# Sonargaon University (SU)
# Dhaka, Bangladesh

**Thesis Paper**

**on**

# A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD.

**Submitted by:**
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**Program:** MBA in Supply Chain Management
**Major:** Supply Chain Management (SCM)
Semester: Summer-2023

**Submitted to:**
**Department of Business Administration**
**Sonargaon University (SU)**
Dhaka-1215

Date of Submission
**Date: 5th September, 2023**




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**Supervised by:**

**Professor Abul kalam**
Dean
Department of Business Administration
Sonargaon University (SU)

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# Letter of Transmittal

**Date: 5th September, 2023**

To,
Professor Abul Kalam
Dean
Faculty of Business Administration
Sonargaon University, Dhaka

**Subject: Submission of Thesis Paper on "A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD."**

Dear Sir,

This is my pleasure to present my thesis paper entitled **"A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD."**

It is my pleasure to inform you that I have already finished my thesis paper in a reputed organization in **Dotlines Bangladesh Ltd.** It was an interesting opportunity for me. The main purpose of this report is to learn about importance of supply chain management in IT Technology sector in Bangladesh. Supply chain management of IT Sector sector is very complicated, because of abnormal demand at unexpected period. I have tried my best to prepare this report. This report has been prepared based on the practical experiences and different ideas obtained during working at **Dotlines Bangladesh Ltd.**

Therefore, I sincerely hope that you will appreciate my effort and I shall be grateful if my report is accepted for the appropriate purpose.

Yours Sincerely,

Md. Ataur Rahman
ID: MSCM2201025005
Department of Business Administration.
Sonargaon University (SU).

# Letter of Authorization

I Professor Abul Kalam, Dean Faculty of Business Administration, Sonargaon University (SU) hereby certify that the Thesis work entitled as "A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD." has been prepared by Md. Ataur Rahman, ID: MSCM2201025005, Department of Business Administration, Sonargaon University (SU) and submitted as a requirement for the partial fulfillment for the degree of the MBA in Supply Chain Management with major in SCM. To the best of my knowledge, the above-mentioned work has been conducted by the student himself. Any option and/or suggestion made in this study are entirely that of the author of this thesis paper. The report is an original work and prepared as a partial requirement of the degree the MBA in Supply Chain Management.

_____

**Professor Abul Kalam**
Dean
Department of Business Administration
Sonargaon University (SU)

# Student's Declaration

This is Md. Ataur Rahman, a student of MBA in Supply Chain Management (MSCM), ID: MSCM220102505 from Sonargaon University (SU) would like to solemnly declaration here that this Thesis Paper on "**A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD.**" has been authentically prepared by me under supervisor of Professor Abul Kalam, Dean Faculty of Business Administration, Sonargaon University.

I didn't breach any copyright act internationally. I am further declaring that I did not submit this report anywhere for awarding any kind of degree or certificate.

Sincerely Yours,

Md. Ataur Rahman
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Major: (SCM)
Semester: Summer 2023
Department of Business Administration
Sonargaon University (SU)

# Acknowledgement

At first I would like to thank my honorable thesis paper supervisor Professor Abul Kalam from Sonargaon University, Professor Abul Kalam Dean Faculty of Business Administration for providing me such an opportunity to prepare an Thesis Paper on **"A STUDY ON ALIGNING SUPPLY CHAIN MANAGEMENT FOR TRADING BUSINESS OF CARNIVAL TECHNOLOGIES LTD."** I would like to place my gratitude to Md. Monowar Hossain, Head of Supply Chain, of Dotlines Bangladesh Ltd., enable me to complete my thesis paper in their esteemed organization.

During my preparation of the project work I have come to very supportive touch of different individuals (respondents from Dotlines Bangladesh Ltd.) & friends who lend their ideas, time & caring guidance to amplify the report's contents. I want to convey my heartiest gratitude to them for their valuable responses.

# Executive Summary

Dotlines, not only serves in Bangladesh, but in 11 more countries – in one way or the other, across the 22 connected verticals, clubbed under 10 segments. Dotlines talks about pureplay connectivity (Carnival Internet), over which it brings security (Audra), learning (e.g. **Ghoori Learning**), empowerment, infotainment, insurance and financial services (Carnival Assure), lifestyle (e.g. BanglaCut) and logistics and online-to-offline (e.g. eCourier and Carnival Point). All its connected ecosystem is backed-up and further intensified by its ingenious digital services platforms and AI-powered robotic process automation solutions (e.g. Pulse).To talk about a few impacts Dotlines and its sister concerns have delivered is imperative at this stage. Contrary to the popular inside-out strategy by infrastructure companies, Carnival Internet took it on them to break the digital divide of the progressing country, and started it's own strategy of "Go Rural", embarked on an outside-in strategy, and started connecting villages after villages with the true taste of fibre broadband. At everyone's surprise, in just a few years, Carnival Internet has passed across 80% of the districts of the country and brought best-in-class internet experience to thousands of households. Dotlines' Audra realized the need for enterprise-grade security at home-grade simplicity and affordability for millions of homes and SMEs across Asia, and now raving across countries, as it partners up with in-country distributors, big-name broadband players, high-street retails and eminent ecommerce players. Its logistics business eCourier brought world-class service quality and delivery benchmarks for millions of e-commerce, SME and enterprise players, and now moves to P2P delivery solutions, with the tag of "We move emotions". To democratize payments for the masses, the group keeps on innovating and implementing secured payment channels over traditional, mobile as well as online-to-offline modalities. Its O2O digital payment service Sohoj for migrant blue-collar workers took the dear spot among the millions of helpless workers spread around developed countries. Its boutique food business BanglaCut promises artisanal authenticity and process purity when it comes to loved meat, fish and accompaniments – and dreams to take the

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authentic Bangladeshi taste to world. "Bangladesh is the new breeding ground for world-class talents out of Asia, and I always believed – my country holds tremendous possibilities of making global marks", says Matin. And looking at all the striking stats the country delivers, it's never an over-statement.If you carefully look into it, the Dotlines canvas Matin, with his team of eleven, is working on – looks exquisitely thoughtful, carefully crafted and intricately painted – where each colour and their strokes are independently visible, but together, they speak a fascinating story in totality. No wonder why his intimate friends and close peers named him "the artist of business". A pure Bangladeshi by heart, Matin dreams of taking the flag of his motherland to many more capitals and touch millions of hearts.

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# Chapter-01:
# Introduction

## 1.1 Origin of the study:

This report has been prepared as a part of the internship program which is an essential part of the MBA in Supply Chain Management program under the Faculty of Business Studies Sonargoan University Dhaka (SU). This report was assigned to me by academic supervisor Professor Abul Kalam, Dean Faculty of Business Administration, Sonargaon University.

## 1.2. Introduction:

Supply chain management integrates supply and demand management within and across companies. Supply chain management refers to the management of the business process, starting from the source to customer end (Park, 2005). Supply chain management has earned its attention since the use of the terms in 1980 in the production industry for controlling the raw materials (Verma, 1998). With the time being passed, the dynamic business organization has recognized and hence initiated the supply chain management for the development and overall management of their business process. Supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and all logistics management activities (Webster, 2003). Importantly, it also includes the coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. Supply chain management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all the logistics management, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology (Simchi & Kaminsky, 2003).

## 1.3 Definitions of Supply Chain Management

Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace.

Supply chain management (SCM) is the broad range of activities required to plan, control and execute a product's flow from materials to production to distribution in the most economical way possible.

SCM represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible. Supply chains cover everything from production to product development to the information systems needed to direct these undertakings.

In commerce, supply chain management (SCM) is the management of the flow of goods and services, involves the movement and storage of raw materials, of work-in-process inventory, and of finished goods from point of origin to point of consumption. Interconnected, interrelated or interlinked networks, channels and node businesses combine in the provision of products and services required by end customers in a supply chain.

Supply-chain management has been defined as the "design, planning, execution, control, and monitoring of supply-chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally.

Supply chain management (SCM) is the process and activity of sourcing the raw materials or components an enterprise needs to create a product or service and deliver that product or service to customers.
SCM encompasses the integrated planning and execution of processes required to optimize the flow of materials, information and capital in functions that broadly include demand planning, sourcing, production, inventory management and logistics -- or storage and transportation. Companies use both business strategy and specialized software in these endeavors to create a competitive advantage.

Supply chain management is the handling of the entire production flow of a good or service starting from the raw components all the way to delivering the final product to the consumer. To accomplish this task, a company will create a network of suppliers (the “links” in the chain) that move the product along from the suppliers of raw materials to the organizations who deal directly with users.

At last, A supply chain is comprised of all the businesses and individual contributors involved in creating a product, from raw materials to finished merchandise.

## 1.4 Objective of the report

The main objective of this report is to fulfill the requirements of MBA in Supply Chain Management Degree by preparing and submitting the Thesis report. Apart from that, the general objective of this report is to give an overview of “A study on supply chain management of Carnival Technologies Ltd.”.

**Specific objective:**

- To identify the role of supply chain management.
- To identify the relationship of supply chain management with different functions of the organization.
- To getting an overview of the overall procurement and supply chain function.

- To analyze the supply chain management process.
- To provide possible recommendations to improve the overall supply chain function.
- **Impact impact of Supply Chain Management (SCM) on technology-based trading businesses**

### 1.5 Scope of the report

The scope of the study was strictly confined to the company profile, Trading business concept & Strategy report of **Carnival Technologies Ltd.** To collect the information, I discussed with different employees of different department as a Assistant manager. All other data related to the report was collected from websites of **SSD-Tech Ltd** & other related Documents.

## 1.6 Limitation of the report

In spite of my untiring effort, I guess there may be still some shortcoming prevailing in the report due to:

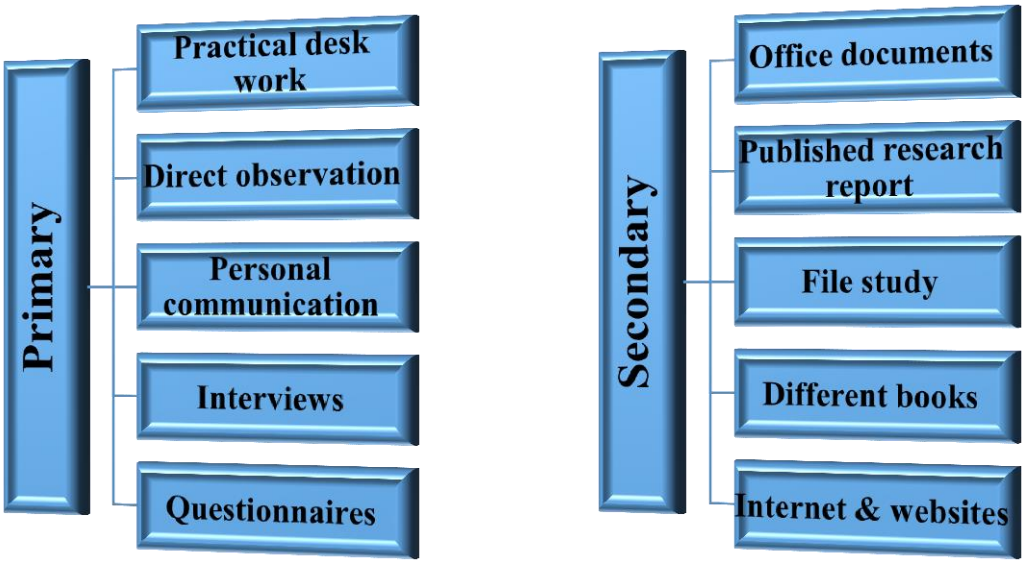
- Respondents may not give an accurate data.
- Busy nature of respondents.
- Not available of sufficient written documents to give a comprehensive view.
- Lack of the time of the busy key persons, necessary data collection
- Some useful information cannot be expressed in this report for the reason of confidentiality.

