

Exploring the Dynamics of Supplier Relationship Management in Manufacturing: Enhancing Risk Resilience in Business Operations

By

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23382023

A thesis submitted to the Department of BIGD in partial fulfillment of the requirements
for the degree of Master's in Procurement & Supply Management

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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at BRAC University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Ethics Statement

This research on Supplier Relationship Management (SRM) and Risk Resilience Enhancement has been designed and conducted in accordance with ethical principles governing academic research. All efforts have been made to ensure the integrity, transparency, and accountability of the research process.

Participation by individuals or organizations, where applicable, has been entirely voluntary, with informed consent obtained prior to any data collection. Participants were informed of the purpose of the study, their right to withdraw at any time, and the measures taken to protect their privacy and confidentiality. No personal or sensitive information has been collected without explicit consent, and all data has been anonymized to prevent the identification of participants.

The research does not involve any vulnerable groups or high-risk activities. It relies primarily on secondary data and/or voluntary expert interviews, ensuring that no harm or undue pressure is imposed on any stakeholders involved.

Data collected is securely stored, used solely for academic purposes, and will not be shared with third parties without prior consent. All sources and contributions have been acknowledged appropriately to uphold academic integrity and avoid plagiarism.

This study has been reviewed and approved (or will be submitted for review) by the appropriate ethics committee or supervisory body of the academic institution.

By adhering to these ethical principles, the research aims to contribute meaningfully to the understanding of SRM practices and associated risk mitigation strategies in a responsible and respectful manner.

Abstract/ Executive Summary

The dissertation is targeted to achieve a key insight in SRM dynamics of Manufacturing in Bangladesh and risk resilience enhancement opportunities to guide a competitive edge to secure the core business challenges in evolving business dimensions. In Bangladesh, major manufacturing industries have skimming from a traditional start-up to till without the adaptation of strategic supply chain positioning which appears to be a barrier to them to established business sustainability and value chain integration to leverage business goals. Supply Chain Management practice adaptation not observed widely in manufacturing business sectors whereas supply chain concept is spread upon business requirement and bounced back by operational silos through variegated misconceptions in contrast to ultimate revenue generation to business. As Global business dimension is changing every day and survival in Business facing more challenges, business needs to be more integrated and shift their key consideration in areas like SRM & Risk Resilience.

Industry wide SRM & Risk is inter-related in terms of Supply continuity and business excellence. Spending strategy & business security is now emerging concern for Conglomerates aiming to sustainability in changing business environment. In this thesis, I try to develop a guide to the possible SRM & Risk resilience strategy and its possible standout to find solutions to win over the future challenges.

Key Words: Supplier Relationship Management; Risk Resilience

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List of Acronyms

KPI	Key Performance Indicator
CFT	Cross Functional Team
FP&A	Financial Planning and Analysis
LDC	Least Developed Country
WTO	World Trade Organization
SRM	Supplier Relationship Management

Chapter 1:

1.1 Introduction

Supplier Relationship Management is one of the key concerns required to successfully control an organization spend. When relationship development and subsequent management is done well it should result in added value, improved supply chain and risk mitigation. Supplier Relationship Management is key in industries where a large proportion of a finished products or services is provided by external suppliers. It is important to develop close relationship with an organization's entire supplier base. SRM is about selecting the most beneficial type of relationship for each of the organization's requirements.

In Bangladesh developments in the business environment have become much more difficult to anticipate due to the globalization of demand and supply markets, more demanding customers and consumers' shorter product lifecycles, continuous pressure on costs, and societal pressure regarding corporate social responsibility. As a result, supplier relationship management have become more important and strategic. In alignment with SRM, risk resilience also possess a vital factor due to the emerging on-going instability due to the nature of global business. Bangladesh is scheduled to graduate from the Least Developed Country (LDC) category in November 2026 and is preparing for a transition to a developing nation status, though some stakeholders have advocated for a deferral. The primary focus is on economic diversification, technology adoption, improving labor productivity, and expanding the domestic market. By this graduation Bangladesh will continue to enjoy duty-free market access for three more years after its graduation, as endorsed by the World Trade Organization (WTO). The European Union will continue LDC trade benefits for Bangladesh until 2029, offering a three-year grace period. Some stakeholders have expressed concerns about the potential challenges of LDC graduation, such as the loss of preferential market access and the need for Bangladesh to compete in the global market. In this situation, emerging markets need to be focused on strategy to have a stable solution and risk resilience on manufacturing supply chain will become core part to sustain business achievement. By aligning SRM and risk resilience enhancement will guide industries to be more stable solution to face upcoming challenges.

1.2 Literature Review

Supplier Relationship Management dynamics of Manufacturing in Bangladesh and risk resilience enhancement opportunities can guide a competitive edge to secure the core business challenges in evolving business dimensions. In Bangladesh, major manufacturing industries have skimming from a traditional start-up to till without the adaptation of strategic supply chain positioning which appears to be a barrier to them to established business sustainability and value chain integration to leverage business goals. Supply Chain Management practice adaptation not observed widely in manufacturing business sectors whereas supply chain concept is spread upon business requirement and bounced back by operational silos through variegated misconceptions in contrast to ultimate revenue generation to business. As Global business dimension is changing every day and survival in Business facing more challenges, business needs to be more integrated and shift their key considerations in areas like SRM & Risk Resilience.

1.3 Research Objectives

The thesis objectives support secondary objectives to Primary objectives whereas Prime objectives will give an overview of the thesis objectives.

