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Supply chain resilience at DWP Xerox : Maintaining an efficient
procurement and logistics system



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CERTIFICATE

This is to certify that this project report, entitled "Supply Chain Resilience at DWP Xerox; Maintaining an efficient procurement and logistics system for SCM by Mohammad Abdullah (01-111191-155), Muzammil Saeed Malik(01-111191-144) and Osama Azhar (01-111191-112), submitted in partial fulfilment of the requirements for the degree of Bachelors of Business Administration from Bahria University, Islamabad Pakistan, during the academic year of 2023, is a bonafide record of work carried out under my permission and guidance.

This certificate is issued on the specific request of the students and issued without any risk and responsibility on part of the company.

A handwritten signature in blue ink, appearing to read "Khatab Ahmed".

Khatab Ahmed
Manager Sales- DT
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Acknowledgement

In the name of Allah Almighty who is the most beneficent and merciful all praise and gratitude is for Allah Almighty. First, the writer would like to thank Allah Almighty for his Blessing in the completion of this Project. Then praises are addressed to our Prophet SAW who has guided us the better life today.

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To our supportive friends, kind family members and all the people who helped us morally, mentally and physically.

Allah Bless you all.

Abstract

The purpose of the research is to study the importance of resilience in supply chain management. The researchers investigate Supply Chain resilience at DWP Xerox and how they are maintaining efficient procurement and logistics system. Researchers have taken a qualitative approach to study Supply Chain functions and resilience DWP Xerox had, in their organization while working in Pakistan. Researcher have gathered the information through questionnaires and by conducting interviews. The information gathered is primary data. This data is provided by DWP Group and Xerox's personals. A set of questions were formed to gather the deep and most effective information that was required. The study shows that how DWP Xerox is maintaining an efficient supply chain network and what strategies are applied to survive in this competitive market. This study also elaborates the disruptions and problems in sourcing, procurement and logistics that disturbs supply chain system and how resilience is important to make operation smooth, timely and risk free. This study also highlights the hardships and hurdles Multi-national Firms are facing in Pakistan due to strict trade policies, high inflation and unstable economic conditions. The study concludes with the recommendations and solution of the problems that disrupt the efficient procurement and logistic system.

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Chapter 1

Introduction

The projects revolves around the study of how resilient the supply chain system of Xerox is and how well is it performing within the organization to make it efficient and productive, along with the study of how DWP Xerox is maintaining an efficient procurement and logistics system. The study of supply chain resilience continues to gain interest in the academic and practitioner communities. The purpose of this paper is to present a focused review of the supply chain capabilities of DWP Xerox and their procurement and logistics system. We used qualitative research along with the qualitative approach to complete this study which included individual and group interviews. there were a few hurdles along the way as the information gathering was a time taking procedure and we did not want to take so much time of the company's executives who were included in said interviews.

Company Profile

DWP Group is a leading provider of products, solutions and services in the fields of CONSUMER ELECTRONICS, TECHNOLOGY & LOGISTICS. Globally acclaimed, highly reliable products with cutting-edge technology from the world's best engineered companies and experts uniquely position us to deliver comprehensive solutions to our customers.

Corporate Head Quarters: DWP House 12-C, Main Boulevard Gulberg II, Lahore, Pakistan	
Established Since: 1999	
Chairman & CEO: Muhammed Farooq Naseem	
Employees: 1518"	
Annual Turnover: Rs. 4.1 billion (USD 67 million)"	
Manufacturing Facility: 35KM Multan Road, Lahore, Pakistan.	
Legal Entities: Digital World Pakistan (Pvt) Ltd. Document World Pakistan (Pvt) Ltd. DWP Technologies (Pvt) Ltd. Integrated Professional Solutions (Pvt) Ltd. Swift Logistics (Pvt.) Ltd	
Email: info@dwp.com.pk	
Web Tel: www.dwp.com.pk	
Contact Us: +92-42-587 7550-3	

Mission:

“We promise to deliver utterly dependable, premium goods and services that will win over customers and earn a fair profit while inspiring our workforce.”

Vision:

To develop into a global organization whose differentiation is produced through expertise, morality, and dedication, with the goal of becoming the most admired and respected business in the sector in which we operate.

Values:

- Work Passionately
- Pursue Excellence
- delighting our clients
- Learn from your mistakes.
- Be fair in all your interactions.

DWP-TECH Division is a leading provider of end-to-end Technology Solutions Et BPO Services with a nationwide footprint covering 28 cities; Karachi, Lahore and Islamabad being the regional hubs.

DWP-TECH Division has a highly qualified and dedicated team of professionals purposefully organized by different criteria such as technology, industry vertical, geography and market segmentation. This matrix approach to operations enables them to bring focus and structure in their day-to-day market engagement through customized services which fit the exact needs of customer.

The team at DWP-TECH Division shares a common goal: creation, development and deployment of best of breed cost effective Solutions Et Services enabling customers to meet their unique business needs. This has been achieved through partnerships and affiliations with "Tier-1" Global Technology Leaders, ensuring that the company is with the cutting edge of Technology in each respective domain DWP with a multi channel approach, serves the Enterprise, Corporate, SMB and SOHO

Market Segments. Key verticals within the Enterprise and Corporate segments include banks, telecommunication Et services providers, educational institutes manufacturing concerns and the public sector. DWP-TECH Division's current references of key projects are a testimonial to its professional competence to execute multi-dimensional complex and integrated solutions to the customer's satisfaction. DWP-TECH Division's **future road map** is to grow Pakistan as an Off-Shore IT Services Outsource Center capitalizing on economic growth across South East Asia, China, the Middle East and Central Asia leveraging on the country's hidden wealth of human resources.

Product, Service , Solutions

Enterprise Computing and Storage

- High Performance Computing
- High availability clustered solutions
- Resource Utilization (Virtualization)
- Information Lifecycle Management/Storage solutions

Network Communication Services Secured end to end connectivity

- Data Communication Infrastructure
- Network foundations, Assessment, architecture and planning
- Converged Data and Telephony
- Security (Firewalls, VPN and IPSOS)
- IP based Contact Centers
- Network Management Et Transformation Services
- Wifi solutions
- Service Providers solutions
- (Core Networks MPLS) RAN Optimization, ITP, W Max)

Data center infrastructure

- Strategic and implementation consultancy services to
- Design Build Migrate Deploy and Manage Data Centers
- • Network Power Management
- Environment Control (Precision cooling)

Problem statement:

Supply chain management and resilience is the most important part of any organization especially the one which has a manufacturing plant and also a product distribution system internationally and country wide distribution to many customers. There are disruptions and problems in either sourcing, procurement or logistics that disrupts the supply chain system as a whole so Supply Chain resilience is needed to make their operations smooth, timely, without disruptions and risk free.

Xerox has managed to form alliances with many of the leading companies operating, it is due to the trust and value of these companies that DWP and Xerox has been able to reach where it is today.

The problem that arises here are many to contemplate but the main issues that are created are due to low literacy rate, the recent covid-19 Pandemic and the unstable economic conditions of Pakistan that has driven many companies to stop their operation in Pakistan, constantly changing economic policies that disrupts their imports/exports and then supply chain resilience is needed in order to recover from such push factors.

