3: Applying optimization software with shipment 2 into 40'HQ
Steps for manual calculation using Excel spreadsheet include:

- Create a product list and package specifications.
- Determine the size of the container for loading
- Include the whole container loads with every product list. When the container's weight or volume limits are reached, stop adding new products.
- Using staff expertise, place the product in the container.

Unutilized container space
There is no container standard for packaging and space planning because Shan Foods consists of more than 50 packaging types from many suppliers, which differ in volume and weight and are packed in boxes of different sizes. Furthermore, as normally customer orders of each shipment are not the same, space planning cannot be standardized. Export Sales Staff has to recalculate how to fit cartons into the container, shipment by shipment.
The product plan for loading a container is calculated manually by using an Excel spreadsheet, which can roughly calculate volume and weight of container restrictions without a load plan, often causing space underutilization (volume of total cartons is less than the volume of the container). The actual loading of cartons into containers relies on trial and error based on staff experience and their common sense. Due to this process, the problem can be segregated into 2 cases.

Case 1 – Loss Calculation for Container empty space issue

Country	Container Type	Loading M3	Full Capacity Limit M3	Remaining M3	Avg Per M3 Value in USD	Avg Per M3 Value in PKR	Capacity Utilization %	Balance Space %	Total Order Value	Loss Value of Non Utilize Space	Loss Value in PKR (Loss 1)	Avg Freight	Freight Loss	Freight Loss in PKR (Loss 2)
USA	40 Ft	68.09	70.00	1.91	$ 256.85	57,136	97%	3%	$ 79,262	$490.58	PKR 109,130	$ 3,000	$ 81.86	PKR 18,209
Europe	40 Ft	68.53	70.00	1.47	$ 256.85	57,136	98%	2%	$ 39,986	$377.57	PKR 83,990	$ 1,725	$ 36.23	PKR 8,058
Europe	40 Ft	63.52	70.00	6.48	$ 256.85	57,136	91%	9%	$ 57,000	$1,664.39	PKR 370,243	$ 1,725	$159.69	PKR 35,522
CAN	40 Ft	68.90	70.00	1.10	$ 256.85	57,136	98%	2%	$ 72,066	$282.53	PKR 62,850	$ 2,945	$ 46.28	PKR 10,295
Aus	40 Ft	62.02	70.00	7.98	$ 256.85	57,136	89%	11%	$ 62,084	$2,050.90	PKR 456,222	$ 2,175	$248.10	PKR 55,190
CAN	40 Ft	63.89	70.00	6.11	$ 256.85	57,136	91%	9%	$ 80,278	$1,569.35	PKR 349,103	$ 3,000	$261.86	PKR 58,250
Aus	40 Ft	52.53	70.00	17.47	$ 256.85	57,136	75%	25%	$ 46,763	$4,487.17	PKR 998,171	$ 2,175	$542.82	PKR 120,750
CAN	40 Ft	61.22	70.00	8.78	$ 256.85	57,136	87%	13%	$ 81,188	$2,255.14	PKR 501,657	$ 2,945	$369.39	PKR 82,170
USA	40 Ft	66.86	70.00	3.14	$ 256.85	57,136	96%	4%	$ 86,748	$806.51	PKR 179,408	$ 3,000	$134.57	PKR 29,935
USA	40 Ft	66.21	70.00	3.79	$ 256.85	57,136	95%	5%	$ 99,041	$973.46	PKR 216,547	$ 3,000	$162.43	PKR 36,132
				58.23						**$14,957.61**	**PKR 3,327,320**		**$ 2,043**	**PKR 454,512**
***Avg Per M3 Value is USD Based low valued items**					***On average 20 Container having Space Utilization issue in a ye**					**$29,915.22**	**PKR 6,654,640**		**$ 4,086**	**PKR 909,023**

Loss 1	PKR 6,654,640
Loss 2	PKR 909,023
Total Loss	**PKR 7,563,663**

Table: Loss occurs due to empty container space, which consists on loss of reduced sales & ocean freight per shipment