Despite these limitations I tried my best to collect necessary data and information that have been analyzed in the subsequent section.

# Chapter-02:
# Methodology

## 2.1 Methodology

To make this report both Primary and Secondary data used. As a part of primary data collection personal work experience, discussion and interview will be taken, and for secondary data collection I will get the help of various office documents, previous report, books, journals, websites etc.




## 2.2 Primary Data

Primary data collection methods can be divided into two groups: **quantitative and qualitative.** Where Quantitative data collection methods are based in mathematical calculations in various formats. Methods of quantitative data collection and analysis include: questionnaires with closed-ended questions, methods of correlation and regression, mean, mode and median and others.

In this report mainly qualitative and quantitative & Qualitative method will be used to collect primary data. Because qualitative method can capture changing attitudes within a target group, explain something which numbers alone are unable to reveal, a much more flexible and easy approach, you can only get answers to questions you think to ask. In qualitative approaches, personal communication and asking question can be hugely informative.

**Collection Methods**

1. Practical desk work
2. Direct observations
3. Personal communication
4. interviews,
5. questionnaires

## 2.3 Secondary Data

Secondary data is a type of data that has already been published in books, newspapers, magazines, journals, online portals etc. There is an abundance of data available in these sources about research area in business studies, almost regardless of the nature of the research area. Therefore, application of appropriate set of criteria to select secondary data to be used in the study plays an important role in terms of increasing the levels of research validity and reliability.

In my report I tried to minimize the usage of secondary data as much as possible. I have used secondary data only in the cases where it was not possible for me to use primary data.

**Collection Methods**

1. Various types of official documents
2. Some published research report, books, journal and articles
3. File study
4. Different books of relating to SCM
5. Internet, Website

**Sample**

For this internship report I selected a sample size of 50 to 60 people. As it was a personal communication, interview and informal discussion with different officials and businessmen. In this research, the sample is all the people who are directly or indirectly related with supply chain and logistic activities.

# Chapter-03:
# Literature Review

## 3.1 Literature Review

Supply Chain Management is a network of facilities that produce raw materials, transform them into intermediate goods and then final products, and deliver the products to customers through a distribution system. It spans procurement, manufacturing and distribution (Lee & Billington 1995) the basic objective of supply chain management is to "optimize performance of the chain to add as much value as possible for the least cost possible". In other words, it aims to link all the supply chain agents to jointly cooperate within the firm as a way to maximize productivity in the supply chain and deliver the most benefits to all related parties (Finch 2006). Adoption of Supply chain management practices in industries has steadily increased since the 1980s. A number of definitions are proposed and the concept is discussed from many perspectives. However, Cousins et al. (2006); Sachan and Datta (2005); Storey et al. (2006) provided excellent review on supply chain management literature. These papers define the concept, principals, nature, and development of SCM and indicate that there is intense research being conducted around the world in this field they critically assessed developments in the theory and practice of supply management.

Gunasekaran and McGaughey (2003) extended the scope of SCM beyond material management, partnership, information technology to the Total Quality Management areas like management commitment, organizational structure, training and behavioral issues. As firms' survival lies on integration, a good understanding of the integration process is a key aspect in SCM. Mouritsen et al. (2003) discussed that basic hypothesis "the more integration (wider the scope) – the better the management of the chain" is not always true and proved that it depends very much on the "environment" of the supply chain and the power relations between the participants in the supply chain. Authors proposed a set of management techniques and tools to analyze successful SCM strategies. It is also observed that research is not limited to hypothesis testing and data analysis, but more advanced techniques like simulation, Artificial Neural Network, and Fuzzy logic are also used for optimization and decision making in SCM. Koh and Tan (2006) used the principles of fuzzy logic for analyzing and monitoring performance of suppliers based on the criteria of product quality and delivery time whereas Chiu and Lin (2004) showed how the concepts of collaborative agents and artificial neural networks (ANNs) can work together to enable collaborative supply chain planning (SCP). It appears from literature review that researchers have studied supply chain management from a system perspective, or the systemic natures of interactions between the participants of supply chain are observed. Although numerous studies views SCM from different perspectives, this paper gives the better understanding of supply chain activities.

The integral parts of supply chain management were defined and categorized in earlier studies (Cappello & Schmitz, 2000). Comparison of different business functions with the supply chain management is studied and required for further arrangement in different industries (Park, 2005). Research on Pepsico UK found that the value of supply chain management impacted their business with the local agricultural firms (Louise, 2014).

Trends, opportunities, and practical information of supply chain management of the food supply chains in Bangladesh were found informative (karim & Hossain, 2014). The study focused on the high value of raw materials suppliers for the food processing industry of Bangladesh. An overview of the supply chain management in the fish processing industry of Bangladesh was critically analyzed and found that the lack of modern technology is hindering the development (Sheikh, Sen, & Hasan, 2012). The study also suggested ways to improve through the practice and implication of the theories of supply chain management.

A study focused on kallol group of industries found that most of the companies of the country were not recognized by most of the company (Islam, 2016). A study conducted by the academics of ICMAB tried to relate the current status of supply chain management in Bangladesh context with the traditional theories (Akhter, Uddin, & Jahan, 2018). A study conducted on PRAN-RFL group of Bangladesh visualizes the cost-cutting and profit migration through supply chain management (Azim, 2007).

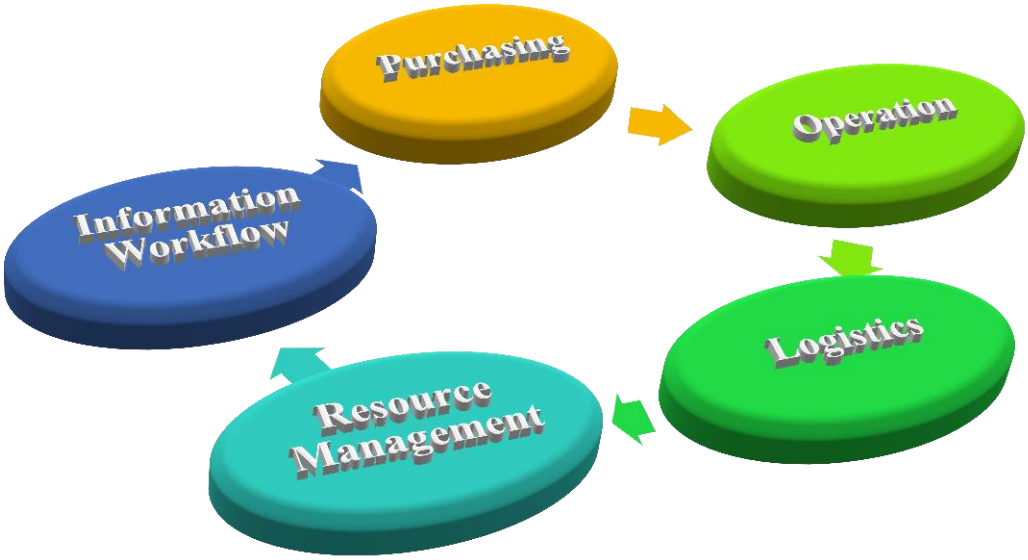
A close study related to the objectives of the study found 12 components that affected the supply chain management of the garment industry of Bangladesh as location , transportation and logistics , inventory and forecasting , marketing and channel restructuring , sourcing and supplier management, information and electronic mediated environments , product design and new product introduction , service and after-sales support, reverse logistics and green issues, outsourcing and strategic alliances, metrics and incentives , global issues (Basak, Seddiqe, Islam, & Akanda, 2014)

Simchi-Levi and Kaminsky (2000) define supply chain management as "the integration of key business processes among a network of interdependent suppliers, manufacturers, distribution centers, and retailers in order to improve the flow of goods, services, and information from original suppliers to final customers, with the objectives of reducing system-wide costs while maintaining required service levels". The Council of Supply Chain Management Professionals (CSCMP) (2004) defines SCM as: "SCM encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities, including coordination and collaboration with suppliers, intermediaries, third-party service providers, and customers". Cooper, Lambert, and Pagh (1997) define SCM as the management and integration of the entire set of business processes that provides products, services and information that add value for customers. Other definitions of supply chain management are offered in Table 1. Though these definitions differ slightly in wording, all communicate the importance of integration, communication and coordination between functions and organizations that will create value for the customer (Gillyard, 2003).

# Chapter-04:
# Overall Concept of SCM

## 4.1 Functions of Supply Chain Management

Supply chain management maintains the balance between the demand and supply and involves activities right from procurement of materials and converting them into finished goods to ensuring delivery at the right time to reach the end-consumer. Hence, supply chain management is the lifeline of an organization. It needs to be really efficient to keep the operations running like a well-oiled machine. A streamlined supply chain management chain can enhance customer relationship, lower down operational costs.




**The Role of global supply chain management primarily comprises five functions mentioned below:**

### 1. Purchasing

This is the first function of supply chain management. It pertains to procuring raw materials and other resources that are required to manufacture the goods. It requires coordination with suppliers to deliver the materials without any delays.

### 2. Operations

The operation team engages in demand planning and forecasting. Before giving raw material purchase order, the organization has to anticipate the possible market demand and number of units it needs to produce. Accordingly, it further sets the ball rolling for inventory management, production and shipping. If the demand is over anticipated, then it could result in

excess inventory cost. If the demand is under anticipated, the organization wouldn't be able to meet customer demand, thereby leading to revenue loss. So, operations function plays a critical role in supply chain management.

**3. Logistics**

This function of supply chain management requires immense coordination. The manufacturing of products has commenced. It needs space for storage until it is shipped for delivery. This calls for making local warehouse arrangements. Let's say; the products are to be delivered outside the city, state or country limits. This brings transportation in the loop. There will also be a need for outstation warehouses. Logistics ensures that products reach the end-point delivery without any glitches.