Research questions:

The questions we picked for the research of our study revolve around the supply chain and procurement functions performed by XEROX in their organization, their Problems and how we propose to solve them.

Q1 What is the relationship between supply Chain competency and Supply Chain Resilience?

Q2 How the trade policies have an impact on the supply Chain Resilience?

Q3 How Supply Chain Resilience have an impact on the procurement and logistics system?

Q4 How Supply Chain Resilience have an impact on the firm performance?

Research objective:

To determine the effects of supply chain resilience in manufacturing firms that are operating in Pakistan with such unstable economic conditions and changing trade policies.

- To determine what type of relation exists between supply chain competency and Resilience.
- To determine the impact of trade policies in a Supply chain system.
- To determine how procurement and logistics functions are affected by Supply chain resilience.
- To determine the impact of Supply Chain Resilience on the firm performance.

Significance of the study:

In Pakistan with its changing economic stability and constantly changing economic and trade policies, international companies and MNCs (Multinational companies) have gotten hit due to disruption in their Supply Chain Network, the concept of supply chain resilience is new in Pakistan and this study would be of help to companies like DWP and its daughter company XEROX.

The study investigates how supply chain resilience is an important segment for DWP Group in achieving efficient supply chain management. This field of study further determines how much supply chain procurement and supply chain logistics are important for such multi-national firm to not only fulfill their customers need and demands but also maintaining long-term relation with their mega-vendors as well as their major customers. Moreover, the sole purpose of project is to sort out issues that DWP Group is facing in different fields of its operations specifically its supplier's selection, uncertain demand in the time of pandemic and trade policies that has been governing their operations through an invisible hand.

The research project has been an active study of their company's performance from last 5 years. The performance analysis received from their team was quite helpful in detecting the issues their company is facing and how their high-level hierarchy has opted resilience in efficiently solving those issues in very short period of time. This study is a hall-mark of supply chain management implementation at its finest through outstanding team management, situational analysis, data-based performance and contribution of skillful labor in the field of procurement and logistics. Their research, development and planning strategies are the major key factors for its dominance in the market of corporate sales and product management. The contracts that they have are very well-designed in providing ease to their operations as well such as SLA's (service-level agreements), their bidding and tender criteria's.

Chapter 2

Problem definition and Requirement Analysis

The best way in serving their customer in businesses is an effective supply chain management. Supply chain management investigates all the processes that acknowledges a supplier to effectively work in developing a product from Raw stage till it reaches the consumer's hand. In consumer goods industry it is more likely the raw goods, production, labeling, casing, shipping, warehousing, delivering and first end retailing to complete the end goal that is fulfilling customers' needs and their wants.

Components of supply chain

Planning:

Customer demands can only be met once supply chain managers have an adequate plan ahead. By planning it also means the **forecasting of customer's demand** in such a way that their organizational goals are achieved. Planning helps determine the measurement of performance in terms of delivering value and efficiency. It also helps the supply chain managers put what-if analysis and real-time demand commitments. In attaining high-level profitability, supply chain planning needs to be aligned perfectly from stage of raw material to the finished goods stage.

Planning's are further divided into following sub-part stated below:

1. Supply planning
2. Production planning
3. Inventory planning
4. Capacity planning
5. Distribution planning

Sourcing:

The process involves the selection of suppliers that will provide goods, Raw material, services that helps in manufacturing of products that's are critical components of supply chain. It also includes the creation of contract that governs the supplier commitments but it also helps in maintaining, managing and monitoring existing relationships. Sourcing strategies are the fundamentals on the basis of which companies pick the best suited strategies. These strategies examine the company's operational goals in selecting the best supplier. Some of the major sourcing strategies are as follows:

1. Out-sourcing
2. In-sourcing
3. Near-sourcing
4. Joint-ventures

These processes are used in strategically picking the perfect goods and services that firm needs to run their businesses operations. It is also considered the act of buying goods, seller selections, contract negotiation, measuring the long-lasting performance of our suppliers.

Making:

Supply chain managers are the key factor in identifying the steps involved in creating product itself. This step includes the reviewing and acceptance of raw material, how the product is going to be manufactured, prototype testing and finally the packaging of product.

Delivering:

To ensure that products reach safely to the end - consumers, this process takes place through logistics. This process involves the coordinating of orders, delivery scheduling, packaging or dispatching the product to the final customer through invoicing and finally payment collection within the contracted period of time.

Returning:

Supply chain managers also plan on roadmap for returning of product in a supportive manner. The flexibility of this operations also promotes the customer's satisfaction if the product are defected or scrapped, you can have an ease to return the product and refund your investment or the companies re-engineer their products according to their customers demand. Hence this segment has the equal importance like other components of supply chain.

Supply chain to DWP group:

DWP group has been allotted the dealership of different mega multinational companies to be their sole distributor in Pakistan. This company has gained their trust through the exams of different certifications that they have done in the period of decades. DWP group has been working with those companies with full devotion and trust in order to maintain a good client to its fellow partners and also being the better supplier of IT equipment's to Pakistan's renowned companies.

Certification of DWP GROUP

Following Table shows the certifications that DWP group has done with the big multi-national firm to attain the dealership in local market. These certificates are the stand mark over which they have to maintain the quality of products delivered too. These standards set by company justify the importance of supply chain that DWP has to maintain for its customer's end as well.

MICROSOFT	Microsoft certified professionals (MCP's) Microsoft certified Data base analysis (MCDBA) , MSCE,MCSAM,MCSE
DELL	Dell certified system engineers (DCSE's) Dell Security service (DSS)
ORACLE	Oracle Certified Professionals (OCP's) Oracle times ten, OCP-DBA, oracle-BI, Oracle-log technical pre-sale
XEROX	Xerox analyst printing specialist, xerox Vip Analyst
CISCO	Cisco certified network professionals (CCNP's) CCNA, CCDA, CQS-vpn Specialist
KERN	Kern technical certified engineers

Table 1 major suppliers

In order to become the Supplier for major Tech-based companies these certificated not only demands the high capital amount in Education but also emphasizes on selection of the most Qualified Team with immense experience in this industry. Adopting International standard through which they have to show their likability to perform the tasks in a fluent manner is also important.

DWP has formed alliances with many leading companies. It is due to the complete trust and value of these companies that has helped DWP reach where it is today. The group has spent many years developing close business relationships with these partners in an effort to provide our clients with Best of Breed solutions for their business. DWP has the ability to leverage their partner's products to the greatest extent because they have the knowledge and experience with configuring, installing and servicing those solutions for many clients across numerous vertical markets. Other Solution Providers may have the ability to offer similar products, but they do not have DWP's talented group of employees which truly add value to our client's business.

DWP: A supplier

DWP's strategies are build long term partnerships with its customers by reliable and world-class solutions. The company understands the evolving needs of their customers focus requiement hence it targets segments with resources separately dedicated to each. DWP group itself has been recognized as the most Trusted platform for businesses that are enterprises, Corporate sectors , SMB's , SOHO (small office home office).

Enterprise:

Large organizations with advanced technology needs, usually, spanning country wide with heterogeneous environments. These companies have 24x7x365 service requirements as business operations are heavily dependent on technology infrastructure and leverage cutting edge solutions to maintain market leadership. For DWP, the Enterprise comprises large scale banks and telecom companies which are serviced using a CAT (Customer Account Team) approach to ensure that their diverse needs are timely met.