Prime objectives:

- i. To analyze the current SRM & Risk Resilience structure in different industries
- ii. To focus facts & strategy of SRM & Risk Resilience structure to the Business sustainability

Secondary objectives:

- i. To evaluate the dynamics of relationship in supply chains.
- ii. To explore the process and procedures of working successfully with stakeholders.
- iii. To identify the scope of understanding the concept of partnering.
- iv. To propose a framework for sustainable supplier relationship management & risk resilience strategy in Bangladesh.
- v. To propose a link between future in supplier relationship management and risk resilience concept to position in Business Sustainability.

1.4 Methodology

Market research, the manufacturing sector overview, existing supply chain in manufacturing sector, a conceptual qualitative research approach linking the future supply relationship management & risk resilience to sustainability are all included in the study. Members of manufacturing industries and so on are the primary respondents to the survey and in a reasonable range for information have been run.

1.5 Research Scope

The thesis will include a descriptive section that includes a history of the economy of Bangladesh and a detailed overview of Bangladesh's manufacturing sector, and major manufacturing business areas. However, extensive research has been done to ascertain the manufacturing industry's future supply relationship management. Furthermore, the industry for sustainability can be connected to a SRM & Risk Resilience concept. Nearly 70 users of manufacturing sector participated in the survey portion of this study. Because respondents must have prior manufacturing experience to properly respond to the questions. There were 20 questions in total.

1.6 Importance of the study

This study offers insight on SRM practices in Bangladesh's manufacturing sector, add to the body of knowledge on supply chain management, sustainability, and relevant strategies. Regarding best practices and strategic approaches for sustainable and inclusive supplier relationship management, the findings will be useful to academics, industry strategy makers, and policymakers. The primary advantage of the study will be for entrepreneurs and policy makers involved in the manufacturing sectors. Decisions about how to use Supplier Relationship Management Strategy and Risk Resilience Enhancement to secure business. For instance: The business can decide where to position their SRM activities and its related benefits and how risk resilience enhancement can stable the business operations in a sustainable manner whereas the research results indicate that the SRM practice in manufacturing industry hit the bottom line of increasing efficiency and profitability . Furthermore, manufacturing industry can relate the strategy flow to understand the opportunity, primarily in the supply market. Based on the study's findings, a significant localization potential is important. The business units must be stable on the integration of the SRM concept modality in addition to the positive stakeholder's management as well.

1.7 Model Development

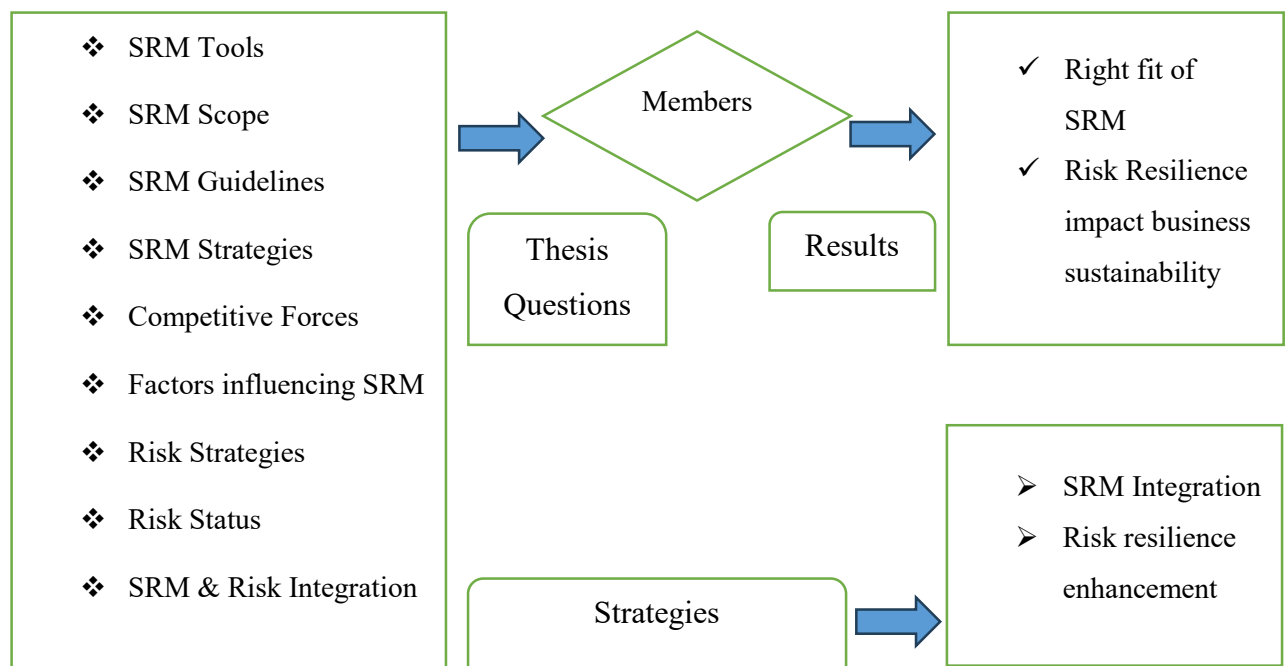


Table: 1: Dissertation Model Development

1.7 Hypothesis Statement

Hypothesis 1: “Adoption of SRM and Risk Management Strategies significantly influences performance in the manufacturing sector.”

Hypothesis 2: “Strategic transformation of SRM and Risk Management approaches significantly impacts competitiveness in the manufacturing sector.”