**4. Resource Management**

Any production consumes raw materials, technology, time and labor. However, all the processes need to be efficient and effective. This phase is taken care of by the resource management function team. It decides the allocation of resources in the right activity at the right time to optimize the production at reduced costs.

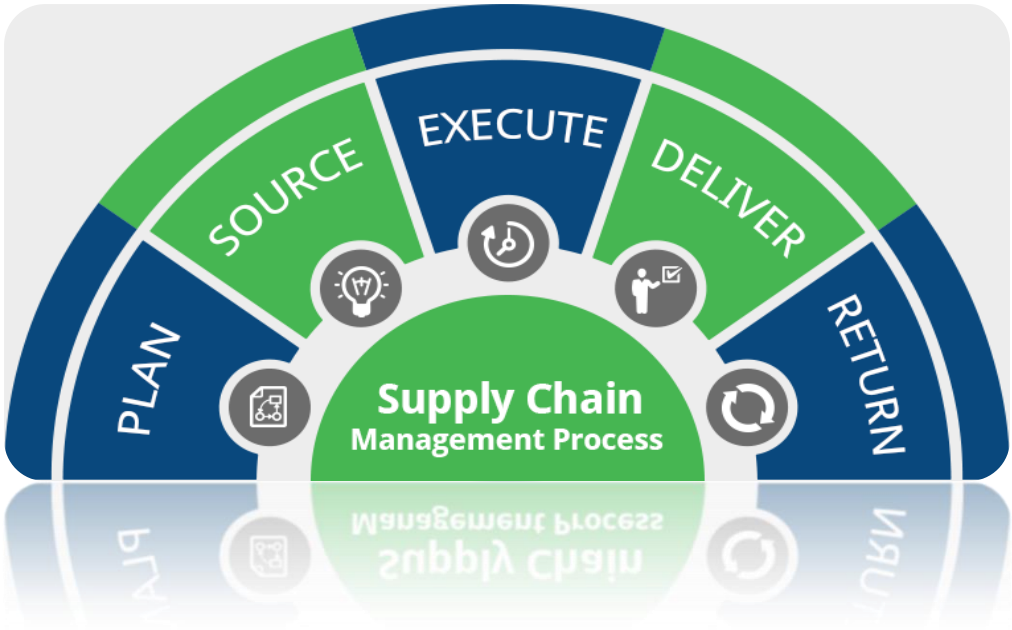
**5. Information Workflow**

Information sharing and distribution is what really keeps all other functions of supply chain management on track. If the information workflow and communication are poor, it could break apart the entire chain and lead to mismanagement.

It is important and essential to understand the five functions of supply chain management (SCM). Advanced Planning and Scheduling (APS) Software can aid with the five functions of supply chain management (SCM) with ease. Advanced Planning and Scheduling (APS) Software can provide thorough insight into your manufacturing operation through visual production scheduling. Advanced Planning and Scheduling (APS) Software is a must for manufacturing operations that are seeking to take their operation to the next level and improve the efficiency of their overall operation. APS is being implemented into manufacturing operations around the globe and will ensure that you will maintain your competitive edge.

## 4.2 Supply Chain Management process:

Plays a huge significance in running key operations for almost every organization. Without a successful supply chain, processes could halt at the floor level and ultimately bring down the results. For so many decades, supply chains have gone through a journey of their own from being so simple to recently developed algorithm based ones. With ever-evolving supply chain concepts, supply chain management process has become a dedicated function. Supply chain managers are given the responsibility to ensure that supply chain, be it external or internal, is efficient and cost-effective both. But another question that comes up is how they do it? The mechanism to be followed for effective supply chain management process involves five basic stages explained here.




**PLAN** – Planning is the strategic part of the **supply chain management process**, to find out the best possible blueprint of how to fulfill the end requirement. SCM managers should identify a list of key components like plant location & size, warehouse designing, delivery models, IT solutions' selection, etc. Not only this, the supply chain management process would be incomplete if key matrices like transportation cost modeling, warehouse efficiency models, etc. are not developed.

**SOURCE** – At this stage of **supply chain management**, the emphasis is on to ascertain the most reliable of suppliers for raw materials so that the production process would never jeopardize. But challenging conditions do arise during operations, supply chain managers must ensure key pain points of supply cycle are always being tracked to keep the engine running. Holisol believes that contractual framework as well as a selection of a capable

supplier is one thing, but there should be a tangible system in place for the continuous development of suppliers which would boost their efficiency as well.

**EXECUTE** – This is the stage where well-designed processes are implemented so that a perceivable shape is given to existing plans in the form of manufactured products which are ready for testing, packaging, and delivery. Not only this, results at this stage are quantified so that maximum possible efficiency is achieved. Holisol's specialists design cost-effective IT solutions which enable customers in building excellence and improving efficiency at the execution stage of the supply chain management process.

**DELIVER** – Supply chain when reaches this stage, the managers have a task at hand to deliver the product/service in the right quantity, at the right place and right time by employing suitable carriers. Supply chain managers should be fully equipped with modern IT tools to keep a track on warehousing networks, inventory models as well as invoicing and payment receipts.

**RETURN** – Returns' handling is the last step of the supply chain management process. It not only involves reviewing returned products for quality purposes but also managing their inventory. At the ground level, supply chain managers should deploy their resources supporting them with technology for faster pickups, quicker replacements, etc. Returns management should be a value enhancement measure in the eyes of supply chain managers and they must ensure every desirable measure is taken for maximum possible efficiency.

Holisol believes in its Design, Implement and Manage methodology for all the projects it undertakes and makes sure that the above steps are followed at the very basic level in all supply chains it is responsible for. Experts at Holisol also conclude that for successful implementation of supply chain management process, top-level executives should make necessary strategic moves to keep their supply chains relevant in changing business scenarios. Other than that, with the growing trend of technology implementation, supply chain management process should be designed with scope for implementation of suitable **IT solutions**. Supply chain managers should not be averse to tactical changes which would be cost-beneficial in all aspects like **warehousing**, **transportation**, **inventory**, etc. Finally, to top it up, activities at an operational level like everyday management of the supply chain must align with business goals.

## 4.3 Scope of Supply Chain Management:




### Minimizes Operating Cost

Supply chain management focuses on reducing the overall operating cost of the organization. It aims at bringing efficiency and raising the profitability of organizations. By developing a proper chain it brings down the purchasing cost, production cost and delivery cost. It enables smooth flow of raw materials from the supplier to an organization which reduces the holding period of materials with the supplier and avoids any losses due to delay in production. Similarly, companies are not required to hold on expensive inventories for a longer time and distribute quickly through the supply chain.

### Boosts Customer Service

Supply chain management helps in providing better service to customers. All production strategies are framed in accordance with requirements of customers to manufacture right product. It properly anticipates the demands of customers before initiating the production. Supply managers monitor all operations of business and ensure that quality products are produced using best combination of resources. Right product available to right cost provide better satisfaction to customers. This will boost their confidence level in company's products.

**Enhance Financial Position**

Management of supply chain has an effective role on the financial position of business. It improves the efficiency of the organization, cut down the excessive cost and avoids any shortage. Supply chain manager bring down the cost by reducing the use of fixed assets like plants, transportation vehicles, warehouses etc. Proper supply chain results in speedy flow of products which minimizes the blockage of funds in inventories. It ensures that optimum funds are always available which helps in improving financial position.

**Manages Distribution**

Distribution of products at the right time and the right location is a complex task for every organization. Supply chain management accelerated the overall distribution system of an organization. It coordinates with various transportation channels and warehouses for attaining faster movement of goods. Supply chain managers ensure that all products get delivered at the right location within the time limit. By developing a proper network for movement of goods it has to ease the whole distribution system.

**Bring coordination among partners**

Proper coordination among all partners of business increase productivity and profitability. It develops a proper channel through which employees, supplier and customers can easily interact with business. Managers can easily control the activities of their subordinates by communicating them all the required information.

Employees in case of any problem or error can contact their supervisors. Customers can also access their brands for any information through self-portals which are developed as a part of the customer support system. This enables a better exchange of information and brings coordination among partners.

**Inventory Management**

Maintaining an optimum inventory is a must for uninterrupted operation of every business. It keeps record of all inventories that is raw materials, spare parts and finished goods. Supply chain managers ensure that the proper amount of inventory is always maintained within the organization. They work towards avoiding situations like understocking or overstocking. Supply chain managers frame proper strategies for procuring, producing and maintaining all inventories as per requirements.

**Supplier Management**

Supply chain management works on strengthening the relationships between business and suppliers. It tracks and records every interactions or transaction with the suppliers. Proper

supply chain enables timely procurement of all required raw materials from suppliers. It develops a proper network through which suppliers and business can easily interact. Supply chain management solutions provide a self-service portal through which suppliers can contact the company in case of any issues or problems.

## 4.4 Components of SCM:

Supply chain management (SCM) encompasses a wide range of activities and processes aimed at ensuring the efficient flow of goods, information, and services from the initial supplier to the end consumer. It involves various components that work together to optimize the supply chain's performance. Here are the key components of supply chain management:

**Planning:**

**Demand Planning:** Forecasting and estimating customer demand for products or services.

**Supply Planning:** Determining the production and procurement strategies to meet demand while optimizing inventory levels.

**Production Planning:** Scheduling and coordinating production activities to fulfill demand efficiently.

**Inventory Planning:** Managing inventory levels to balance cost and service levels.

**Sourcing:** Supplier Selection: Identifying and evaluating potential suppliers based on factors like quality, cost, and reliability.

**Negotiation:** Negotiating contracts, terms, and pricing with suppliers.

Supplier Relationship Management (SRM): Managing and nurturing relationships with suppliers to improve collaboration and performance.

**Procurement:** Purchasing: Ordering and acquiring materials or goods from suppliers.

**Receiving:** Inspecting and verifying the received goods to ensure they meet quality and quantity requirements.

**Vendor Management:** Monitoring supplier performance, including on-time delivery and adherence to contract terms.

**Production:** Manufacturing and Assembly: The actual production or assembly of products using materials and components.

**Quality Control:** Ensuring that products meet quality standards and specifications.

**Capacity Planning:** Managing production capacity to meet demand without over- or underutilizing resources.

**Inventory Management**: Inventory Optimization: Balancing inventory levels to minimize holding costs while ensuring product availability.

**ABC Analysis:** Categorizing inventory items based on their value and importance.

**Safety Stock:** Maintaining a buffer stock to account for unexpected demand fluctuations.

**Warehousing and Distribution:** Warehouse Operations: Managing the storage, picking, packing, and shipping of products.

**Transportation:** Planning and executing the movement of goods from suppliers to distribution centers and from distribution centers to customers.

**Cross-Docking:** Transferring goods directly from incoming shipments to outgoing shipments without long-term storage.

**Logistics and Fulfillment:** Order Fulfillment: Processing customer orders, including order capture, picking, packing, and shipping.

**Last-Mile Delivery**: The final step of delivering products to the end customer, often a critical aspect of e-commerce supply chains.