Corporate:

Pakistan has a large corporate segment where companies require complex technology solutions. Usually these companies require large scale ERP solutions and other applications which are accessed by hundreds of users either centrally located in one physical site or distributed over several sites in more than one city. The corporate sector typically consists of financial institutions, manufacturing concerns, service providers, public sector companies and educational institutions

SMB:

Small and medium business with smaller yet complex technology needs are also catered with DWP's customizable Tech-services. There man power may vary from 100-500 employees according to DWP standards yet these sectors has been one of the vital segment in DWP operations.

SOHO:

End users with needs for off the shelf availability of products, DWP caters to this segment throughout nationwide network of more than 200 resellers. Unlike many other Companies DWP has been customizing their services for all genres of businesses in fulfilling not only their needs but it helps their clients in better understanding their demands and providing them with improvised visions. Home-base offices and acute business owners are quite satisfactory with their product and services in this form.

DWP major Customers

DWP major customers are the top leading brands of different field to whom they have been providing services in the form of goods and services. DWP major products are the Xerox machines mainly known as photocopier machines as well. They have been segmenting their demand for Xerox machines in government sector, private sectors, NGO's (non-government organization). Their well-known customers list is the embodiment of the DWP's performance and trust they have from these big firms.

Following table shows the major customers of DWP group(XEROX Department) :

Telecom sector	Banking sector	other sectors
<ul style="list-style-type: none">• Zong• Warid• PTCL• Ufone	<ul style="list-style-type: none">• Standard Chatered• Allied bank• UBL• NBP• MCB	<ul style="list-style-type: none">• HEC pakistan• PIA• CNBC Pakistan• Bahria university• Quaid-e-azam• University• Etc

Table 2 Major customers

Supply Chain Competency and Supply Chain Resilience:

Supply chain resilience is defined as the ability to recover or capacity to resist the resistance from internal or external forces that disrupts the supply chain system of a company.

Supply Chain Competency can be defined as how competent the companies supply chain is that effects their manufacturing and logistic functions and how it effects the overall supply chain system of the company. The technical skills that a company should possess to stay competent are skills like, Capacity Planning, Demand management, Order Processing, Master Production Planning, Inventory management and optimization, MRP (Material Replenishment Planning), Logistics, warehousing, distribution, and always apply the KAIZEN principle that is to always change and strive for better.

In today's changing world, where the supply chain plays an increasingly important role in an organization success, there are many instances where the disruptions in supply chain can also cause the organizations downfall as it would decrease the effectiveness and efficiency levels of the company. These disruptions could be done by governments, lack of skills of supplies or force majeure. To stay resilient and competent the company should be able to have a capital enough to keep a buffer/safety stock, but also reduce waste by working on the Just in time system. (Taiichi Ohno, Father of TPS(toyota Production System), n.d.). There have been many instances in the covid-19 Pandemic where there was shortage of many daily use goods such as toilet paper and even a shortage of masks happened on 24 January, 2020. Toyota had to stop its operation because of shortage of raw material after Thailand got hit by a flood.

Xerox has also been hit by such disruption during Covid-19 pandemic and other instances when Pakistan changed its trade policy and ordered to stop the import of any type of luxury goods, DWP had to stop importing its scanners, printers and the imported machines used in Xerox as it got effected by its mother company, any type of disruption in the flow of goods may have an impact on all interconnected companies along the supply chains (Christopher, 2011) (Holweg, 2011). Supply Chain resilience is still not a vastly explained term in the DWP network, this lack in Supply Chain resilience became the cause of their decrease in Supply Chain competency although they have recovered because of their assets and their customer value but if it was up to them their Supply Chain system was almost in the ground. The manufacturing of equipment that they import is done in China and India but due to some trade and import policies set by the Government of Pakistan, the products and raw material is first bought by the suppliers in UAE and Xerox has to import from those suppliers by following the whole procedure consisting of purchase order and supply quotation, due to that the freight costs increase and profits decline. Only if they had introduced the concept of supply chain resilience, they would not have to lack behind during the corona pandemic and the year after it i.e. 2021.

One of the most famous supply chain resilience instances is of Nissan and Toyota when an earthquake and tsunami hit Japan in the year 2011, it was clear that suppliers from Japan were struggling to cope with the shortage and the drastic hit they got due to natural forces, Nissan took steps like quickly building an alternate supply chain network to keep their supply chain competent as then they could allow themselves to continue their manufacturing and operations whereas, Toyota lacked behind but they learned how important resilience is and they were able to recover much faster and efficiently when another disaster hit in the year 2016.

Firm Performance

A firm's performance is what the firm or organization is identified with, if the performance is poor the firm and the overall organization is not thought to be good enough as investors only invest in firms whose performance they evaluate and find out how its performance has been in the last few years.

The world is evolving day in day out and the new advanced technologies and globalization is helping every business to spread their business anywhere and everywhere, also allowing them to perform better and enhances their firm performance. In Pakistan the local market is lacking behind on this concept but the DWP group is known for its best performance in their respective field but being in the Pakistani market they have to abide by the rules and regulations that have been discussed below which stops them from reaching their 100% potential.

Firm performance is an economic category that reflects the ability of firms in using human resources and material resources to achieve the targets of the firm (Lee, 2005). Firm performance is also to consider the efficiency of using business means during the production and consumption process. Firm performance shows the correlation between the output results and input resources employed in the process of business operations of enterprises (Tran, 2009).

The variables which are used to calculate a firm's performance are Return on investment (ROI), Return on assets (ROA), Return on equity (ROE), These accounting indicators of firm performance represent financial ratios obtained from balance sheets and income statements.

Due to the disruptions in supply chain system the firm performance of DWP Xerox started deteriorating.

The causes were Delays in cross border transportation, severe delay in acquiring critical supplies, delay in domestic land transportation, Covid 19 pandemic caused absence within the organizations supply chain staff, suppliers went into liquidation.

Supply Chain Resilience and Firm Performance:

As explained above the supply chain resilience is the key to success in a firm's performance, it is the most vital aspect of supply chain management. The disruption that could occur are more than we can contemplate out of which Pakistan has Political instability, technological change, natural disaster and terrorist attacks.

A firm's performance is defined on the basis of profitability of that particular firm and economic sustainability and how effectively they achieve their goals and objectives that are to gain profits and to serve their customers. A disruption in supply chain would affect that ability and in return effect the firm performance negatively. Firm performance is also affected by the competitive advantage as the Competitive advantage refers to the firm's ability to create a defensive position against their competitors (Porter, 1985)

Xerox has shown great firm performance in the last few years as it has grasped the market share over its other competitors. The most Demanded product of Xerox has been the WC 5300 series, which have been supplying to their customers in past year.