Hypothesis 3: “Development of structured SRM practices contributes significantly to operational efficiency and supplier performance in the manufacturing sector.”

Hypothesis 4: “Stakeholder engagement and supplier collaboration are critical enablers of effective SRM in the manufacturing sector.”

Hypothesis 5: “Strategic outcomes such as cost reduction, risk mitigation, and supplier innovation are key contributors to sustainable business performance through SRM and risk management in the manufacturing sector.”

Chapter 2: Economy of Bangladesh

2.1 General Overview

Bangladesh is a major developing mixed economy. In South Asia, Bangladesh has second-largest economy. Currently the 41st largest economy, Bangladesh will be the 25th largest economy by 2035, and 25th largest by purchasing power parity. Bangladesh economy has been transitioning from being a frontier market into an emerging market. Bangladesh is a member of the South Asian Free Trade Area and the World Trade Organization. In fiscal year 2021–2022, Bangladesh registered a GDP growth rate of 7.2% after the global pandemic. Bangladesh is one of the fastest growing economies in the world.

Industrialization in Bangladesh received a strong impetus after the partition of India due to labour reforms and new industries. By the 1990s, the country had a booming ready-made garments industry. As of 16 March 2024, Bangladesh has the highest number of green garment factories in the world with Leadership in Energy and Environmental Design (LEED) certification from the United States Green Building Council (USGBC), where 80 are platinum-rated, 119 are gold-rated, 10 are silver, and four are without any rating. As of 6 March 2024, Bangladesh is home to 54 of the top 100 LEED Green Garment Factories globally, including 9 out of the top 10, and 18 out of the top 20. As of 27 April 2024, Bangladesh has a growing pharmaceutical industry with 12 percent average annual growth rate. Remittances from the large Bangladeshi diaspora became a vital source of foreign exchange reserves. Agriculture in Bangladesh is supported by government subsidies and ensures self-sufficiency in food production. Bangladesh has pursued export-oriented industrialization.

Bangladesh experienced robust growth after the pandemic with macroeconomic stability, improvements in infrastructure, a growing digital economy, and growing trade flows. The private sector makes up 80% of GDP. The Dhaka Stock Exchange and Chittagong Stock Exchange are the two stock markets of the country. Most Bangladeshi businesses are privately owned small and medium-sized enterprises (SME) which make up 90% of all businesses.

As a result of export-led growth, Bangladesh has enjoyed a trade surplus in recent years. Bangladesh historically has run a large trade deficit, financed largely through aid receipts and remittances from workers overseas. Foreign reserves dropped markedly in 2001 but stabilized in the US\$3 to US\$4 billion range (or about 3 months' import cover). In January 2007, reserves stood at \$3.74 billion, and then increased to \$5.8 billion by January 2008, in November 2009 it surpassed \$10.0 billion, and as of April 2011 it surpassed the US\$12 billion according to the Bank of Bangladesh. The dependence on foreign aid and imports has also decreased gradually since the early 1990s. Foreign aid now accounts for only 2% of GDP.

In the last decade, poverty dropped by around one third with significant improvements in the human development index, literacy, life expectancy and per capita food consumption. With the economy growing annually at an average rate of 6% over a prolonged period, more than 15 million people have moved out of poverty since 1992. The poverty rate went down from 80% in 1971 to 44.2% in 1991 to 12.9% in 2021. In recent years, Bangladesh has focused on promoting regional trade and transport links. The Bangladesh Bhutan India Nepal Motor Vehicles Agreement seeks to create hassle free road transport across international borders. Bangladesh also signed a coastal shipping agreement with India. While prioritizing food security in the domestic market, Bangladesh exports more than US\$1 billion worth of processed food products. As the result of a robust agricultural supply chain, supermarkets have sprung up in cities and towns across the country.

Bangladesh became the second largest textile exporter in the world. An estimated 4.4 million workers are employed in the garments industry, with the majority being women. The sector contributes 11% of Bangladesh's GDP.

As of 2022, Bangladesh had the second largest foreign-exchange reserves in South Asia. In 2021, Bangladesh surpassed both India and Pakistan in terms of per capita income. The country achieved 100% electricity coverage for households in 2022. Megaprojects like the Padma Bridge, Dhaka Metro, Matarbari Port, and Karnaphuli Tunnel have been planned to stimulate economic activity. The completion of Padma Bridge has boost Bangladeshi GDP by 1.23%.

Following the Russian invasion of Ukraine, Bangladesh experienced pressure on its foreign exchange reserves due to rising import costs; this affected the country's electricity sector which relies on imported fuel; rising import prices also contributed to inflation. International Monetary Fund (IMF) had forecasted Consumer Price Index (CPI) in Bangladesh to rise to 5.9% by the year 2022. According to the Bangladesh Bureau of Statistics, general inflation climbed to 6.17% by February 2022. Due to the mass uprising and subsequent violence of July–August 2024, Bangladeshi economy witnessed a huge loss. Bangladesh's economy suffered losses of over \$1.2 billion as a result of the nationwide curfew and protests. As per the South Asia Development Update, the World Bank revised its economic growth forecast from 5.7% in April 2024 to 4% in October for the financial year 2025. Political instability exacerbated preexisting inflation. Food inflation under the incumbent interim government reached 14% and general inflation 11%. A sudden sharp rise in inflation in July 2024 was mostly attributed to the political turmoil facing Bangladesh; after momentary stabilization, inflation once again begun to increase. The general inflation rate in Bangladesh reached 10.87%, up from 9.92% in September 2024.