**Reverse Logistics:** Managing product returns, recycling, or disposal.

**Information Technology (IT) and Technology Integration:** Supply Chain Software: Implementing software systems such as Enterprise Resource Planning (ERP) and Warehouse Management Systems (WMS) for data visibility and management.

**Data Analytics:** Utilizing data analytics tools to gain insights, forecast demand, and optimize supply chain processes.

**Risk Management:** Risk Assessment: Identifying and evaluating risks to the supply chain, such as disruptions, natural disasters, and geopolitical factors.

**Mitigation Strategies:** Developing strategies to mitigate and respond to supply chain risks.

**Collaboration and Communication:** Collaboration with internal departments and external partners, including suppliers, customers, and third-party logistics providers, to improve coordination and responsiveness.

**Performance Measurement and KPIs:** Tracking and monitoring supply chain performance using key performance indicators (KPIs) to assess efficiency, cost-effectiveness, and customer satisfaction.

**Sustainability and Green Supply Chain:** Incorporating environmentally responsible practices, such as reducing carbon emissions, minimizing waste, and sourcing sustainable materials.

Effective supply chain management requires a holistic approach that considers the interplay of these components while aligning them with organizational goals and customer

expectations. Continuous improvement and adaptation to changing market conditions are essential for maintaining a competitive edge in today's global business landscape.

## 4.5 Why is supply chain management important?

Over the last twenty years, the supply chains of manufacturers and retailers have become ever more tightly linked. In many industries, retail sales trigger replenishment orders to manufacturers. Manufacturers with a well-tuned, just-in-time supply chain can automatically restock retail shelves as products are sold. As collaboration has increased, additional data from supply chain partners has allowed companies to use advanced analytic tool to further improve results. Examples include:

- **Identifying potential problems before they occur**. When a customer orders more product than the manufacturer can deliver, the traditional response has been to short the order. This leaves the buyer feeling unimportant and convinced the manufacturer's service is poor. Manufacturers who anticipate the shortage before the buyer is disappointed may be able to offer a substitute product or other incentive to keep the buyer happy.
- **Optimizing price dynamically.** Seasonal products, particularly fashion products, have a limited shelf life. Any that don't sell by the end of the season are scrapped or sold at deep discounts to empty the warehouse. Airlines, hotels, and other companies with a limited, but perishable product, adjust prices dynamically to meet demand. While this is more difficult with clothing and other products where the supply can vary widely, similar forecasting techniques can improve margins.
- **Improving the allocation of available to promise inventory.** Today's tools dynamically allocate resources and schedule work based on the sales forecast, actual orders, and promised delivery of raw materials. Manufacturers are able to confirm a product delivery date when the order is placed, significantly reducing incorrectly filled orders.

## 4.6 How should the supply chain be measured and monitored?

Well-run supply chains are measured in a variety of different ways. Metrics help people focus on the most important activities and improve existing processes. Critical metrics support regulatory compliance, safety, or contractual obligations. Other metrics monitor and improve efficiency, improve service, and produce greater profits.

- Supply chains rely on a variety of metrics. Common metrics include:
- Perfect orders – the percentage of orders that are error free
- Cash to cash cycle time – the number of days between paying for raw materials/Equipment's and getting paid for the final product
- Order cycle time – The time from order receipt to product delivery
- Fill rate – The percentage of orders that are delivered as ordered on the first shipment.

In reality there are hundreds of supply chain metrics. The art is to find the right ones for your industry and your business.

# Chapter-05:
# Description of the organization

## 5.1 **Organization Overview:**

**Name Of Group of Companies is:** Dotlines Bangladesh Ltd.

**Name of Presedent:** Mahbubul Matin

**Year of Experience:** 17

**Country Footprints:** 17

**R&D Centers:** 2

**Heart Counts:** 1800

Incorporated in 2004, **Dotlines Bangladesh Ltd.** is a group of companies in Bangladesh that provide Multi type of services

- Bangladesh based technology solutions provider
- Agro venture
- digital Service
- payment gateway
- online platform
- Insurance company
- Logistic Support
- Technology Based Trading Business
- Online Education Platform
- Connectivity
- Health Care

## 5.2 Business Wings of Dotlines Bangladesh Ltd.

1. Carnival Technologies Ltd.
2. Banglacut
3. Carnival Assure
4. Carnival Care
5. Lattu
6. Carnival Internet
7. eCourier
8. Ghoori Learning
9. I Carnival
10. MindCurrent
11. Pulse
12. Sohoj
13. SSD-Tech ltd.
14. The Eastern Pickles company Ltd.
15. Audra

which provides custom-made and innovative solutions for telecommunication operators, enterprises, and caters to specific needs of the people of Bangladesh. The company provides Value Added Services platforms to the leading telecom operators of Bangladesh since 2008 and later launched Carnival Internet (home and corporate internet service) in 2015. **Dotlines Bangladesh Ltd.** steps into its 15th year in 2019, with big strides in technology-based direct-to-consumer solutions which will elevate and enhance the lives of the people of Bangladesh. In the past 3 years, recognizing the need of the nation,

**Dotlines Bangladesh Ltd.** successfully transformed itself consciously from a B2B IT services company to a B2C technology-enabled services entity.

**Dotlines ECO System**




## 5.3 Mission Vision & Key Partners of Dotlines Bangladesh Ltd.



**Vision:**

**Dotlines Bangladesh Ltd.** is committed to build long-term relationships based on integrity, performance, value, and client satisfaction.

**Mission:**

Quality in all our work is the key. **Dotlines Bangladesh Ltd.** work in close relation with clients, service providers and architects to obtain optimal teamwork and efficiency by which to become a legend construction company with our quality services delivered by the most qualified people.

**Objectives:**

- special focus on value added service & charging platforms for telco / non-telco enterprises and consumers across Asia Pacific regions.
- Achieve market leadership and operating excellence
- Continuously retain and develop human capital
- Understand and satisfy government's organization construction need.

## 5.4 Dotlines Groups concern (SSD-Tech Ltd.) Company Services:

**CARNIVAL TECHNOLOGIES LTD.**

Carnival Technologies trading business generally includes any activity carried on for the production of income from selling goods or performing services.

**CARNIVAL INTERNET**

A young, nimble and disruptive nationwide broadband internet service provider. Redefining home and SMB broadband through innovative technology.






**RADIO2008**

Its a IVR based mobile music radio which is accessible from everywhere in Bangladesh, just a call away. User can access huge music library categorized under folk, modern, pop and movie songs, by browsing through IVR. The in-built AI based CMS tracks user behavior and feeds customized user preference content from the next time the user dials. This AI powered IVR music radio currently has 1 million users across Bangladesh.

Renovation also called remodeling is the process of improving a broken, damaged, or outdated structure. Renovations are typically either commercial or residential.

**LIFESTYLE**

Lifestyle IVR is a gateway to unlimited infotainment through IVR that can be accessed just by dialing a short code from anywhere in Bangladesh. Users enjoy a wide variety of contents like daily horoscope, magazines including favorite stars' interview, regular audio drama under different categories. The religiously inclined can start their day by listening to a hadith, surah, qirat or duah with its rich Islamic content library. This IVR lifestyle service with wide content library currently has 1 million users across Bangladesh.

**Voice chat**

Voice chat is the first ever IVR based anonymous friendship portal in Bangladesh. User journey starts from dialling a shortcode from their mobile and creating profiles with a unique ID. This IVR based social media currently has 1.5 million users across Bangladesh.

**CONSENT GATEWAY**

As the most critical part of the SDP, for ensuring real customers are opted into real services, SSD-TECH has developed its capacity in recent years to defend fraudulent activities and ensure smooth customer registration process. Without implementing OTP based transaction, SSD-TECH invests continuously on developing new walls between simulated traffic and telecom subscribers. Everyday, the Great Wall Consent Gateway saves 1 million customers from being wrongly subscribed and charged. Available across telecom channels, the system grows stronger everyday by generating security systems and learning patterns through immense data mining.

**BOOMCAST**

Boom cast is a complete Voice broadcasting, text messaging, and IVR solution to optimize Business outreach, incremental revenue, and save critical time for business owners. Boomcast caters to both large corporations and SME segment. Messages can be one-way or interactive. masked or unmasked. instant or scheduled. In any language, within seconds, it hits the target audience and initiates business impact. Users can link the extensive reporting panel with sales data to optimize the outreach program.

**WAP**

To serve the non-data / feature phone market, SSD TECH has come up with Radio2008 WAP consisting a wide variety of contents like audio and video songs, drama, games, wallpapers and infotainment contents like beauty tips, kitchen tips etc.

**SMS & USSD GATEWAY**

SSD-TECH's superior SMS gateway brings forward the immense capacity of handling in-memory requests with zero delay. The text and numeric gateway handles daily content delivery along with life cycle notification management of all subscribers. The modular design helps to increase capacity seamlessly. This robust platform is capable of handling 80 million+ daily transactions.

## 5.5 SSD-Tech Ltd. Organogram:

**Managing Director**

⇩

**Director (Operation)** **Director (Material & Survey)** **Director (Admin & HR)**

⇩

**General Manager**

⇩

**Resident Engineer** **Chief Financial Officer**

⇩

**Manager**

⇩

**Assistant Manager**

⇩

**Executive**

⇩

**Project Manager**

⇩

**Project Engineer**

⇩

**Project Accountant**

⇩

**Project Supervisor**

## 5.6 Functions of the organization

**Engineering Department:**

The Engineering Department provides technical, engineering, surveying and hands on support on capital improvement projects ranging from concept development through engineering design, project management and construction inspections as authorized and funded by the company.

**Procurement and supply chain department:**

Responsible for all the materials sourcing, purchase, inventory management, logistic support, overall internal supply chain management of the company.

**Accounting and Finance department:**

Looks after the financial activities of the organization. The accounting and finance department is at the center of any organization and is responsible for ensuring the efficient financial management and financial controls necessary to support all business activities.

**Operations Department:**

This department looks after the overall projects activities and also responsible for the quality control of the works. Though it's an individual department, but it is actually a part of overall supply chain.

**Admin & Tender department:**

Hires the employees and the workers for the projects. It is the department of the organization which is mainly responsible for e-gp tender analysis and submission.

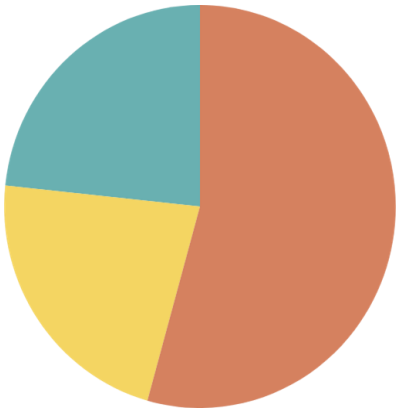
## 5.7 Networking Trading Business Concept of SSD-Tech Ltd.