XEROX SALES FOR WC 5300 Series

Customers	Quantity
Allama Iqbal university	2
Ministry of Parliamentary affair	1
National electronic complex of Pakistan	1
Health department Peshawar	15
POF Wahcantt	2
Standard Chartered bank	220
New Islamabad Airport (LTH JV)	2
PDMA Peshawar	14
Expo log	1
WAPDA - Tarbella Dam	6
Neelum Jhelum Consultant	3
Inter Cooperation	150
SNG	3
SADP	5

Table 3 xerox machine capacity

As the DWP group has gained many profits and secured many projects due to its value and firm performance but due to the recent disruptions their firms performance has declined drastically as they were recognizing increased printing cost that was way more than they had anticipated or forecasted. Firms increase their performance by investing in supply chain resilience, firms can ensure that their operations remain stable and efficient, even in the face of unexpected disruptions

Supply chain resilience impact on Logistics and procurement

Supply chain logistics is a process of transportation of products from one place to another in the form of raw material (internal operations) and transportation of finished goods from the place of manufacturing to the warehouses or the end-consumers depending upon the nature of business a firm is dealing with. Economic and efficient Logistics system is the backbone of every business because it varies the unit cost of each product from place to place and also to keep the flow of operations running. The most important segment of logistics is the time management, safety of stock while delivering and the safety of product from one place to another.

The growth of logistics relates directly with international trades and increasing globalization. The world bank has developed a very friendly and effective tool in measuring the logistics system of different countries. Components are detected in logistics system to rate the performance of beneficiaries. These components in order to work efficiently is governed by trade policies of every country, their economic conditions and Social factors. Following are the six key components of logistics system:

- Customs
- Infrastructure
- International shipment
- Tracking and tracing
- Logistics competence
- Timeliness

Major Issues faced by logistics and procurement

Unfortunately, Pakistan stands at 122 number in global ranking with respect to the logistics performance index system. The logistics system in our country has been a huge problem due to the economic conditions of this country and the political havoc from past several years. Our country has been continuously failing to maintaining balance in their imports and exports. The exchange rate fluctuation has also made huge unease in the field of many departments include large businesses because of which many multinational organizations has either terminated their working in Pakistan or they have limited their operations to minimal. The harsh policies of government has made the businesses increase their sales price due to increase in cost of raw material, the demand of their goods has decreased immensely because of which they have to bear loss. The logistics and warehousing cost such as cost of holding a material or fuel requirement increase due to less demands.

The main headquarter at DWP Group is in Lahore yet they have invested immensely in making warehouses in several major cities of the country. Their strategy is to reach every department of this country once the demand is generated through reliable logistics partner **SWIFT LOGISTICS**.

DWP Group has been facing logistics issues in the twin city quite recently. Political distress in capital has been a problem for all businesses due to strikes that carry's on for weeks. It has affected the operation of DWP Group immensely. The Warehouse of company in twin cities was located in G10 yet the route that they choose was the Srinagar highway, that deliver their shipment to diplomatic enclave, Blue area, and to the neighboring cities. Yet the main course of route has been blocked multiple times that has delayed their commitments for deliverance of goods.

Secondly during the time of covid, international trade was compromised and Xerox manufacturing unit is in INDIA. Since Our relationship with our eastern Neighbor has not been quite well hence the machinery is first imported by UAE and then it is exported from UAE to Pakistan through Swift logistics. In 2019, pandemic, major eastern borders were closed and trading was halted for a period of

time. At that time xerox was facing a huge logistical problem. This was the time when xerox faced a huge problem in its logistics system and there managers had to look for a swift solution to this ongoing problem who time limit was not justified.

Logistics system were not only terminated in international forum but internally the supply chain performance was disrupted as well. Since it was a complete lockdown, yet the orders they had already received couldn't be complete in the due time hence they faced a lot problem regarding their commitment.

Another reason was the unavailability of buffer stock in their warehouses. Since it is a multi-national firm so they have been receiving the demand of the supplies from many customers yet the import of machinery was compromised due to international ban on trade so they were in a huge deficit in term of their reputation and their manager had to find a solution as soon as possible in order to cope-up with this tight situation. DWP maintaining a large supply chain network of multiple products had to face the issue on several fronts. Discussing only the problems faced by DWP Xerox, they had to come up with the strategy in order to stay operational and that can save them time so that their operations are terminated during the pandemic period.

The suppliers who were being selected to provide material had to face the similar problems in this regard. Supply of raw material for mega companies has to be punctual in order to perform their everyday tasks, the terms and conditions contracted by the suppliers for the company like DWP Group must be adhered in order to keep themselves to the safe side but the time of pandemic has been a nightmare for almost every firm in the first quarter of the year. Companies try to keep themselves ready for any uncertainty yet any act of God can never be challenged in the happening moment.

Major Bulk Printing Customers for Xerox:

Sr. No.	Customer Name	Print Volume
1	SNGPL, Lahore/Islamabad	2.5 million impression per month
2	Mobilink	2.0 million impressions per month
3	ZONG	400,000 impressions per month
4	Telenor	400,000 impressions per month
5	KESC, Karachi	2.0 million impressions per month
6	HBL	3.0 million (Statement of Account)
7	HSBC	100,000 impressions per month
8	MCB	4.0 million impressions (Statement of Account)
9	UBL	300,000 impressions per month
10	National Food	25,000 impressions per month
11	SHELL, Pakistan	10,000 impressions per month

Table 4 procurement Data

Impact of Trade policies in a supply chain system

Although Pakistan always emphasize on adopting the idea of free trade but still the trade policies have the positive as well as negative impact on Supply chain of Multinational companies(MNC'S). Trade policies play a major role in affecting the import/export and supply chain network of any company. Survival of Multinational companies in a specific country may also depend upon the trade policies of the country. Most of the firm operating in Pakistan have to import its raw material from other countries. Trade policies are set of principles, rules, regulations, custom charges, Taxation. Increase in exports have proven to be the essential factor in every country's growth. Export not only contribute in boosting the GDP growth but also the balance of payments, improve exchange rates and terms and conditions of trade improvement. Import and export make resource distribution more efficient increase the learning and skills of Labor by providing them the exposure of new technologies.

In the trade sector if a country is more emphasizing on import than exports, it faces the trade unbalancing. When a country buys more than it sells it creates a import surplus and export deficit. Import makes a country reliant on other countries. This is actually true if imports include technology, food, gasoline and industrial supplies. To tackle this export deficit Pakistan had to increase its forex reserves and pay for imports similarly it has impact on the value of dollar as you have to pay in dollars to buy anything. To tackle up with this problem and to balance the trade deficit Pakistani Government took a decision.

On 18 May Pakistan's Government had imposed Ban on luxury items Mobile phone, motor vehicles, home appliances, heavy machinery to reduce the trade deficit and to stabilize the economy. This decision of Pakistani Government may be proven to be stabilizing the economy but it made survival of Multinational firms difficult to survive. All the business firms are looking forward towards Government of Pakistan to uplift this ban as soon as possible. Free trade agreements not just eliminate and reduce tariffs but they also play a vital role in to eliminate the behind the border barriers and making up good relation with your neighbor countries which Increase the flow of foreign investments and flow of goods and services.