Chapter 3

3.1 Bangladesh Manufacturing Sector

Bangladesh, growing rapidly over a decade, is on its way to becoming the next Asian Tiger. Economic and political stability are driving its journey towards the future.

- 7% average GDP growth in last five years. Growth dipped to ~5.78% due to inflation, forex crisis, and global economic pressures.
- \$2,824 per capita GNI in FY 2023-24, surpasses neighbors
- \$23.9 billion remittances 2023-24, 5.82% of GDP 2023-24

Manufacturing sector is divided in different location and in general below are the major manufacturing area with a short overview:

- 3.1.1 Ready Made Garments
- 3.1.2 Pharmaceuticals & API
- 3.1.3 Medical Equipment
- 3.1.4 Agro Business
- 3.1.5 Jute & Jute Products
- 3.1.6 Leather & Footwear
- 3.1.7 Light Engineering
- 3.1.8 Electronics & Electrical Equipment
- 3.1.9 Plastic
- 3.1.10 Automobile
- 3.1.11 Motor Cycle & Parts
- 3.1.12 Shipbuilding

3.1.1 Ready Made Garments:

Bangladesh is renowned for its low cost manufacturing capabilities and suitable ecosystem, and RMG industry has guiding to become a global hub for apparel sourcing. At present, the industry consists of over four thousand factories. RMG exports from Bangladesh includes a wide variety of knitwear & woven garments products such as shirts, trousers, T Shirt, denim, jackets, sweaters, etc.

Growing at an annual rate of 7%, RMG exports from Bangladesh more than doubled between 2011 and 2019. As of December 2020, total exports around stood at USD 27.4 billion, capturing a market share of 6.30% out of the global apparel export market of \$435 billion. While the industry suffered a temporary setback due to covid19, demand has started to recover and normalize again despite continuous different business phenomena and challenges.

Key Overview of RMG Business

- 3rd largest exporter of the world in 2020 for RMG products
- Export to more than 150 countries
- Leading in compliance and factory safety
- 16% contribution in GDP
- 6%+- share of global export in 2020
- USD 47.39 Billion export in 2023-24
- 7% Industry CAGR 2011-2019
- 84% contribution to Bangladesh's export
- Serving 100+ International clothing brand
- 58% women participation in the work force
- 40,00,000+ Employment generated by RMG

3.1.2 Pharmaceuticals & API

Bangladesh Pharmaceuticals & API industries has transformed itself from an import dependent industry to self-sufficient to serve the Global Market. It is one of the most technological advanced industry in Bangladesh. The capacity and expertise of the industry was evident during the COVID-19 pandemic where the industry quickly adapted to the unprecedented challenges and has been fulfilling not only the national demand for COVID related medicines but also the global market. As a beneficiary of TRIPS patent waiver, the Bangladesh pharmaceutical industry is all set to becoming a hub for generic medicines.

Building from strength to strength, the pharmaceutical industry has grown from about \$25 million in 1982 to about \$3 billion as of June 2020. Driven by the increasing purchasing power of the domestic population, the domestic pharmaceutical market is forecasted to exceed USD 6 billion by 2025.

At present the industry is serving 97 percent of the domestic market and exporting to more than 100 countries around the world. The Bangladeshi drug market is dominated by production of branded generic drugs, which account for almost 80% of the drugs produced locally, while patented drugs make up the remaining. Currently, there are 271 Allopathic, 205 Ayurvedic, 271 Unani, 32 Herbal and 79 Homeopathic drug producing companies in the country.

Key Overview of Pharmaceuticals & API Business:

- Market is USD 3 Billion & Domestic Market
- Forecasted to surpass USD 6 Billion by 2025
- Exporting to 100 plus nations
- Pharmaceuticals industry growth rate for 2014-2020 is 17%
- Export in Y 2020-21 is USD 169 Million
- Year on Year export growth rate is 25%
- Export growth rate for 2015-21 is 15%
- Contribution to GDP is 2%
- Production cost is lower than India & China is 15%

3.1.3 Medical Equipment Industry

The medical equipment and devices industry is currently at a nascent stage with 85 percent of devices being imported. The size of Bangladesh market was estimated to be valued at USD 442 million in June 2020 and is expected to reach approximately USD 820 million in 2025, growing at a CAGR of 13%. The market currently is dominated by the instruments/ appliances segment and diagnostic imaging equipment in terms of value, which are expected to grow steadily.

At present, over 4,000 medical devices and equipment are in use in the country, about 5-7% of which are manufactured in the country. Among the locally produced items, majority are consumables/disposable with an estimated market size of USD 55-60 million. Aside from consumables, Bangladesh also produces orthopedic products, surgical sterilizers, hospital furniture, home care devices, electrocardiogram and other small instruments, albeit at a small scale. The demand for IVD device/ kit is expected to be the fastest growing segment, followed by cardiovascular devices, consumables and diagnostic imaging equipment. The COVID outbreak has enhanced local production of personal protection equipment (PPE) including protective masks/ clothing, respirator, hospital gowns.

Key Overview of Medical Equipment Industry:

- Market size expected to cross \$ 800 million by 2026
- Cash incentive on export
- Preferential access to as many as 52 countries for export.
- 10% growth on healthcare service industry
- 800 Million plus USD estimated market size by 2025
- Growth in import of medical devices in 2014-2020 is 10%

3.1.4 Agro business

Bangladesh has a tropical climate perfectly suitable for the production of a variety of crops, fruits & vegetables, livestock and fisheries and a promising Agro and Food-Processing industry.