**# Name of the Business Wings: Carnival Technologies Ltd.**

## 5.8 Business Proposal & Market Positioning

- ICT distribution companies
- Type: Trading
- Dealing with: hardware, networking goods & Service business in Bangladesh

**Carnival Technologies Ltd. Technical Equipment's selling Market Positioning**



Above Chart we see

- FTTh Device 55%
- Optical Fiber 23%
- Others 22%

## 5.9 Reason For Selecting Trading business

- **systems solutions and development technologies ltd(SSD-Tech Ltd.)** have related technology service providing business; Carnival Internet, MI circle etc
- Carnival internet is Number 1 position ISP in Bangladesh
- Carnival Internet 1200+ pop all Over Bangladesh
- 400+ partner all over Bangladesh
- **Systems solutions and development technologies ltd(SSD-Tech Ltd.)** Already connected with target clients by others products/service
- **systems solutions and development technologies ltd(SSD-Tech Ltd.)** Have dynamic Marco team with related fields
- carnival internet & Rural Haat Activations networking have existing products lineup with ICT distribution companies in Bangladesh.

## 5.10 Business Component/Products/Service

**Optical Fiber**

2core | 4 core | 6core | 12 core to 248 core(Armored/Non Armored)

**Table 01: Optical Fiber List**

| **OPTICAL FIBER** | |
|---|---|
| OPTICAL FIBER | FTTH 2 CORE OPTICAL FIBER |
| OPTICAL FIBER | FTTH 2 CORE OPTICAL FIBER |
| OPTICAL FIBER | 4 CORE |
| OPTICAL FIBER | 6 CORE |
| OPTICAL FIBER | 6 CORE (OUTDOOR) |
| OPTICAL FIBER | 6 CORE ARMORED |
| OPTICAL FIBER | 6 CORE ARMORED MULTIMODE |
| OPTICAL FIBER | 12 CORE |
| OPTICAL FIBER | 12 CORE ARMORED |
| OPTICAL FIBER | 12 CORE ARMORED MULTIMODE |
| OPTICAL FIBER | 24 CORE |
| OPTICAL FIBER | 24 CORE ARMORED |
| OPTICAL FIBER | 48 CORE ARMORED |
| OPTICAL FIBER | 96 CORE MLTIMODE ARMORED |

**Intelligent Networking device**

Router | Switch SFP Modules | | Converter | AP | Radio Equipment's | Server | NVR DVR | Camera | Cloud Storage | etc

**Table 02: Intelligent Networking device**

| **Intelligent Networking Devices** | |
|---|---|
| ROUTER | 300 MBPS WIFI |
| SWITCH | 24-PORT GBE L2 POE SWITCH WITH GBE UPLINK |
| SFP MODULE | 10/100/1000BASE 100M(COPPER SFP) |
| MEDIA CONVERTER | 10/100MTX-100BASE FX SFP SLOT |
| MULTI BIO TIME ATTENDANC | ACESS CONTROL TERMINAL |
| ACCESS CONTROL | TIME ATTENDENCE TERMINAL |
| ACCESS POINT | WIRELESS 300MBPS ACESS POINT |
| CLOUD STORAGE | 4-BAY PERSONAL CLOUD STORAGE |
| REDIO EQUIPMENTS | 5GHZ CARRIER CLASS AIRMAX BASESTATION |
| CONVERTER | VEDIO FIBER OPTIC CONVERTER |
| OTDR | AQ1000 OTDR |
| POWER METER | PON OPTICAL POWER METER |

**FTTH Solutions device**

EPON/ GPON OLT | EPON/GPON ONU | EPON/GPON SFP | XPON OLT/ONU |

**03:** FTTH Solutions device

| **FTTH Solutions Related Devices** | |
|---|---|
| CHASIS BASED EPON OLT | 16 PON PORT |
| EPON OLT | 16 PON PORT |
| EPON ONU | 1 PORT |
| GEPON OLT | 4 PORT |
| GPON ONT | 1 PORT |
| XPON ONU | 1 PORT |

**Passive products for networking Device**

UTP Cable & passive Accessories

**Table 04:** Passive products List for networking Device

| **Passive Networking item** | |
|---|---|
| CABLE | CAT6 UTP CABLE |
| FIBER ITEM ADAPTER | SC TYPE |
| CONNECTOR | CAT-6 |
| ENCLOSER | DOOM TYPE(12/24/48/96/144 port) |
| FACE PLATE | SINGLE PORT SHUTTER FACE PLATE, DEEP SILVER COLOR |
| FIBER PATCH CORD | SC/SC(1,2,3,5,10,15,20 METER, 2MM/3MM) |
| FIBER SPLITTER | 1:32 WITH CONNECTOR |
| MODULAR | CAT6A |
| PATCH PANEL | FIBER PANEL BOX SET(W/FRONT PLATE & ADAPTERS) |
| PIGTAIL | LC TYPE |
| RACK | 12U WCB CABINET 600 DEPTH, BLACK |
| UTP PATCH CORD | CAT6, .5/1/2/3/5/10/20 METER |

## 5.11 OEM and Why

All above item **Carnival Technologies ltd**. Manufacturing by OEM from Abroad

**What is OEM:** original equipment manufacturer, an organization that makes devices from component parts bought from other organizations.

**Why OEM:** for **Carnival Technologies ltd.** Brand value and authentication.

**5.11 Why Supply Chain Management (SCM) of SSD-Tech Ltd. Decided for OEM:**

Landing cost: in cost reducing strategy Landing cost is one of the very remarkable reason for OEM

**Table 05: OEM Landing Cost**

| **Supplier: X** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **ITEM: FTTH ITEM** | | | | | | | | | | | |
| **LC: 111** | | | | | | | | | | | |
| **LC Opening Date: 12/12/12** | | | | | | | | | | | |
| **Bank: Southeast bank Ltd.** | | | | | | | | | | | |
| **Date of Received:** | | | | | | | | | | | |
| **12-Jul-22** | **Partial Shipment Value** | **$19,050** | | | | | | | | | **11,494,449** |
| | | | | | **166,900** | | **166,900** | **141,500** | **290,202** | **16,397,932** | **16,397,932** |
| **Model no.** | **Description** | **Qty** | **UoM** | **Rate/US$ (Actual)** | **Total US$ (Actual)** | **Rate/ US$ (LC)** | **C & F Value / US$** | **Duty Tax etc. BDT** | **Other Exp. BDT** | **Total Landed cost BDT** | **Landed cost/Unit** |
| **C-G1V1-22** | **Single Ethernet port Epon Onu** | **10000** | **Unit** | **8.2** | **82,000.00** | **8.2** | **82,000.00** | **58,091** | **142,580** | **8,045,074** | **805** |
| **C-P4G10-22** | **4ports Epon OLT with 10G** | **120** | **Unit** | **295** | **35,400.00** | **295** | **35,400.00** | **46,405** | **61,553** | **3,494,444** | **29,120** |
| **C-p8G10-22** | **8ports Epon OLT with 10G** | **100** | **Unit** | **495** | **49,500.00** | **495** | **49,500.00** | **37,004** | **86,069** | **4,858,414** | **48,584.14** |
| | | **10,220** | | **798.2** | **166,900** | **798.2** | **166,900** | **141,500** | **290,202** | **16,397,932** | |

In **Table 05** we showing Landing cost of FTTH item that Carnival Technologies Ltd. Selling in local market and captured almost 55% of market share. There are many kind of FTTH technical Equipment but we showing most common and essential equipment's for networking setup. Epon ONU, EPN OLT is common devices of FTTH solutions. Here Epon onu OEM price is $8.2 and its Bangldesh customs duty is 10% of its OEM value.

Calculating import landing cost, local purchase costing, and a CS (Costing and Sales) report involves various financial and accounting processes.

Here are the followed steps and considerations for each:

**Import Landing Cost:**

Import landing cost refers to the total cost incurred in bringing goods from a foreign supplier to **Carnival Technologies ltd.** local location. It includes the purchase price of the goods, shipping costs, customs duties, taxes, and other expenses. To calculate it, we followed these steps:

**a. Purchase Price:** Start with the purchase price of the goods in the foreign currency (e.g., USD).

**b. Shipping Costs:** Add any transportation, freight, or shipping costs to move the goods to your location.

**c. Customs Duties and Taxes:** Include any customs duties, import taxes, and fees associated with importing the goods.

**d. Miscellaneous Costs:** Consider other expenses such as insurance, handling fees, and brokerage fees.

**e. Currency Conversion:** If necessary, convert all costs to your local currency at the applicable exchange rate.

**f. Sum All Costs:** Add up all these costs to get the import landing cost

**We found landing cost by adding below cost added with OEM value:**

**Invoice Value:**
L/C Margin
Remaining (as LTR)
TT Payment
Freight cost
Bank Charges
Insurance
Labor
Carriage Inward
L/C Amendment

**Customs Duty, Tax, VAT etc.:**
Customs Duty
Regulatory Duty
Supplementary Duty
Value Added Tax
Advance Trade VAT
Advance Income TAX
Fines
Global Taxes (DF Fee/VAT on C & F Comm.)

**C & F Commission and Others:**
Examine Charge/MISC
Labour Charge For Exmiantion
Assessment Charge/MISC
Delivery Charge/MISC
Labour Charge For Delivery
Port Charge
Shipping Line Charge
Courier Charge
B/L Verify
Agency Commission

**Total Landed Cost**

Advance Income Tax
Total Duty
Other Exp.

## 5.12 Local Purchase cost

If Local Purchase is not cost reducing then its another reason for OEM

**Table 06: Local Purchase Cost**

| Model no. | Description | Qty | UoM | Price including VAT & TAX | Total Local Purchasing Cost |
|---|---|---|---|---|---|
| C-G1V1-22 | Single Ethernet port Epon Onu | 10000 | Unit | 1,200.00 | 12,000,000.00 |
| C-P4G10-22 | 4ports Epon OLT with 10G | 120 | Unit | 47,000.00 | 5,640,000.00 |
| C-p8G10-22 | 8ports Epon OLT with 10G | 100 | Unit | 75,000.00 | 7,500,000.00 |
| | | | | | 25,140,000.00 |

In Table 06 we showing what is Local Purchase cost of same item (Epon Onu , Epon OLT) that **Carnival Technologies ltd.** calculated OEM costing.