Taking example of KIA company which recently Launched its KIA shortage SUV, KIA is importing its spare parts separately from Korea and assembling them in Pakistan. This recent ban on luxury items have also impacted the KIA. They switched their operations to set up a plant in Pakistan but the only problem, they are still facing is the availability of Chip that is used in KIA SPORTAGE motor vehicle. Though the Pakistan government has uplift the ban on small spare parts in Aug 2022 with increase in custom duty and taxes. This resulting increase of cost of manufacturing a single unit of motor vehicle. The shortage of this chip also results in delay deliveries due to which customers are highly disappointed and they are cancelling out their bookings and company is facing huge loss.

Trade policies can have a significant impact on the supply chain. Trade policies can affect the cost of goods, the availability of goods, and the speed of delivery. For example, tariffs and quotas can increase the cost of goods, making them more expensive for consumers. They can also limit the availability of goods; as certain countries may be excluded from trading with other countries. Additionally, trade policies can affect the speed of delivery, as certain countries may have longer wait times for goods to be shipped.

Tariffs:

Tariffs are taxes imposed on imported goods, and can increase the cost of goods for consumers. This can lead to a decrease in demand, which can have a negative effect on the supply chain. Tariffs are imposed on imported goods, this can lead to an increase in the cost of those goods, which can lead to a decrease in demand. This can cause a disruption in the supply chain, as businesses may not be able to get the goods they need in a timely manner. Additionally, if quotas are imposed on certain products, this can lead to a shortage of those products, which can also disrupt.

Quotas:

Quotas are limits placed on the amount of a certain product that can be imported into a country. This can lead to a decrease in supply, which can lead to higher prices and a decrease in demand. Quotas and tariffs are two of the most common trade policies used to regulate the flow of goods and services across international borders. Quotas are limits placed on the amount of a certain good that can be imported into a country, while tariffs are taxes placed on imported goods. These policies can have a significant impact on the supply chain system, as they can increase the cost of goods and services, reduce the availability of certain products, and create delays in the delivery of goods.

Trade policy and DWP xerox:

Pakistan's Trade policies and unstable economic conditions are leading to the creation of a hard path for the survival of Multinational Firms (MNC's). Xerox is one of the major suppliers of Photocopier Machines, Printing machines (Black and white printer as well as Color printer) in Pakistan. Xerox is performing all its manufacturing operations in Mumbai-Pune. Pakistan-India Trade policies have not been proven to be cost effective for most of Businesses as both countries do not have good relations with each other. Due to such reasons Xerox has to shift its supply chain method which was not cost effective but a safer way to conduct supply chain Operations. Xerox is exporting its products from INDIA to UAE. And then Importing all the products from UAE to Pakistan. This Supply chain route is already increasing the cost of goods. Recent year the government has banned the import of all type of luxury goods but lifted this ban on 18 August 2022 but increased the Tariffs (Taxes) on such luxury goods. That means Xerox has to pay a very heavy number of Tariffs as the supplies of Xerox are reaching its customer by crossing 2 different borders and have to bear Trade policies of two border (Pakistan and UAE).

Such ineffective Supply Chain network is leading to increase the prices of product so much making it difficult for local customers (other than large organizations) to buy them that lead to decreasing the demand of products.

Chapter 3

Design and Implementation of study

We have taken a qualitative approach to study about the supply chain functions and the resilience DWP Xerox had in their organization while working in Pakistan. The reason for selecting DWP Xerox is that they are the biggest distributors of scanners and printers; they offer you hardware, software and other IT solution your business requires. We took this approach as we did not have enough analytical data to perform quantitative research and the research will be measured on the basis of self-reporting analysis by the people we interviewed in the firms Sales and Supply chain department. People from these organizations were selected on the basis of what we needed for our research and they were requested to join us in group interviews and one on one interviews and the information taken from them was then investigated to give them recommendation about their supply chain issues, and the results were separately investigated. The main reason for choosing qualitative research is that during the interview we were able to gather much data and information that would be very useful in a qualitative research and the analytical data along with quantitative data was not being released by the company as they were only letting us know about their public records and not the confidential information of the company.

Types of Study

Our exploratory study focuses on the **SUPPLY CHAIN RESILIENCE OF DWP XEROX; ESTABLISHING AN EFFICIENT PROCUREMENT AND LOGISTICS SYSTEM.**

A set of question was formed regarding the information that we required to finalize our research, We took interview from their managers and other department heads of their office who manage key operations .

Data Collection Method

The data we collected was primary data as it was the first-hand data that we gathered ourselves by using data collection methods like;

- One on one Interview
- Group interviews
- Questionnaires

We got hold of their public records as the forms they provided us, many of which we have attached in the report and also the documents provided by the company's representatives. The records show their customer, the companies they have done joint ventures with, their company profile, customer, the sales of their top selling products along with their tax certificate and certificate of sales tax issues by FBR.

Group interviews helped us investigate how well integrated their internal functions are and how well coordinated the different departments are with one another, the group interviews were with different head of departments (HODs).

The method we chose to gather information came up with a set of questions that we asked from the individuals in both our interviews, the questionnaire included the questions that we chose for our research and other exclamatory statements that would help us retrieve the information such as;

- Is the concept of supply chain resilience being implemented in Xerox?
- What is supply chain to DWP Group?
- How is Xerox affected due to the trade policy of Pakistan?
- What is your supply chain Network?
- How has inflation affected you supply chain network?
- How do you manage to log complaints of such a vast customer network?

Chapter 4

Testing and Deployment

We received the data information by interviewing Fahad Amin Malik, who is one of the distributors for Xerox as performing a joint venture with the DWP group and along with him we interviewed

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The problems discussed in the literature review about the issues in their operations including the corona pandemic, any force majeure, economic condition of Pakistan, trade policies and other issues like sudden inflation. These problems created issues for Xerox which were loss of revenue and productivity, increased cost of work in process as the increased prices of raw material due to inflation phase in Pakistan, stakeholder and shareholder concern, damage to brand reputation and image, product release delay, constant checks by regulatory authorities, increase in regulatory scrutiny, etc.

DWP Xerox also has their own problem solving technique's that include;

Problem Resolution Stages

To implement an orderly approach to resolving technical issues, three stages of problem resolution activities have been defined.

- **Level 1:**

Basic Technical Support includes gathering data, investigating and isolating the issue, and testing configuration changes that may have an effect on the issue. Investigation includes a search of appropriate documentation: user manuals, technical bulletins/notes, customer service bulletins, problem report lists, etc. These activities should result in a complete description of the symptoms, configuration information, revision level information, and detail on reproducibility. The gathering of network traces and/or memory uploads is also often appropriate.

- **Level 2:**

Advanced Technical Support, involves correlating the issue with other issues, reproducing the problem, identifying errors in product specification, identifying misinterpretations of product specifications, and localizing product defects. The activities at this level also include efforts toward finding a workaround.

- **Level 3:**

Product Support, involves activities such as the interpretation of gathered data, the examination of source code or hardware schematics. Completion may involve the recommendation of a workaround or the delivery of a fix. Fixes and their ramifications are always to be documented.

- **Level 4:**

Sustaining and Engineering is involved when in-depth, specific product or technology expertise is required to identify or correct malfunctions in the core operations of the system.