Bangladesh is blessed with fertile soil and a total agricultural output of around 70 million metric tons in 2019-20 period with Rice, potato and sugar crop accounting for around 80% while fruits, vegetables and spices accounted for 17% of the output. The agriculture sector employs around 40.6% of the labor force and contributes 14.23% to GDP. The agro-food processing industry now contributes about 1.7 per cent to GDP and employs about 250,000 people. Its share of total exports now stands at around 3.5 per cent.

Bangladesh exports more than 700 items including 63 basic agro processed products most of which are cereal grains, frozen fish, processed meat, tea, vegetables, tobacco, cut flower, fruits, spices, dry food and other processed agricultural products including livestock, poultry & fish feed to more than 140 countries. At present, there are 486 agro processing manufacturers in the country among which 241 are exporters and 235 cater to the domestic market. In FY 2018-19, the agro sector realized export earnings worth \$ 1.41 billion. The main exports items are frozen fish, shrimp and other frozen food products, tea, spices, fruits including dry fruits and some other processed agricultural products. The major export destinations include the European Union (EU), the US, the Middle East and the Gulf.

The domestic market size of packaged food was about 5.2 billion in 2018. In the packaged food market, edible oils, dairy products and snacks dominate in terms of sales value. These products are expected to continue growing steadily by around 6% per annum till 2023. Products that are expected to expand rapidly include processed fruits and vegetables, seafood, and meat, which are expected to grow by 8%, 13%, and 13% per year respectively.

Key Overview of Agribusiness

- 70 million metric tons of agricultural output per year
- More than 700 basic and processed food products exported to more than 140 countries
- Agro & food processing sector employs about 40% of the labor force and contributes 16% to the country's GDP
- 18% Agricultural export from Bangladesh growing at a CAGR
- 8% Domestic market for agro-processed market stood at 2.8 billion in 2019 and growing

3.1.5 Jute & Jute Products

Bangladesh is the second largest producer of jute in the world with an estimated annual production of 1.6 million tons in 2019 (FAO). There are about 220-245 private jute mills currently operating in Bangladesh. Out of these, 25 public jute mills are currently in the process of being leased to the private sector. In addition, there are about 700 diversified jute producers who employ between 50,000 to 100,000 people in the country.

Average domestic consumption of raw jute amounts to 1.16 million tons per year (BJSA). In addition, Bangladesh is also the top exporter of jute and jute-based products in the world with average exports of around USD 1 billion per annum.

Key Overview of Jute & Jute related Industry

- 2nd largest jute producer in the world
- Top exporter of jute products in the world
- Producer of the finest quality of jute

- 1M ton annual average production
- 35% Export growth CAGR (2014-2020)
- 3% Contribution to Bangladesh's export
- 1% Contribution to Bangladesh's GDP

3.1.6 Leather & Footwear

The second largest export earner after RMG, the leather and leather products sector has received considerable investment in recent years due to its comparative labor source and domestic production of sustainable raw materials. Bangladesh leather industry is well established and ranked second in terms of export earnings. Because of its high value addition, huge growth and employment opportunities, leather sector has already been declared a top priority sector. Bangladesh accounts for 3% share in the global leather and products market. Almost 60% of its annual output is being exported. The export of leather and leather products increased manifold over the past decades. The composition of leather and leather goods from Bangladesh underwent a structural change as manufacturing is moving from finished leather towards production of diversified finished products. The growth of the footwear industry has increased from 36.64% of total sectorial export earnings in FY'2007-08 to 60.90% in FY'2017-18.

Local demand for leather products continues to grow as the country experiences steady economic growth with increasing middle-income class. By 2025, 30 to 40 million people are forecasted to join the entry level of middle-income class, another 30 million may reach the aspirant/ emerging middle class. In particular, domestic footwear market has been growing at the rate of 10-15% per annum, where per capita consumption of footwear has increased to 3 pairs from 1.7 pairs several years ago.

The Global leather goods market is valued at USD 241 billion in 2020 and is expected to reach 306.1 billion by 2027. Bangladesh exports 60% of its annual produce of leather goods

Key Overview of Leather & Footwear Industry

- 2nd largest export item after RMG
- A large and growing domestic market worth US\$ 2billion
- Bangladesh accounts for 3% share in the global leather and products market
- 3 Billion USD is Local Market size
- 241 Billion USD is Global Market Size
- 5% compounded annual growth
- 250+ Tanners, 3500+ small & medium manufacturing units
- 90+ large manufacturers

3.1.7 Light Engineering

Bangladesh exports LE goods worth less than USD half a billion annually on an average. Bangladesh's Light Engineering sector offers huge opportunities for investments due to growing demand for machineries and parts/ components from the expanding manufacturing sector, favorable economic policies and attractive incentives

Light engineering (LE) sector makes significant contribution to the economy of Bangladesh through providing various industrial machinery and spare-parts, electrical equipment and parts, casting and molding products, agriculture, printing & packaging and construction equipment and a number of spare-parts for almost all categories of machinery and equipment. As of 2018,

The total domestic market size was estimated to be USD 12 billion (according to PwC). While local production has been gradually increasing, they meet only 50% of the overall demand. Electrical goods such as switch, socket, and fan meet 48% to 50% of total demand with the rest being met by imports according to Bangladesh Industry Technical Assistance Center (BITAC)

Despite being adversely hit by the COVID pandemic during 2019-20, export earnings in FY2020-21 grew by 67 percent YOY to reach USD 489 million. Bicycle accounts for almost one-fourth of total export with potential to grow further as the demand for eco-friendly means of transport increased, especially in the EU countries. Other than bicycle, Bangladesh exports electrical equipment such as lead accumulator, refrigerator, compressor, transistor, diode as well as optical lens.