**Local Purchase Costing:**

Local purchase costing is the cost associated with acquiring goods or materials locally. It involves understanding the cost of goods purchased within your country. Here are the steps that followed by **Carnival Technologies ltd.:**

**a. Purchase Price:** Start with the purchase price of the goods or materials.

**b. Shipping Costs:** If there are any transportation or delivery charges, include them.

**c. Taxes and Fees:** Include any local taxes, fees, or tariffs associated with the purchase.

**d. Miscellaneous Costs:** Consider other expenses related to the purchase.

**e. Sum All Costs:** Add up all these costs to get the local purchase cost

## 5.13 comparative study report(CS report) between Local Purchase and OEM Import

Identification the Minimum cost is the main purpose of CS report

**Table 07: CS Report**

| CS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process** | | | | | **OEM** | | **Local Purchase** | |
| **Sl #** | **Item Name** | **Model** | **Qty** | **UoM** | **Unit Price** | **Total Price** | **Unit Pricee** | **Total price** |
| **1** | **Single Ethernet port Epon Onu** | **C-G1V1-22** | **10000** | **pcs** | **1200** | **12000000** | **805** | **8050000** |
| **2** | **4ports Epon OLT with 10G** | **C-P4G10-22** | **120** | **pcs** | **47000** | **5640000** | **29120** | **3494400** |
| **3** | **8ports Epon OLT with 10G** | **C-p8G10-22** | **100** | **pcs** | **75000** | **7500000** | **48584.14** | **4858414** |
| | | | **Total** | | | **25140000** | | **16402814** |

**Table 08: CS Report**

| | |
|---|---|
| **Local Sourcing** | **25140000** |
| **OEM** | **16402814** |
| **Saving by OEM** | **8737186** |

In Table 07 we showing the comparative study report (CS report) of Local purchase VS Import OEM purchase for **Carnival Technologies ltd.**

**Table 08** CS report to analyze the profitability of your products or services. Identify which products or services are most profitable and which may need pricing adjustments or cost optimizations.The accuracy of these calculations depends on the completeness and accuracy of your financial records. Proper accounting practices, documentation, and transparency are crucial for making informed decisions based on these reports. Additionally, it's advisable to consult with a financial or accounting professional for guidance, especially in complex import and costing scenarios.

followed below policies for doing CS report:

**CS Report (Costing and Sales Report):**

A CS report combines information about the cost of goods sold (COGS) and sales data to assess the profitability of products or services. It helps in making informed pricing decisions. Here's how **Carnival Technologies ltd.** create a CS report:

**a. Cost of Goods Sold (COGS):**

- For imported goods, use the import landing cost.
- For locally purchased goods, use the local purchase costing.

**b. Sales Data:**

- Gather sales data for the products or services, including the selling price and the quantity sold.

c. Calculate Gross Profit:

- Gross Profit = Total Sales Revenue - COGS.

d. Calculate Gross Margin:

- Gross Margin = (Gross Profit / Total Sales Revenue) x 100.

## 5.14 Demand Forecasting:

**What is Demand Forecasting:** Demand forecasting is a critical process for businesses to predict future customer demand for their products or services. Accurate demand forecasting helps optimize inventory levels, production schedules, and overall business operations. Here's a step-by-step guide on **Carnival Technologies ltd.** calculate demand forecasting:

**We should Define our Objective**:

Start by clearly defining the purpose and scope of your demand forecasting. Determine what specific products or services you want to forecast demand for and the time frame (e.g., monthly, quarterly, annually).

**Gather Historical Data:**

Collect historical sales data for the chosen products or services. Ideally, you should have data for a sufficiently long period to identify trends and seasonality.

**Preprocess Data:**

Clean and preprocess your historical data. This may involve removing outliers, dealing with missing values, and transforming data to make it suitable for analysis.

**We Choosed Forecasting Methods:** Select the appropriate forecasting methods or models based on the characteristics of your data and your objectives. Common forecasting methods include:

**Time Series Analysis**: Suitable for data with a clear time component, such as daily, monthly, or yearly sales.

Regression Analysis: Useful when demand is influenced by various factors (e.g., price, marketing spend, seasonality).

**Machine Learning Models:** Complex algorithms can be employed for demand forecasting when dealing with large datasets and complex relationships.

Split Data for Validation:

Divide your historical data into training and validation sets. You can use a portion of your data to train your forecasting model and the rest to validate its accuracy.

**Build and Validate Models:**

Implement the chosen forecasting methods and use the training data to build models. Then, validate the models using the validation dataset to assess their accuracy. Common accuracy metrics include Mean Absolute Error (MAE), Mean Squared Error (MSE), and Root Mean Squared Error (RMSE).

**Select the Best Model:**

Compare the performance of different forecasting models and select the one that provides the most accurate and reliable predictions.

**Forecast Future Demand:**

Use the selected model to forecast future demand for the specified time frame. The forecasted demand will be in the form of numerical values, such as sales quantities or revenue.

**Monitor and Update:**

Continuously monitor the actual demand and compare it to your forecasts. If there are significant discrepancies, update your models and assumptions accordingly. Demand forecasting is an iterative process.

**Consider External Factors:**

Be aware of external factors that may influence demand, such as economic conditions, market trends, competition, and seasonal variations. Incorporate these factors into your forecasting models if relevant.

**Collaborate Across Departments:**

Collaborate with other departments like sales, marketing, and production to gather insights and input that can enhance the accuracy of your demand forecasts.

**Use Forecast for Planning:**

Utilize the demand forecasts for inventory management, production planning, marketing campaigns, and financial budgeting.

Demand forecasting is not a one-size-fits-all process, and the choice of methods and models may vary depending on your industry, data availability, and business goals. Regularly reviewing and improving your forecasting process is essential for maintaining its accuracy and relevance to your business needs.

**Table 09: Demand Forecasting**

| **Monthwise Sales Target:** | | | | | | | | | **QTY in PCS** |
|---|---|---|---|---|---|---|---|---|---|
| **Product Name** | **22-Nov** | **22-Dec** | **23-Jan** | **23-Feb** | **23-Mar** | **23-Apr** | **23-May** | **23-Jun** | **Total** |
| **OLT 4 Port** | **10** | **15** | **25** | **40** | **45** | **50** | **55** | **60** | **300** |
| **OLT 8 Port** | **7** | **10** | **20** | **25** | **30** | **35** | **40** | **45** | **212** |
| **ONU own use** | **660** | **660** | **750** | **700** | **700** | **700** | **700** | **700** | **5,570** |
| **ONU Sales** | **500** | **520** | **540** | **1000** | **1020** | **1040** | **1060** | **1080** | **6,760** |

## 5.15 Cost forecasting VS profit analysis

Cost vs. profit analysis is a critical financial evaluation that helps businesses assess the relationship between their costs and the profits generated from their operations. This analysis is essential for making informed decisions about pricing, cost control, and overall financial performance. Here's an overview of cost vs. profit analysis:

**Table 10: Month wise Cost forecasting**

| **Price USD:** | |
|---|---|
| **Product Name** | **Price** |
| **OLT 4 Port** | **295** |
| **OLT 8 Port** | **495** |
| **ONU** | **8.2** |

| **Product Name** | **22-Nov** | **22-Dec** | **23-Jan** | **23-Feb** | **23-Mar** | **23-Apr** | **23-May** | **23-Jun** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| **OLT 4 Port** | **2,950** | **4,425** | **7,375** | **11,800** | **13,275** | **14,750** | **16,225** | **17,700** | **88,500** |
| **OLT 8 Port** | **3,465** | **4,950** | **9,900** | **12,375** | **14,850** | **17,325** | **19,800** | **22,275** | **104,940** |
| **ONU own use** | **5,412** | **5,412** | **6,150** | **5,740** | **5,740** | **5,740** | **5,740** | **5,740** | **45,674** |
| **ONU Sales** | **4,100** | **4,264** | **4,428** | **8,200** | **8,364** | **8,528** | **8,692** | **8,856** | **55,432** |

In **Table 10** we Calculating cost forecasting involves using historical data, assumptions, and various forecasting methods to estimate future costs for a specific business operation. The exact approach and complexity of the calculation may vary depending on the nature of the costs and the available data. Here we followed below strategies for calculate cost forecasting:

**1. Define the Scope:**

Clearly define what our forecasting costs for.

**2. Gather Historical Data:**

Collect historical cost data related to the scope defined in step 1. This data should cover a period that provides enough information to identify trends and patterns. The data could include expenses, materials costs, labor costs, and any other relevant cost components.

**3. Preprocess Data**:

Clean and preprocess the historical data. Remove any outliers or errors that could skew the forecast. Ensure that the data is consistent and accurate.

**4. Choose a Forecasting Method:**

Select an appropriate forecasting method based on the nature of the costs and the available data. Common forecasting methods include:

**Time Series Analysis:** Suitable for costs with a clear time-based pattern (e.g., monthly utility costs).

**Regression Analysis:** Useful when costs are influenced by various factors, such as sales volumes or production levels.

**Budget-Based Forecasting:** If you have a detailed budget, you can use it as a basis for forecasting.

**5. Build the Forecasting Model:**

Implement the chosen forecasting method using the historical data. This will involve using mathematical equations, algorithms, or statistical software to generate the forecast.

**6. Validate the Model:**

Validate the forecasting model's accuracy by comparing its predictions with the actual historical data. Use statistical measures like Mean Absolute Error (MAE) or Root Mean Squared Error (RMSE) to assess the model's performance.

**7. Forecast Future Costs:**

Use the validated model to forecast future costs for the desired time period. The forecasted costs will be estimates of future expenses based on the historical data and the forecasting method.

**8. Consider External Factors:**

Take into account any external factors that may influence costs, such as inflation rates, changes in regulations, or market conditions. Adjust the forecast as needed to account for these factors.

**9. Monitor and Update:**

Continuously monitor actual costs as they occur and compare them to the forecasted costs. If there are significant discrepancies, update the forecast and adjust your assumptions or methods accordingly.

**10. Document Assumptions and Methodology:**

Clearly document the assumptions you made and the methodology you used for your cost forecasting. This documentation is crucial for transparency and future reference.

**11. Communicate Results:**

Share the cost forecast and your findings with relevant stakeholders, such as management, finance teams, and project teams. Explain the rationale behind the forecast and any potential risks or uncertainties.