Swot Analysis

This analysis helps the company in understanding the strengths and opportunities of their company while detecting the weaknesses and threats that may danger or encourage negative environment or reduce their company's performance. Swot analysis is one of the most efficient ways in recognizing the best solutions to their problem internally and externally. These planning techniques provides assessment tools. It pulls information from different sources of decision making. Thus analysis only works best when voices inside the company are free to perform their working only to justify the core objectives and goals of the company. The approach can direct firms toward tactics more likely to be successful and away from those in which they have been, or are expected to be less successful. It uses both internal and external data. They can also get advice from independent SWOT experts, investors, or rivals on whether a business, product line or industry might be strong or weak and why. Researchers typically represent a SWOT analysis as a square divided up into four quadrants, each representing a different SWOT component. The company's situation is quickly summarized in this graphic representation. Even though not every item under a given topic will be equally significant, they should all provide important insights into how opportunities and threats, advantages and disadvantages, and other factors are balanced.

The top row of the SWOT table is frequently occupied by internal variables, whereas the bottom row is occupied by external ones. Additionally, the components on the left side of the table are more favorable or good, whilst the elements on the right are more unfavorable or worrying.

Strengths:

Technical Capabilities

DWP has been in business for the past 25 years with an annual turnover of 100 million USD and has never paid a penalty on any of its projects. This is attributed to strong project management skills. There is a separate team that exists in DWP that specializes in project management and program management. Since it is not possible for the implementers to take control of the whole project and meet the timelines. So once a project is awarded then project management team decides the milestones along with the technical team and the customer.

Spare-parts Availability

Another positive attribute is Critical Spares / backup for printing/finishing equipment will be available on site DWP maintains backup/spare inventory for its customer in Islamabad, Lahore and Karachi. DWP is already maintaining backup/spares for customers like Mobilink, SCB, Telenor etc.

Vendor Management

DWP enjoys good relationship with the vendors. At DWP they carry leading brands. Their highest level of association with top vendors is a field of strength for DWP Group. Major DWP Vendors are as follows:

- Cisco (Gold Partner)
- Xerox (Sole Distributor)
- DELL (Direct Distributor)
- Elixir Technologies (Preferred Partner)
- Kern (Distributor for Pakistan and Bangladesh)
- Belden (Distributor/Certified Partner)
- Allied Telesyn (Distributor)
- Microsoft (Direct Large Account Reseller and Gold Certified Partner)
- Samsung (Distributor Samsung IT, Assembler Audio Visual Equipment)
- EMC (Tier-1 Partner, Solution Center Partner)
- Oracle (Direct Managed Partner)
- Emerson (Distributor)

Weakness:

Order Based Stock:

DWP weakness is one of their demand-based inventory management. They don't keep the stock in huge buffer capacity in fact they try to keep their inventory to the minimum level. This is one of the reason that their forecasting regarding inventory management is not so efficient. Instead of importing stock, they try to fulfil their customers demand by lending supplies from other warehouses in different cities. It eventually develops an issue of stock capacity. To cater with an issue such as this they have to wait

for the shipment to be imported thus causing an issue of reaction time to their general order supply and the demand management.

Inter-Departmental Integration

On Inquiring, we came to know that there is a huge communication gap between low-level sales person to the department's high-level managers. For them to approach the hierarchy is too difficult hence their issues take a long time in reaching that particular senior manager.

Opportunity:

There have been vast opportunities for DWP Group in the past which they catered in order to stand their place today in the market.

First Mover Advantage

Major advancement of technology is opted by DWP XEROX at first then the competitors of XEROX moves. Hence DWP XEROX has always been one step ahead of its competitors. They're strategic planning department has made a huge successful story in the company's fall of fame. They have tried to come up with the most unique propositions in order to improve their products and service values.

Huge Capital Amount:

Since this company earns 100million USD annually hence for them to invest 50k dollars or 1m dollar is not a huge issue. This is one of the reasons they can easily cope up with losses that are below 10 million USD. They have diversified their product line by doing certifications of big Multi-national firm.

Threats

Elements or forces in the external environment that could endanger the business, its profitability, or its competitive advantage are considered threats to the Organizations.

Major threats to DWP Xerox Involve:

Competitors:

Major competitors of Xerox Includes Shirazi Traders which is providing the products of canon in the market. Recent year when Government of Pakistan banned the imports of Luxury goods and Technological machinery Shirazi traders arose as major threat to DWP Xerox, as Xerox supply chain network was disrupted. On the Other hand, Shirazi traders forecasted this situation few months ago and started bulk buying to increase the safety or Buffer stock. Due to which it gave tough time to Xerox.

Grey Channels:

The term Grey Channel refers to the transportation of objects, substances, information or people. In simple words that means flow of goods i.e imports and exports from one country to another by breaking the laws and regulations or trade policies with paying custom duties and taxes. Over the past decades, grey channels(smuggling) has become one of the major problems of Pakistan that are effecting economy of country as well as local production.

Xerox is also one of MNC's (Multinational Companies) that is hit by this trade flow. Xerox versa link Drum cartridge which cost Xerox approximately 37000 Pkr and they are selling it for around 40000 Pkr is available in black market for around 20000 to 25000 Pkr which is a very big problem for Xerox as local customers other than Organizations are always incline towards low Cost.

Economic Condition of Pakistan:

Pakistan's economy is facing a downfall from recent 5-6 Years. Most of MNC's have quit their operations in Pakistan and moved to other countries like FAW motor vehicle company and most of MNC's are also thinking to quit their operations as the survival is very tough in such economic conditions. Inflation rate in Pakistan in 2017 was 4.09% and the inflation rate in 2022 is 9.50% that means in 5 years 4.41% inflation rate has increased. And Dollar price in 2017 was 105 and now it reaches to 228 Pkr per dollar. This inflation and increase in Dollar Price increased the price of spare parts and decreasing the profitability of Multinational Companies as profit is measured in dollar.

Buffer Stock and Service Level

Buffer Stock:

Buffer stock also known as the safety stock is the type of stock that organization should keep in hand in case of sudden price hikes or supply chain disruption so either they have the manufactured product in their safety stock when it is needed or at least have the raw material that would be needed to manufacture the product. Xerox has no such inventory that stores buffer stock for them. Analyzing the information, they gave us we saw that this is one of their weaknesses when the raw material is in shortage and they do not have alternate suppliers for that particular product or enough raw material stored to keep their manufacturing functions running smoothly which disrupts their further operations of logistics and distribution.

Service Levels:

DWP Maintenance & Support Industry Leading Services... DWP delivers Maintenance contracts to cover all major manufacturers. We have repair expertise in a wide selection of networking products and related technologies.

- Follows Standard manufacturer support procedures
- Advance Replacement option to ensure absolute reliability
- Component level repairs services
- Resident support/24-hour emergency repair
- In & out of warranty support
- On-site maintenance
- Global Logistics Network

They have further service and maintenance levels that are as follows;

First line maintenance

- Instruction of the users
- Local helpdesk for user problems
- Changing user settings
- On site card/component swap;
- Setting up dial-in connection for 2nd and 3rd line support
- Be the hands-on-site for the 2nd and 3rd line support
- On-site installation of new releases, service packs and patches;
- Perform on-site planned maintenance activities.

Second line maintenance:

- Central helpdesk for installer-problems and complicated user-problems.