Key Overview of Light Engineering Industry

- 600,000 people employed by 40,000 LE companies
- 34 LE clusters in 18 districts of the country
- Huge growth potential in this segment as local production only meets 50% of the total demand
- 14% Manufacturing sector in Bangladesh growing at a CAGR
- 12billion US\$ Domestic Market size in 2019
- 489million USD Export earnings in FY2020-21 grew by 67 percent YOY to reach

3.1.8 Bicycle manufacturing

Bicycle is the largest export item from the Bangladeshi LE sector, amounting to USD 84 million in 2019-20 and rising to around USD 131 million in 2020-21. At least seven local manufacturers export nearly 900,000 units of bicycles annually. The size of domestic bicycle market is estimated at USD 141 million in 2019 where some 1.5 million bikes are sold annually with a projected CAGR of 30% according to the bicycle industry association. In 2019, Bangladesh was the fourth largest non-EU exporter of bicycles to EU (Eurostat). Global bicycle market is expected to grow at a CAGR of 7% and reach USD 75.5 billion by 2028 from around USD 54.4 billion in 2020 (according to Grandview Research).

Parts and components production for motorcycle/ bicycle

The motorcycle market has seen phenomenal growth since 2014 with an annual growth rate of 30 percent from 2014 to 2019 and over 400,000 motorcycles registered in 2019. Over 95% of motorcycles sold in Bangladesh are either assembled or manufactured in the country. While a motorcycle contains around 1,500 parts, very few of those are locally sourced. Motorcycle assemblers have generally shown their intent to locally source as many parts as possible to minimize manufacturing cost and delivery time. Foreign parts manufacturers are welcome to realize the potential and be part of the motorcycle supply-chain in Bangladesh. In addition, a large portion of bicycle and automotive parts are also still being imported, indicating a huge potential for localized production.

Electronics parts and components production

Booming electronics market in Bangladesh and the development of electronics assembly industries are expected to boost the demand for electronic parts and components and provides potential investment opportunities. At present, renowned local and multinational electronic companies are locally assembling their brands of TV, refrigerator, mobile phone and other home appliances. Bangladesh also produces and exports transformers, transistors and semiconductor devices on a small scale. There is ample space for expanding local production for the growing domestic and export market and foreign investors are most welcome to meet the demand of these markets with higher quality products.

Battery manufacturing

Driven by the automobile industry, the local battery market has been witnessing a significant growth rate of over 20% annually since 2013, reaching a current market size of around USD one billion. The rapid expansion of electric three-wheelers, which consumes 60% of the battery market, has opened up huge opportunities for battery manufacturers in the country. Moreover, the size of global battery market is projected to surpass USD 300 billion in 2027 driven by the development of lithium-ion battery which is expected to grow at a CAGR of 13% till 2027. Favorable policies and incentives make Bangladesh an attractive destination for battery manufacturing to cater to the growing domestic and global markets.

3.1.9 Electronics & Equipment Industry

Bangladesh Electronics & equipment industry- With government encouraging Made in Bangladesh products, invest in Bangladesh to leverage the opportunities present in the huge and growing market.

The huge domestic market with rising income along with favorable tax incentives provides tremendous opportunity to local manufacturers to provide electronics products at affordable prices and expand the market at a faster pace. Additionally, the growth in digital economy is driving the growth of electronics and IoT market even further. Overall electronics and electrical equipment market are expected to surpass USD 12 billion by 2025 with consumer electronics market expected to cross USD 10 billion by 2030.

The electronic and electrical equipment industry consists of a wide range of consumer and industrial electronic products. There are around 3,000 organizations involved in the sector employing around 1 million people. The electronics industry in Bangladesh mostly produces consumer items such as mobile phones, home appliances like refrigerators, air conditioners, televisions, electronic fans, radios, DVDs and CD players, ovens, blenders etc. Electrical equipment such as accumulators, transformers, diodes are also manufactured and exported.

The market size of the electronics industry which includes both industrial and consumer electronics was estimated to be around USD 5.29 billion at the end of 2019. The industry is expected to grow at a rate of 15% per annum and reach around USD 12 billion by 2025. The size of the consumer electronics market was estimated to be around USD 2.4billion in 2020 and it is expected to reach USD 10 billion by 2030. The most popular consumer electronics product is mobile phone followed by refrigerator, television and air conditioner. The market for accumulator and batteries are also growing rapidly.

Key Overview of Electronics & Equipment Industry

- The 5th largest mobile phone market in the Asia Pacific
- 9th largest market in the world by unique mobile phone subscribers
- 9th highest internet users in the world

- Smart phone base expected to reach 75 million by 2025 with 5G rollout beginning in 2021
- 6bn US\$ Estimated Market Size 2019
- 15% Compounded Annual Growth Rate 2014-2020
- 2bn US\$ Annual market demand for electronic appliance 2020
- 10bn US\$ Forecasted market size for electronic appliance 2030
- 1bn US\$ Accumulator market size 2018
- 20% Growth rate of accumulator 2013-2018
- 180Mn+ Wireless phone subscribers September 2021
- 90Mn+ Unique mobile phone subscribers
- 128Mn+ Internet users September 2021
- 68Mn+ Smart phone users 2020
- 35Mn Estimated mobile phone annual demand in units

3.1.10 Plastics

The Plastic industry shows promise with a huge growth potential in the domestic market and opportunity to grab a share in the global market.