Cost forecasting is an iterative process, and the accuracy of your forecast may improve over time as you refine your methods and gather more data. The choice of forecasting method and complexity will depend on the specific requirements of your business and the available resource

**Table 11: Half yearly cost vs profit analysis of Carnival Technologies ltd.**

| Supplier: X | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Forecast from Nov'22 to June'23 | | | | | | | | | | | | | |
| D2D Analysis | | | | | | | | | | | | | |
| | | | | | | $115 | | | 870 | | | | |
| Description | Qty | Weight per unit | UoM | Rate/US$ (Actual) | TT | TT $ | Invoice Value BDT | CnF Exp. BDT | Total Landed cost BDT | Landed cost/Unit | Cost after GP | Total Sale Value | Total GP |
| Onu | 12,330 | 2,910 | Pcs | 8.2 | 8.2 | 101,106 | 11,627,190 | 2,531,596 | 14,158,786 | 1,148 | 1,286 | 15,857,840 | 1,699,054 |
| 4ports OLT | 300 | 1,200 | Pcs | 295 | 295 | 88,500 | 10,177,500 | 1,044,000 | 11,221,500 | 37,405 | 50,497 | 15,149,025 | 3,927,525 |
| 8ports OLT | 212 | 1,124 | Pcs | 495 | 495 | 104,940 | 12,068,100 | 977,532 | 13,045,632 | 61,536 | 92,304 | 19,568,448 | 6,522,816 |

**Table 12: Carnival Technologies Ltd. Month wise sales target (by sales Value)**

| Product Name | Unit price | 23-Jan | 23-Feb | 23-Mar | 23-Apr | 23-May | 23-Jun | Total |
|---|---|---|---|---|---|---|---|---|
| OLT 4 Port | 44,125 | 1,103,119 | 1,764,990 | 1,985,614 | 2,206,238 | 2,426,861 | 2,647,485 | 12,134,306 |
| OLT 8 Port | 80,424 | 1,608,480 | 2,010,600 | 2,412,720 | 2,814,840 | 3,216,960 | 3,619,080 | 15,682,680 |
| ONU own use | 1,139 | 854,381 | 797,422 | 797,422 | 797,422 | 797,422 | 797,422 | 4,841,491 |
| ONU Sales | 1,139 | 615,154 | 1,139,174 | 1,161,958 | 1,184,741 | 1,207,525 | 1,230,308 | 6,538,861 |
| | Total | 4,181,134 | 5,712,186 | 6,357,714 | 7,003,241 | 7,648,768 | 8,294,295 | 39,197,339 |

**Cost Analysis:**

Cost analysis focuses on understanding and evaluating the expenses incurred by a business to produce and deliver its products or services. Key components of cost analysis include:

**Fixed Costs:** Fixed costs are expenses that do not change with variations in production levels or sales. Examples include rent, salaries of permanent staff, and insurance premiums.

**Variable Costs:** Variable costs fluctuate in direct proportion to changes in production or sales. Examples include raw materials, direct labor, and shipping costs.

**Total Cost:** The total cost of production is the sum of fixed and variable costs.

**Cost Breakdown:** Businesses often break down costs into various categories, such as manufacturing costs, marketing costs, and administrative costs. This breakdown helps identify areas where cost reductions or efficiencies may be possible.

**Table 13: Month wise costing**

| Product Name | Unit price | 23-Jan | 23-Feb | 23-Mar | 23-Apr | 23-May | 23-Jun | Total |
|---|---|---|---|---|---|---|---|---|
| OLT 4 Port | 37,405 | 935,125 | 1,496,200 | 1,683,225 | 1,870,250 | 2,057,275 | 2,244,300 | 10,286,375 |
| OLT 8 Port | 61,536 | 1,230,720 | 1,538,400 | 1,846,080 | 2,153,760 | 2,461,440 | 2,769,120 | 11,999,520 |
| ONU own use | 1,148 | 861,240 | 803,824 | 803,824 | 803,824 | 803,824 | 803,824 | 4,880,360 |
| ONU Sales | 1,148 | 620,093 | 1,148,320 | 1,171,286 | 1,194,253 | 1,217,219 | 1,240,186 | 6,591,357 |
| | Total | 3,647,178 | 4,986,744 | 5,504,415 | 6,022,087 | 6,539,758 | 7,057,430 | 33,757,612 |

**Profit Analysis:**

Profit analysis, on the other hand, focuses on assessing the revenue generated by a business and calculating the resulting profit after deducting all costs. We know Key components of profit analysis include as:

**Revenue:** Revenue represents the total income generated by selling products or services. It is calculated by multiplying the number of units sold by the selling price per unit.

**Gross Profit:** Gross profit is the difference between revenue and the cost of goods sold (COGS). It represents the profit generated from core business operations before deducting operating expenses.

**Operating Profit:** Operating profit, also known as Earnings Before Interest and Taxes (EBIT), includes gross profit minus operating expenses such as marketing, rent, utilities, and salaries.

**Cost vs. Profit Analysis:**

Cost vs. profit analysis involves comparing the costs incurred in running a business to the profits generated. The primary objective is to assess whether the business is generating sufficient profits to cover its costs and provide a return on investment. Here are key considerations when conducting this analysis:

**Profit Margin:** Calculate various profit margins (e.g., gross margin, operating margin, net margin) to understand where profits are being generated and where they are eroded by costs.

**Breakeven Analysis:** Determine the breakeven point, which is the level of sales at which total revenue equals total costs. Below this point, the business incurs a loss; above it, the business generates a profit.

**Cost Control:** Identify cost-saving opportunities and efficiencies to improve profit margins. Evaluate which costs are necessary for business operations and which can be reduced or eliminated.

**Pricing Strategies:** Analyze the relationship between pricing strategies and profitability. Assess how changes in prices impact both costs and profits.

**Financial Decision-Making:** Use the analysis to inform financial decisions such as budgeting, investment, and expansion plans.

**Scenario Analysis:** Conduct scenario analysis to assess the impact of different cost and revenue scenarios on profitability, helping to make risk-informed decisions.

In summary, **Carnival Technologies ltd.** Calculated cost vs. profit analysis is a comprehensive evaluation that allows businesses to understand their financial performance, make informed decisions about cost management and pricing, and ultimately optimize their profitability. It involves a thorough examination of both cost structures and profit dynamics.

**Table 14: Month wise profit analysis**

| Product Name | Unit price | 23-Jan | 23-Feb | 23-Mar | 23-Apr | 23-May | 23-Jun | Total |
|---|---|---|---|---|---|---|---|---|
| OLT 4 Port | - | 167,994 | 268,790 | 302,389 | 335,988 | 369,586 | 403,185 | 1,847,931 |
| OLT 8 Port | - | 377,760 | 472,200 | 566,640 | 661,080 | 755,520 | 849,960 | 3,683,160 |
| ONU own use | - | -6,859 | -6,402 | -6,402 | -6,402 | -6,402 | -6,402 | -38,869 |
| ONU Sales | - | -4,939 | -9,146 | -9,329 | -9,511 | -9,694 | -9,877 | -52,496 |
| | Total GP: | 533,956 | 725,442 | 853,298 | 981,154 | 1,109,010 | 1,236,866 | 5,439,727 |
| Technician | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 240,000 |
| Asst Technician | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 90,000 |
| | | | | | | | | |
| Net GP | | 478,956 | 670,442 | 798,298 | 926,154 | 1,054,010 | 1,181,866 | 5,109,727 |
| Net GP % | | 11% | 12% | 13% | 13% | 14% | 14% | 13% |

## 5.16 Special Projects of Carnival Technologies Ltd.:

**Name of the Project: Wifi Haat Activation for rural Area Bangladesh.**

**Concept**

Carnival Internet, a local internet service provider, has brought internet access to remote parts of the country, where people are hungry for internet but have next to no access, by way of WiFi Haat -- an inspired move that will help thousands of locals. Most of the places where the Haats are located hardly had any internet coverage. People could access internet from their mobile phones but the network is very patchy, so the speed is very slow.

Carnival has partnered with traditional shopkeepers and tea stall owners for the WiFi Haat, where they have installed their systems.



aspiring to completely redefine the internet experience across rural Bangladesh with 50,000 Carnival WiFi Haats covering 10,000 villages of Bangladesh," said Zaman Khan, chief executive officer of Carnival Internet.

One has to pay Tk 7 for internet access for two hours, Tk 15 for the whole day and Tk 25 for two days.



# Chapter-06:
# Aligning Supply Chain with carnival Technologies

## 6.01 Key followed components of SCM in Carnival technologies Ltd.

**Carnival Technologies Ltd.** Supply chain management (SCM) is a critical component of technology-based trading businesses, ensuring the efficient flow of goods and services from suppliers to customers while optimizing costs and maintaining product quality. Here's an overview of the working process of SCM in a technology-based trading business:

- **Demand Forecasting:**
  The process begins with forecasting customer demand for the products or services offered by the trading business. Advanced technologies like artificial intelligence and data analytics can help in accurate demand forecasting.

- **Supplier Selection and Sourcing:**
  Once the demand is estimated, the company selects suppliers based on various criteria such as cost, quality, reliability, and location.
  Technology-based trading businesses often leverage online marketplaces and e-procurement systems to source products or services from multiple suppliers.

- **Order Management:**

  Orders are placed electronically, and technology plays a crucial role in managing the order process. This includes order entry, validation, and confirmation.

- **Inventory Management:**
  Maintaining optimal inventory levels is essential to meet customer demand while minimizing carrying costs. Inventory management software helps track stock levels in real-time and triggers reorder points when inventory reaches a certain threshold.

- **Warehouse Management:**
  Efficient warehousing and distribution are crucial. Technology is used for inventory tracking, picking, packing, and shipping. Automation technologies like robotics and RFID (Radio-Frequency Identification) can enhance warehouse efficiency.

  **Transportation Management:**
  Technology is employed to optimize transportation routes, select carriers, and monitor the movement of goods. GPS and telematics help track shipments in real-tim

  **Data Analytics and Visibility:**
  Advanced analytics tools provide insights into the supply chain's performance. This includes monitoring key performance indicators (KPIs) and identifying areas for improvement.

  **Supplier Relationship Management (SRM):**
  Building strong relationships with suppliers is vital. Technology can facilitate communication and collaboration with suppliers, ensuring timely deliveries and quality assurance

**Quality Control:**
Technology-based trading businesses often conduct quality checks and inspections using automated systems to ensure that products meet the required standards.
**Customer Order Fulfillment:**

Orders are processed, and products or services are delivered to customers. Technology-driven logistics and delivery services may be used to provide real-time tracking and delivery updates to customers.

**Returns Management:**
Handling returns efficiently is important. Technology can help streamline the returns process, identify the reasons for returns, and manage refunds or exchanges.

**Continuous Improvement:**
SCM processes are continuously evaluated and improved using data and feedback from customers and suppliers. Technology helps identify opportunities for optimization and cost reduction.

**Risk Management:**
Technology is used to assess and mitigate supply chain risks, including disruptions due to natural disasters, political instability, or other unforeseen events.

**Compliance and Sustainability:**
Ensuring compliance with regulations and sustainability goals is increasingly important. Technology can assist in tracking and reporting on compliance and sustainability metrics.

**Performance Measurement and Reporting:**
Key performance indicators (KPIs) are monitored and reported regularly to evaluate the effectiveness of the supply chain and make data-driven decisions.

In **Carnival Technologies Ltd.** trading business, the integration of advanced software, data analytics, automation, and digital communication tools is essential for achieving agility, efficiency, and competitiveness in the supply chain. Continuous adaptation and innovation are key to staying ahead in the rapidly evolving technology and trading landscape.

## 6.2 Interaction of Supply chain department by other department:

In **Carnival Technologies Ltd.** the supply chain department interacts with various other departments to ensure the efficient flow of materials, information, and products throughout the business. These interactions are crucial for achieving operational excellence, meeting customer demands, and aligning the entire organization's goals. Here are some key interactions of the supply chain department with other departments of **Carnival Technologies Ltd.**:

**Sales and Marketing:**
Collaboration between the supply chain and sales/marketing teams is essential to align product availability with market demand.