Increase in transportation cost

Case 2 – Loss Calculation On Left Over Expenses

Apr-22 to Sep-22

Month	Country	Party	Container Type	Loading M3	Full Capacity M3	Remaining M3	Avg Per M3 Value in USD	Avg Per M3 Value in PKR	Capacity Utilization	Cases Leftover Qty	Cases Leftover Revenue Value in USD	Cases Leftover Revenue Value in PKR	WH & Handling Cost - Loss (Total)	WH Cost for 03 Month @ 171 (Loss 1)	Handling Cost for 03 Month @ 135 (Loss 2)
May	CAN	ITN 109	40 Ft	71.63	70.00	(1.63)	$ 191.23	42,539	102%	70	$ 1,018	226,495	PKR 12,135	PKR 12,000	PKR 9,450
Jun	Phillipines	AM 503	20FT	31.05	30.00	(1.05)	$ 191.23	42,539	104%	15	$ 270	60,062	PKR 4,596	PKR 2,571	PKR 2,025
Jun	USA	ZF 736	40 Ft	72.17	70.00	(2.17)	$ 191.23	42,539	103%	56	$ 840	186,858	PKR 17,160	PKR 9,600	PKR 7,560
Jul	CAN	ITN 819	40 Ft	71.9	70.00	(1.90)	$ 191.23	42,539	103%	60	$ 8,136	1,809,853	PKR 18,386	PKR 10,286	PKR 8,100
Aug	ME	BS 203	40 Ft	71.45	70.00	(1.45)	$ 191.23	42,539	102%	25	$ 3,390	754,106	PKR 7,661	PKR 4,286	PKR 3,375
Oct	USA	BFI 215	40 Ft	72.9	70.00	(2.90)	$ 191.23	42,539	104%	186	$ 11,662	2,594,123	PKR 56,996	PKR 31,886	PKR 25,110
										412	**$ 25,316**	**5,631,496**	**PKR 116,934**	**PKR 70,629**	**PKR 55,620**
									***On average 12 Container having Space Utilization issue in a year**	**824**	**$ 50,632**	**11,262,991**	**PKR 252,497**	**PKR 141,257**	**PKR 111,240**
									Total Loss				**PKR 252,497**		

Table: Loss Calculation on Left Over Expense

Software's Price Comparison

ROI Comparison

ROI Comparison

Activities	Cost	Cost	Cost	Remarks
Non Utilization Space - Value Loss	6.65 Millions	6.65 Millions	6.65 Millions	Non Utilization space filled with least valued product @PKR 42,539 per M3
Freight Cost Loss	0.91 Millions	0.91 Millions	0.91 Millions	Extra Freight cost bear by Shan Foods
Warehousing Cost Per Year	0.14 Millions	0.14 Millions	0.14 Millions	Per Carton Cost @57 PKR &@171.43 for Avg 03 Months
Transportation & Handling Cost Per Year	0.11 Millions	0.11 Millions	0.11 Millions	Per Carton Cost @45 PKR & @135 for Avg 03 Months
Total Value Loss in PKR	**7.8 Millions**	**7.8 Millions**	**7.8 Millions**	
Software Name	**Easy Cargo**	**CargoWiz**	**Cargo Planner**	
Software Investment for 01 Year	3.56 Millions	3.17 Millions	3.74 Millions	
Dedicated Resource Hiring	1.2 Millions	1.2 Millions	1.2 Millions	01 Person Monthly Salary @100,000
Total Investment in PKR	**4.76 Millions**	**4.37 Millions**	**4.94 Millions**	
ROI	**3.1 Millions**	**3.4 Millions**	**2.9 Millions**	

Table: ROI

Resturn On Investment

Summary of Cost Reduction for Case 1 & Case 2

Activities	Cost	Remarks
Non Utilization Space - Value Loss	6.65 Millions	Non Utilization space filled with least valued product @PKR 42,539 per M3
Freight Cost Loss	0.91 Millions	Extra Freight cost bear by Shan Foods
Warehousing Cost Per Year	0.14 Millions	Per Carton Cost @57 PKR &@171.43 for Avg 03 Months
Transportation & Handling Cost Per Year	0.11 Millions	Per Carton Cost @45 PKR & @135 for Avg 03 Months
Total Value Loss in PKR	**7.8 Millions**	
Software Investment for 01 Year	3.17 Millions	CargoWiz by Softtruck
Dedicated Resource Hiring	1.2 Millions	01 Person Monthly Salary @100,000
Total Investment in PKR	**4.37 Millions**	
ROI	**3.4 Millions**	

06 Month Loss Recovery	PKR 3,781,832
Per Month Loss Recover	PKR 630,305
Investment	PKR 4,369,913
Recovery in Month	**7**

ROI will be recovered in 1st Seven month by saving the loss sale

Chapter 5 – Suggestions and Conclusion

IMPLEMENTATION PLAN

- ➔ The implementation plan is designed for the company "Scents N Secrets".
- ➔ The team has identified the sub-roots and suggested remedial actions.
- ➔ The team has selected "consignee refused" as it has a huge impact on the order return.
- ➔ Based on our consideration, the team has assigned priorities to conduct the immediate actions for the suggested sub-roots.