Plastic is one of the key industrial sectors in Bangladesh making significant contribution to the country's economy. There are around 5,000 plastic enterprises in Bangladesh, employing about 1.2 million people and producing a variety of products for the domestic as well as the export market. Plastic is a key component of many products in other sectors of the economy like textile, healthcare, construction, electronics, energy generation, automotive etc. Bangladesh primarily produces household goods and packaging products for food processing, pharmaceutical & FMCG industry, garments bags & accessories, toys, sanitary items and construction products including PVC pipes. The domestic market size was over USD 2,500 million in 2017, while the direct export value of plastic goods was around USD 120 million in FY 2018-19. Besides, deemed export items comprising accessories and packaging materials for the ready-made garments sector contributed USD 900 million in 2018.

Market Size: Total market size of US\$ 2.9 billion in 2017-18 with a domestic market size of US\$1.9 billion with 20% year on year growth. Export of US\$ 120 million and deemed export of USD 900 million in FY2018-19

Key Overview of Plastics

- Low per capita consumption of Plastic indicative of huge growth potential in Domestic market.
- Duty/ Quota free market access to key export destinations with growing export market with plastic products being exported to over 70 countries
- Opportunity to grab global market share due to China's shifts in industrial structure
- 2Billion USD Domestic Market Size
- 3Billion USD Global Market Size
- 20% Year growth 2017-18
- 250 Million USD Export in FY 2018-19

3.1.11 Automobiles

One of the sunrise industries, the four wheeled automobile industry is recent entrance of several global brands. Bangladesh's automobile ecosystem offers huge opportunities for investments with stimulating growth in the demand for passenger and commercial vehicles, favorable economic policies, and attractive fiscal incentives.

Bangladesh is one of the most promising markets for the expansion of four-wheeled automobiles. The number of annual registered automobiles has more than doubled since 2013, amounting to about 26,000 units for passenger vehicles and 37,000 units for commercial ones (excluding auto-rickshaw, human hauler) in 2019.

Although commercial vehicles are dominant, the growing purchasing power of middle-income population has spurred passenger vehicle registration. Due to steadily increasing per capita income as well increasing economic activity, the demand for both passenger and commercial vehicles is expected to grow at a rapid pace.

Key Overview of Automobiles

- Automobile Policy 2020-Encourages local automobile assembly manufacturing
- Annual market demand crossed 100,000 vehicles by 2024
- SUV and Hybrid vehicles are the fastest growing segments
- 10% Passenger vehicle growth rate (2014-2019)
- 12% Commercial vehicle growth rate (2014-2019)
- 6per 1,000 population Penetration ratio
- 1082245 Commercial and passenger vehicles registered till 2019
- 63477 Passenger and commercial vehicles registered in 2019
- 80311 Passenger and commercial vehicles registered in 2017
- 28% Growth in SUVs registration 2013-2019
- 30% Share of hybrid vehicles in import 2018-19
- 37389 Commercial Vehicle registered in 2019

3.1.12 Shipbuilding

The Bangladesh shipbuilding industry is the upcoming player in global market for small and medium sea-going vessels. While the industry mainly caters to the domestic market, exports have been growing satisfactorily over the last decade. Bangladeshi companies have exported ro-ro vessel, multipurpose container vessel, tug boat, landing craft, bulk carrier, patrol vessel, catamaran water taxi, ferry, oily waste collection vessel and passenger vessels to various countries in Europe, Africa and Asia.

There are currently more than 100 ship builders and over 120 registered shipyards of varying size, located mostly on the river banks. In Bangladesh, almost 90% of fuels, 70% of cargos and 35% of passengers are moved by waterways, bringing about a huge domestic demand for vessels. Owing to steady economic and trade developments, and activated infrastructure projects, locally registered number of vessels has increased with average annual growth rate of 5.39%. Annual market value of local shipbuilding industry is currently valued around USD 1 billion, and the demand growth is forecasted to remain steady along with the economic growth. Annual building capacity for export orders is estimated as more or less 20 vessels currently. Vessels built locally for domestic usage include MPV, container, bulker, tanker, dredger, tug as well as passenger ferry, and ranges from 1,000 to 20,000 dwt in size.

Key Overview of Ship Building

- Emerging player in mid to small sized vessel production
- Supportive government policy with the new Shipbuilding policy 2020 encouraging local manufacturing and backward linkage
- 100+ Shipyards
- 5% Annual Growth Rate
- 1 Billion + Annual Market Value
- 700 Rivers
- 24000 km Inland Waterways

Chapter 4

4.1 Sector Specific Business Case Study

To Overview business specific scenario, I focus on my current employer to show the Supplier Relationship and Business Risk Management Model to discuss on specific arenas.

Crystal International Group Limited- HK

Crystal International Group was founded in Hong Kong by Mr. and Mrs. Kenneth Lo in 1970. At inception, Crystal had a workshop with a few sewing machines and knitting looms producing sweaters.

Now they have around 20 self-operating manufacturing facilities spanning across five countries. With a workforce of approximately 80,000, Crystal deliver over 470 million pieces of apparel a year to the best-in-class apparel brands in the world, offering them the right product at the right time at the right cost. They do broad range of apparel products includes lifestyle wear, denim, intimate, sweater and sportswear and outdoor apparel.