Sales teams provide forecasts and customer feedback to help the supply chain department plan production and inventory levels.
Marketing teams may launch promotions or product launches that affect supply chain logistics and production schedules.

**Production and Manufacturing:**
The supply chain department works closely with production and manufacturing to ensure the timely availability of raw materials and components.
It provides production schedules and demand forecasts to optimize production processes and reduce lead times.
Collaborative efforts are needed to manage production capacity, plan production runs, and maintain quality control standards.

**Procurement and Purchasing:**
The procurement department is a part of the supply chain and plays a central role in sourcing suppliers, negotiating contracts, and procuring materials.
Supply chain professionals collaborate with procurement to manage supplier relationships, assess supplier performance, and ensure the reliability of the supply base.

**Finance and Accounting:**
Collaboration with the finance department is crucial for managing budgets, cost analysis, and financial forecasting. Supply chain departments work with finance to optimize inventory levels, control costs, and align supply chain activities with financial goals.

**Quality Control and Compliance:**
Quality control departments ensure that products meet established quality standards and regulatory requirements. Supply chain professionals collaborate with quality control teams to monitor and maintain product quality throughout the supply chain.

**Warehousing and Logistics:**
Warehouse and logistics teams are integral to the supply chain, responsible for storing, handling, and transporting goods. Coordination between these departments and supply chain is vital to manage inventory, track shipments, and optimize distribution networks.

**Customer Service:**
Customer service teams rely on supply chain information to provide accurate delivery times, manage order fulfillment, and address customer inquiries. Supply chain departments work closely with customer service to ensure timely and accurate order processing.

**Research and Development (R&D):**
R&D teams collaborate with supply chain professionals to introduce new products and materials into the supply chain. They work together to assess the feasibility of sourcing new materials, evaluate supply chain risks, and plan for product launches.

**Human Resources:**
HR plays a role in staffing and training supply chain professionals to ensure they have the necessary skills and knowledge. Collaborative efforts may involve workforce planning and development to meet supply chain goals.

**IT and Technology:**
Information technology teams provide the necessary infrastructure, software, and tools to support supply chain operations. Integration of technology, such as Enterprise Resource Planning (ERP) systems, is crucial for sharing real-time data across departments.

Effective communication and collaboration among these departments are essential for a smooth and efficient supply chain operation. Cross-functional teams and regular meetings can help bridge any gaps and ensure that the entire organization works cohesively to meet supply chain objectives.

## 6.3 impact of Supply Chain Management (SCM) on technology-based trading businesses:

The impact of Supply Chain Management (SCM) on technology-based trading businesses is significant and multifaceted. SCM plays a crucial role in enhancing operational efficiency, reducing costs, improving customer satisfaction, and ultimately contributing to the success of technology-driven trading companies. Here are some key ways in which SCM affects these businesses:

**Efficient Inventory Management:**
SCM helps technology-based trading businesses optimize their inventory levels. Through demand forecasting and real-time data analysis, companies can minimize excess stock while ensuring products are available when needed.

**Reduced Costs:**
Effective SCM practices can lead to cost savings through better procurement strategies, streamlined logistics, and reduced carrying costs. This is particularly important in technology-based trading businesses, where price competitiveness is key.

**Improved Supplier Relationships:**
SCM fosters collaboration and communication with suppliers. Building strong supplier relationships can lead to better pricing, quality control, and reliable delivery of technology products.

**Faster Order Fulfillment:**
SCM helps trading businesses respond quickly to customer orders, reducing lead times. This is crucial in the fast-paced world of technology, where product lifecycles can be short.

**Enhanced Customer Satisfaction:**
A well-managed supply chain ensures that products are delivered to customers on time and in good condition. This contributes to higher customer satisfaction and loyalty, which are critical in technology-based trading.

**Effective Demand Forecasting:**
Accurate demand forecasting, enabled by SCM, allows businesses to anticipate market trends and adjust their product offerings accordingly. This reduces the risk of overstocking or understocking.

**Adaptability to Market Changes:**
Technology markets can be volatile, with rapid advancements and shifts in demand. SCM enables trading businesses to quickly adapt to market changes, adjust product portfolios, and respond to emerging trends.

**Quality Control and Compliance:**
SCM helps ensure that products meet quality standards and comply with regulations. This is particularly important in technology, where product defects or non-compliance can lead to significant issues.

**Risk Management:**
Effective SCM includes risk assessment and mitigation strategies. Technology-based trading businesses are exposed to various risks, such as supply chain disruptions and cybersecurity threats, which can be managed through SCM practices.

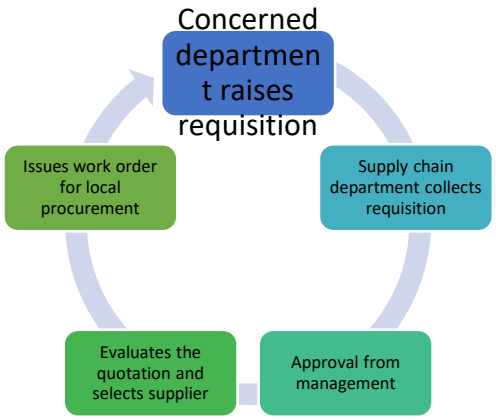
**Global Expansion Opportunities:**
SCM allows trading businesses to expand globally by managing international supply chains efficiently. This enables access to new markets and diversification of sourcing options.

**Data-Driven Decision-Making:**
SCM relies on data analytics to make informed decisions. Technology-based trading businesses can harness data analytics to gain insights into supply chain performance, customer behavior, and market trends.

**Sustainability and Environmental Impact:**
SCM can be used to optimize transportation routes and reduce environmental impact through green supply chain practices, aligning with the growing demand for sustainable technology products.

## 6.4 Procurement policy of Carnival Technologies ltd.:

Carnival Technologies Ltd. does not have any written procurement policy. But company is trying to develop a standard policy which is under development. Till today procurement functions of the company are conducted by verbal instruction of top management. Managing Director of the company approves all purchasing requirement directly and indirectly. The following common steps are implemented as mentioned:




- Concerned department raises requisition form with approval of concerned person and arranges final approval from top management.
- Supply chain department collects requisition and sits with concerned department and receives the specification.
- Supply chain department forms the procurement committee after taking final decision to procure goods.
- Procurement executive check the local & foreign market to procure goods.
- Procurement committee evaluates the quotation and selects supplier then gives advice to supply chain department to procure goods from the selected supplier.
- After completing necessary formalities supply chain department place order giving delivery schedule.
- Supply chain department issues work order for local procurement and establish l/c for import the goods from foreign countries.
- Supply chain department ensures delivery schedule, quality, quantity and price monitoring with the supply.
- Supply chain department arrange necessary funds to retire document from bank and necessary duties and taxes consulting with the finance department to clear goods from port.
- Supply chain department arrange transport to bring goods from port.
- Supply chain department primarily check the Bill against local procurement and request the finance department to release payment.
- After completing the audit finance department releases payment.

## 6.5 Challenges of the procurement department in Carnival Technologies ltd.:

Supply Chain of **Carnival Technologies Ltd.** faces some challenges to conduct procurement activities like other company. Some of the challenges that are faced by **Carnival Technologies Ltd.** are mentioned here:

- Sourcing and supplier selection challenge.
- Safety and quality challenges.
- Shorter lead time, less material damage and better throughout.
- Accessing to latest technology.
- New supplier selection, supplier switching.
- Transparency and communication challenge.
- Lack of resources, fund.
- Lengthy process and formalities.
- Environment, global and natural challenge.

# Chapter-07:
# Analysis and Findings

After analyzing the data collected for the study, the following vital information has been found:

**Key findings 1:** in literature, it was found that supply chain management is an integral part of the organization. But the study found that the employees of the company don't identify supply chain management due to physical unavailability of the department. Most of the employees recognize the supply chain management as a relationship with suppliers of raw materials only.

**Key findings 2:** the knowledge of supply chain management among the employees is poor (54% have working knowledge) though most of their education level was graduation. As a matter of consideration, the study showed that the education of supply chain management is required in the organization.

**Key findings 3:** most of the employees had an understanding that supply chain management is different to their department but are interrelated to their department.

**Key findings 4:** most of the employees are well known about their suppliers and are frequently making communication with them regarding business purposes.

**Key findings 5:** most of the employees found that the logistics department is closely related to supply chain management.

**Key findings 6:** There is more performance focus than cost focus in this company. Only work completion is only determinant not cost of doing the work

**Key findings 7:** Lack of transparency and accountability from project personnel regarding materials requirement and used which leads to increase in cost and supply.

**Key findings 8:** Lack of systematic supply chain management knowledge of project personnel.

# Chapter-08:
# Conclusion and Recommendation

In spite of being a newly included joint-stock company, **Carnival Technologies Ltd.** has already established their base in the market. Perhaps, they are trying to establish a systematic supply chain management but there is room for improvements as it's still new as a company. However, in future when their business will grow even more, they have to have a more effective supply chain management to ensure best use of resources and long-term sustainability. Thus, implication of Total Quality Management (TQM), using supply chain software and benchmarking tool and implying few other techniques will help them to achieve their goals in the long run.

**On the basis of the above the following recommendations are made: -**

• **Carnival Technologies Ltd.** needs to investigate ways of improving and establishing relationship along the entire value chain. There are competitive advantages through enhanced relations with fewer suppliers, resulting in lengthy relationships,

• **Carnival Technologies Ltd.** must focus on empowering designated groups. As such special training and development initiatives should be investigated which focus on providing respondents with the tools for effective decision making.

• Low inventory levels can contribute vastly to a firm's efficiency and cost. Inbound logistics revolve around supplier relationship.

• Greater collaboration needs to be established with suppliers to support effective and timely fulfilment of material requirement.

• Efficient and timely information should be flow across the concerned department to establish proper information conduits, make sure data is distributed promptly and properly to pertinent recipients.

• **Carnival Technologies Ltd.** should emphasize on cash flow monitoring because it is a fundamental tool that various organizations use to improve supplier management. It is important to track payment terms and conditions with several groups within the supply chain.

• A distribution strategy is integral to an effective framework for supplier management. It allows a business to have a better idea of what it takes to shorten delivery times, reduce goods decay, and improve customer service.

• Process standardization is central to the success of any supply chain strategy. Having a standardized ERP system will increase efficiency while saving time and money.

• Decision making for company's supply chain strategy depends on accurate and timely data and information. Having real-time reports available at all times will provide valuable insight into the health of business.

• A smoothly running supply chain system depends on outstanding vendor performance. Therefore, vendor performance needs to be monitored and rated. So, Carnival Technologies Ltd. should rate its supplier according to its performance.

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