- Remote diagnose
- Remote Repair (software)
- coordinating Spare deployment, holding and Repair
- Installation on clean system
- Change management
- Service Level Management & Reporting

Third line maintenance:

- Instruction of the 2nd-liner support organization
- Central Support Desk for all technical problems. Accessible 24 hours/day, 7 days a week;
- Remote diagnosis in case of major Incidents and/or Problems
- Remote Repair (software) in case of escalated problems
- Repair/replacement of all incoming defective parts (card repair)
- Incident-, Problem-, Change Management;
- Service Level Management & Reporting
- (Stress) test new releases, service packs, patches
- Distribute new releases, service packs, patches
- Distribute technical data and information
- On-site support

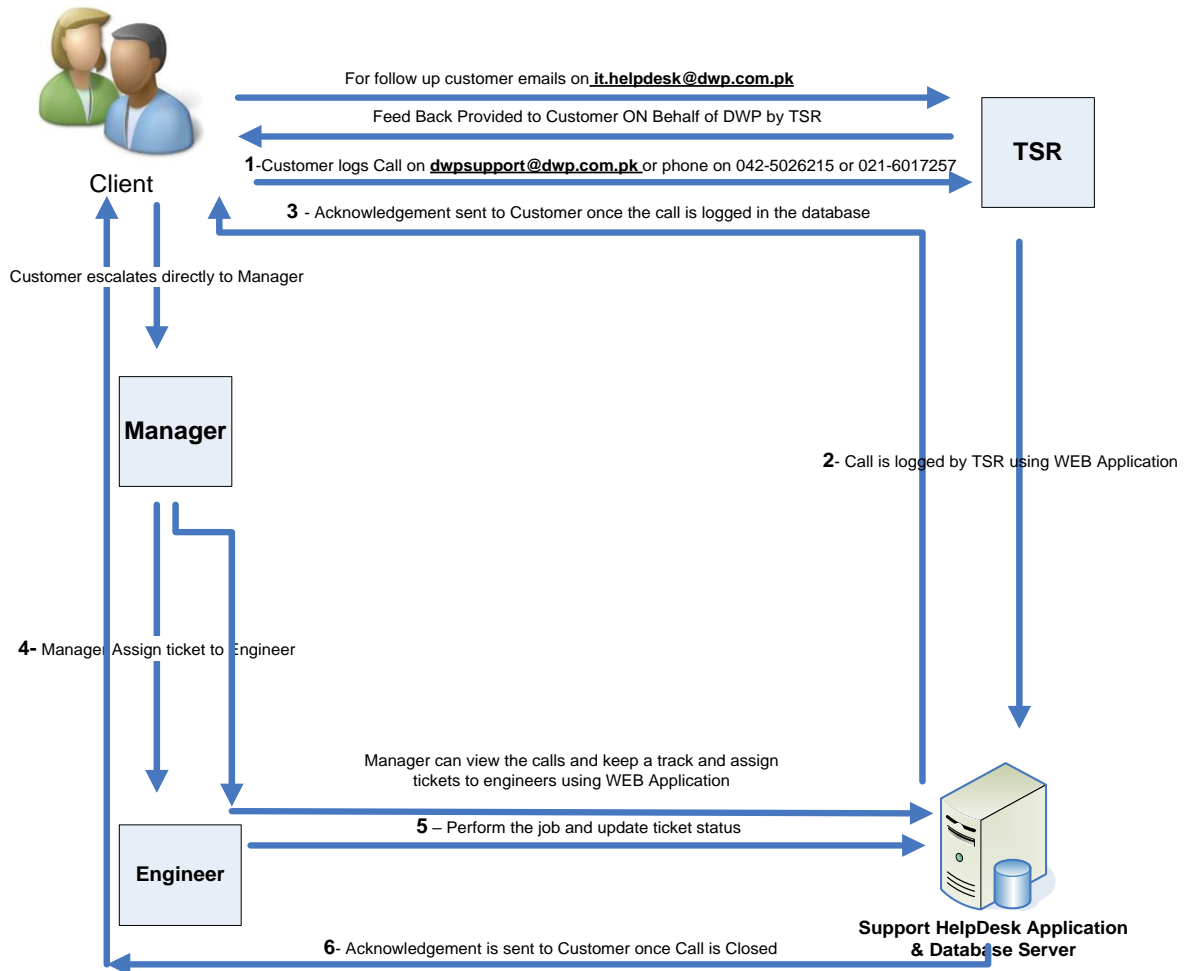
Fourth line maintenance:

- Diagnosis of Software related Incidents reported by the 3rd line organization;
- Software Bug repair
- Development of Service Pack.
- Development of new Releases.

Customer Management Analysis

DWP will provide Client with regular updates on the status of a problem for Lahore, Karachi & Islamabad. For any queries Client can contact our helpdesk directly via the above mentioned phone number or via email to the following address along with the call reference number:

Call Logging Process



(DWP GROUP, 2018)

Table 5 call logging flow diagram

All calls will be logged centrally either through telephone, email or web based call logging system and will be distributed city wise. Another notification is sent to Client once the call is successfully closed.

Just In Time System

JIT (Just in time) manufacturing is a type of production model in which products are made only to meet the already generated demand by the market, and not created in surplus or in advance of need after doing Agile demand forecasting. Xerox adopted this strategy to increase their efficiency, reduce their production cost, reduce their inventory and speed up the product delivery system along with eliminating the wastage that is associated with manufacturing like overproduction and excessive inventory.

Xerox adopted this strategy so they could have a leaner production system as they only perform order-based manufacturing so until an order in generated to demand is created in the market they don't start manufacturing and even buy raw material after the demand is generated.

ABC Analysis Xerox

The ABC analysis is a technique for inventory classification in materials management. ABC analysis categorizes inventory into three groups: "A items" with extremely tight control and accurate records, "B items" with less tightly regulated and decent records, and "C things" with the simplest controls and little records.

Table 6

Products	Annual number of items sold	Cost per unit	annual usage value	Percentage of annual units sold	Percentage of annual consumption value
Xerox versa link B7025	5000	80\$	\$400000	23.80	52.00
Xerox versa link B7030	10000	20\$	\$200000	47.61	27.00
Xerox versa link B7035	700	50\$	\$35000	5.33	5.06
Black high capacity toner cartridge	1500	20\$	\$30000	7.14	4.15
DRUM 5330	700	40\$	\$28000	3.33	4.03
Drum 5335	600	40\$	\$24000	2.85	2.08
Drum 5325	600	20\$	\$24000	2.85	2.08
Toner C7020	700	30\$	\$21000	3.33	2.02
Toner C7025	500	30\$	\$15000	2.38	1.05
Toner C7030	600	15\$	\$9000	2.85	1.01
TOTAL	20900		\$771000		

A category = **Green color**

B category = **blue color**

c category = **grey color**

A category contribution is 79% in annual usage of their products annually and these both products cartridges are manufactured in made for each other category hence these both cartridges of versa-link can used in any product other than Xerox machine as well. B category products contribution is 13% in annual usage whereas C category class usage is just 8% in overall contribution to the sales in DWP Xerox.

This analysis was adhered on the basis of raw data received from the company's representative. The purpose of this methodology was to observe the most demanded products in the inventory and then categorizing it in to different segments on the basis of annual demand. This analysis would help the managers understand, the focus and prioritize which certain product is more valuable for their profit maximization.