PREVENTIVE PLAN

ACTIONS	
METHOD	• Real time update from rider to shipper on cancelation of order through popup notification for confirmation in order to decrease the fake reasons from riders.(Through message on Shipper registered phone number) • Return policies should be clear, con-sized and segregated for the customer's ease. (Damaged returns, Poor quality returns, etc.)

	• For decreasing in return order, the courier company must design some special rewards to the rider for smooth operational activities by giving extra incentive.
PEOPLE	• Rider Training short tutorial clips on their rider app. • Weekly 15 minutes training and guidance session with riders on their rider centers/Hubs before their shifts. • Rider Police team created among the riders to overlook their misconduct.
CUSTOMER	• Instant discount on canceling the order at door step due to any reason in order to decrease returns by offering 10 to 15% extra off. • Multiply the Discount on repetitive online buying. • Compulsory Pin location requirement for the order over 5000 PKR. • Morning message update to customer for their availability as their parcel would be delivered by this particular time flap.
INFORMATION	• Electronic auto generated messages of order status should be sent to customers for their tracking. (Your parcel left the WH, your parcel is in transit, your parcel will be delivered by this afternoon.) • Use those courier services which are tech-enabled (for example tracking)

CONCLUSION:

The study was focused on investigating the root causes and the concerns that were faced by the e-commerce users. A qualitative and quantitative questionnaire was designed to find out the perspective of the consumers who bought items from online.

It is found that our highest buying users online are aged in between 20 to 25 followed by the aged group of 26 to 30***(Figure. 1)***. In our collected data, about 176 qualified respondents are either university students or on-job, fresh graduates. However, customers of each age group faced different challenges when they returned goods using e-commerce.

Through our questionnaire, we have accumulated that about 189 respondents are willing to pay via online from the range price of 2000 to 10,000 rupees ***(Figure. 2)***

Based on users spending, an understanding has developed that about half of our qualified respondents purchase once in a month. However, our data shows that the users' follows impulse buying, as 24.6% of our qualified respondents come under frequent category ***(Figure. 3).***

In the ***(Figure. 4)***, the results show that the buyer could purchase the perfume with different combinations and prefers to purchase perfumes with a combination of apparels, garments, and food.

About 53.1(%), preferred discounts/promotional offers to purchase the items from the e-commerce platform. Furthermore, the user would rather use online service over physical fatigue ***(Figure. 4)***

Although collected data present high numbers in Low Trust Online Stores shown in ***(Figure. 5)***. About 144 qualified respondents (69.6%) have low trust while buying from the online stores. Many resist because of high shipping cost, vague return policies, and time consuming delivery.

In the (Figure. 6) about 77.3% of our qualified respondents still choose COD options for purchasing from the e-commerce platform. The reason is that about half of the qualified respondents are still not sure whether to purchase from the e-commerce platform because they didn't feel safe while buying ***(Figure. 7)***.

It is shown that the customer service is a highly impacted factor that deteriorates the customer experience. Plus, security breaches made the customer unsafe while roaming online platforms and purchasing from it ***(Figure. 8)***

(Figure. 9) shows that the users provide the reasons for returns. One of them is wrong delivery and the other is damaged items that are highly selected by our respondents (191).

Lastly, we asked the respondent to select from the given options if they faced scenarios for return policies. Around 52.2% prefer to get money back and 40.6% want a replacement of the product ***(Figure. 10)***. The customer faced a bad experience then they abandoned the online purchase ***(Figure. 11)***.

However, based on previously discussed things on return, around 67% of our qualified respondents still feel that the return process is complicated ***(Figure. 12).***

RECOMMENDATIONS:

For the researchers who would like to choose this study for their research, it is suggested to examine other industries as this study just focused on return orders of the company Scent n Secrets. Execution and implementation of this research on a different city, sample size, and online buying businesses can result in variance results. Other upcoming recommendations are to analyze some of the other root causes mentioned in this study and then conduct the analysis because these causes can help to find out the best possible outcomes.

The data we collected from the customer who frequently purchasing online shopping highlighted these multiple issues which are mentioned in our above table PARETO ANALYSIS like Consignee refused and Address issue but if any further researcher wants to study more the recommendation would be other aspects of our Pareto Analysis Table like Fraud Consignee, Consignee not available and etc.

LIMITATION:

- Getting exact estimation of the market value of perfume in Pakistan is actually difficult data to attain.
- The market of return in Ecommerce Pakistan is still in evolutionary phase. So, that has become a challenge in getting the precise data.
- Pinpointing the root cause is a difficult task whether it is due to the customer or the rider. Because, the structured communication process with riders is missing.

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