Chapter 5

Conclusion, Limitations and recommendation

Conclusion

The research has advanced the supply chain resilience role in supply chain logistics and procurement framework. The research investigates the major supply chain drivers such as supply uncertainty and demand uncertainty and the variables that are used in order to find the solution of these problem.

Research suggests that supply uncertainty and demand uncertainty are the major drivers of supply chain resilience. The research also investigates our qualitative research on various problem resolution stages required to determine the positive/ negative relationship of supply chain logistics and procurement to supply chain resilience moreover the study concluded that to achieve better resilience in supply chain management, the driver's logistics and procurement needs to be efficient for supply chain resilience.

Limitations:

This research is on the supply chain resilience that is being practiced in the DWP Group and especially Xerox Organization and how they can keep an effective and efficient procurement and logistics system.

There were a few limitations while performing our research, especially in the terms of data gathering. DWP group and Xerox had no specific information about their firm available on the internet or their blog section. While interviewing they resisted providing us with the specific information that we wanted and only provided the information that they already had on their public records and reforms also they resisted to give us their revenue and sales data as they said it was confidential. The one on one interviews were smooth but it was very hard to pull off group interviews because of their weak intra-departmental timings, the managers we wanted to interview were available at different timings.

The biggest hurdle was obtaining data about similar researches but there are very few researches done on topics that would be helpful to us in order to perform our on research.

Recommendations:

These are the recommendations that we offered Xerox in order to increase their supply chain resilience and to maintain an efficient procurement and logistics system.

- Just in case
- Managed print service
- Service lease agreement
- B2B joint ventures
- Buffer stock
- Enhance inter-departmental integration
- Discourage Grey channels
- Coded products and stock keeping unit (SKU)

Just-In-Case System:

As explained above Xerox uses Just in Time production System, but we recommended them to use the Just-in-case production System instead. As JIT system is not without risks because they are highly vulnerable to disruptions in the supply chain network so if Xerox cannot get the material its whole manufacturing operations will be brought to a standstill.

Our recommendation to Xerox management was that they should adopt the Just-in-case production system with which Xerox would maintain large inventories to ensure against the common supply chain disruptions or unexpected increase in demand for a certain product. The JIC strategy would help them tackle supply chain disruptions in such a way that their customer would not have to go elsewhere and also they would be able to continue their operation smoothly while keeping their manufacturing function efficient and effective

Managed Print Service:

After analyzing the supply chain network of DWP Xerox we concluded that Xerox has a weak demand forecasting Network due to which they are unable to procure the supplies efficiently and their inventory management is also mismanaged. To overcome these hurdles we provided them the solution to introduce Managed Print Service (MPS) which will allow them to forecast the demand more effectively and efficiently. MPS (Managed Print Service) is method that will allow Xerox to keep a record of number of Page printed by customers (organizations) i.e. Standard Chartered, Allied Bank etc. This record will help them to forecast the demand.

For Example, if Standard Charter print 2000 pages per month and Xerox's Drum and toner's printing Capacity is 8000 pages by this MPS method Xerox can forecast that Standard Charter will be needing the drum and toner after every 4 months so they will keep their inventory to meet their demand.

Service Lease Agreement:

They had a problem while with government authorities while providing products and services to them but this is such a service which needs after sale services, the government sector refused to pay for such after sale services and these were not free of cost from Xerox department as they needed to pay engineers for every single visit.

To resolve this issue we took a page from the Business corporate law as they should always get a contract with such authorities that would be their service lease agreement which would give them a legal right to charge for every single service or maintenance visit that Xerox provides them and the government officials would have to pay unless they refuse to sign the service lease agreement in the start.

B2B Joint Ventures:

There are companies that offer business to business services which help one business to find solution or to deal with other businesses, this would help them as Xerox cannot include their service cost with the price of their products and many organization refuse to pay the service costs they tend to lose the customers so they should get into a contract with a business to business organization that would become

their official distributors and include the service cost in their own invoices before they sell products to further consumers or consumer organizations.

Buffer Stock:

They should keep a buffer stock or safety stock as they have the needed investment or capital for that but they refuse to keep large inventories even though it might profit them in short term but keeping in mind the current economic conditions of Pakistan, the trade policies and the increasing inflation in Pakistan.

The buffers stock would help them in cases like increased raw material costs, absence of their regular suppliers and other supply chain disruptions along with shortages in the market. It would only be helpful to them as their raw material and products are nonperishable items so that stock would become their asset and it would either financially appreciate with time or be used in their manufacturing plants.

Enhance Inter-departmental integration:

After conducting the group and individual interviews we got to know that their inter-departmental integration is very weak as the hierarchy is not well managed, the senior managers are not concerned about the problems and issues of their employees especially the sales persons.

They should develop a channel that would be helpful to the lower management and salespersons in order to convey their issues, problems and new advices to the top hierarchy or top management so they feel like their concerns are identified and heard along with them feeling encouraged as their advices are being appreciated.

Discouraging Grey Channels:

As explained above about the illegal grey channels, due to the illegal flow of Xerox machinery and disassembled parts the grey channel has been encouraged by consumers as they can get the machinery in low rates compared to the legal channel trade by the official Xerox organization working in Pakistan.

Even though the machinery which comes through grey channels is defaulted Xerox offers services when it stops working, they should stop giving services to such products that they have not sold themselves as which would stop the consumers to buy from these illegal distributors as they would not have the fear of getting defaulted machinery which would not be repaired or serviced by Xerox.

This recommendation is in its testing stages as Xerox is the only company working in Pakistan that is capable of repairing and providing such a service, so if they stop providing that the grey channels would come to an end.

Coded products and SKU:

Xerox has been working with only the UPC (universal product code) on their products, they should keep a check on the coded series as every product has its own unique code which consists of Alphanumeric digits along with keeping them in inventory by using a unique SKU (Stock keeping Unit). This would help them identify which products were sold by them or their legal distributors so they can differentiate between the products they sold and the products that came through illegal channels.

Appendix A

QUESTIONNAIRE

Following questions were asked to the manager/employees of the DEP Xerox during interviews to collect the information needed for this study.

- Is the concept of supply chain resilience being implemented in Xerox?
- What is supply chain to DWP Group?
- How is Xerox affected due to the trade policy of Pakistan?
- What trade policies will be helpful to MNC's in Pakistan to work smoothly?
- What is your supply chain Network?
- How has inflation affected your supply chain network?
- How do you manage to log complaints of such a vast customer network?
- How increase in Dollar price is decreasing your profitability?
- Do you have any distributor working independently ?
- How does the company distinguish its products from the product that is supplied by distributor in the market?
- How many warehouses the company is currently holding?
- What is the process Xerox is currently following to ensure the product Quality ?
- Can you enlist trusted and loyal customers of DWP Xerox?
- How the recent ban on import of Luxury items imposed by Government of Pakistan has affected your supply chain Network?
- How Xerox prioritize its customers ?
- Do you differentiate the product in terms of Quality or Volume ?
- What are the method or strategy you use to forecast the demand?
- How Grey Channels are affecting the profitability of your Company?
- How Xerox cope up with the products that reach the market through Grey Channels?

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Project1

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