Crystal co-creation business model is critical to achieve and enhance their industry leading position as supported by the powerful combination of five decades of industry experience, long-term partnerships with globally leading apparel brands, a diversified product portfolio, and a multi-country manufacturing platform, which have driven their ability to launch new commercially successful products for our customers continuously.

Crystal have developed based on their corporate culture of caring "For the Greater Good" — where the good of customers, colleagues, society and the global environment are our priorities. Crystal believe sustainability allows them to create "shared value" for shareholders and stakeholders through their business process. To this end, they take a holistic approach to sustainability using the five pillars: Environment, Innovation, Product Integrity, Employee Care, and Community Engagement.

Business Milestones of Crystal

1970s: Crystal International Group was established in 1970 as a sweater business

Lifestyle wear business was introduced in 1976. Established factories in Malaysia and Mauritius. Established a joint venture Sinotex with Mast Industries

1980s: Woven business started in 1982. Foothold expanded to China, Jamaica and Sri Lanka
Implemented advanced industrial engineering and computerization programs

1990s: Customer base expanded to Japan following US and Europe. Established production bases in Madagascar and Jiangsu Province, China

2000s: Established factories in Vietnam and Bangladesh. Acquired Martin International Holdings and started intimate division. Transformed woven business into a denim-focused business. Implemented SAP enterprise resource planning (ERP) system

2010s: Established factories in Cambodia. Ranked 17th in The Fortune Magazine's "Change the World" list. Acquired Vista, further expanded product portfolio into sportswear and outdoor apparel products.

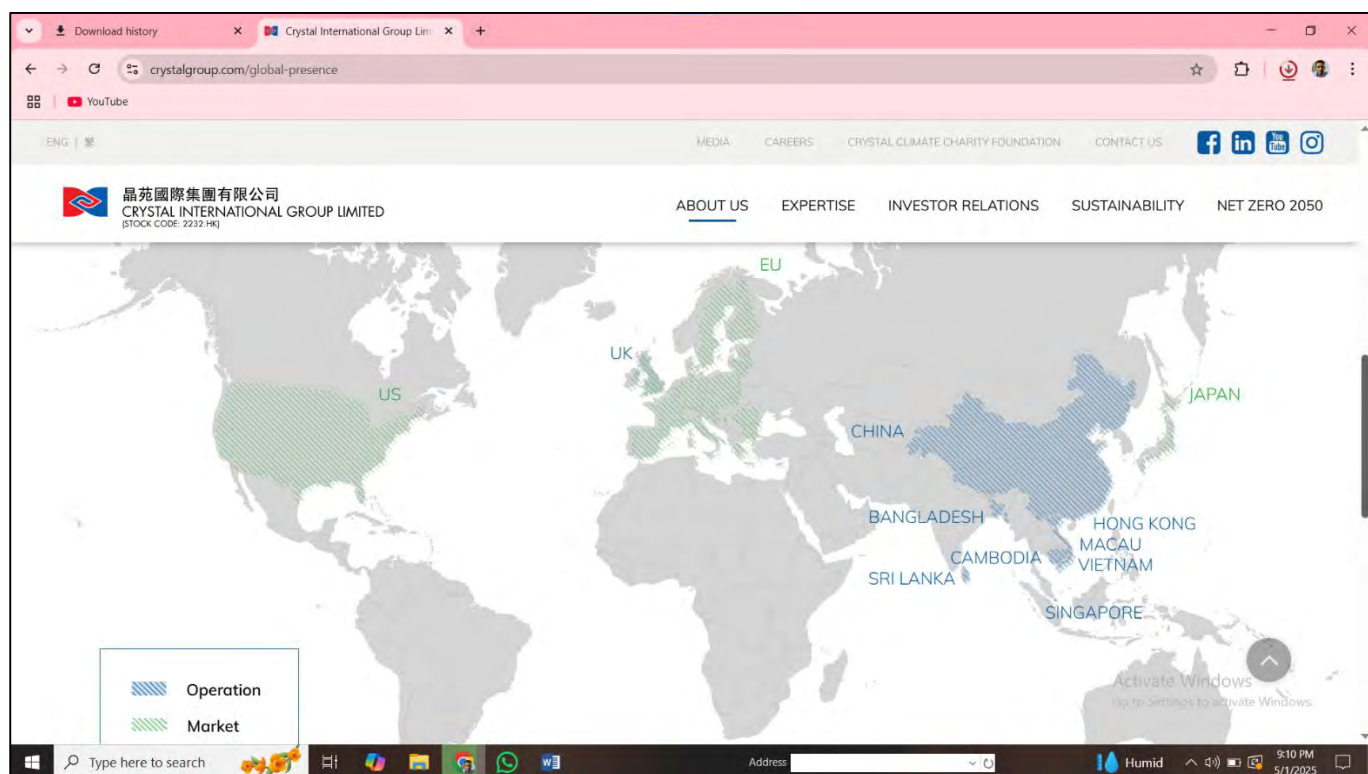


Image: Crystal Presence Worldwide (Source: Official Website)

Crystal Operations Facilities in:

- China
- Vietnam
- Cambodia
- Bangladesh
- Sri lanka
- Singapore
- Hong Kong

Crystal Operations in Bangladesh

Crystal have 4 Manufacturing facilities in Bangladesh. Main manufacturing of these factories are Knit Garments, Fabrics, and Intimate exports. These 4 factories employing more than 15,000 work forces. Crystal manufacturing supply chain and process flows in Bangladesh is as follows

Purchasing O Chart

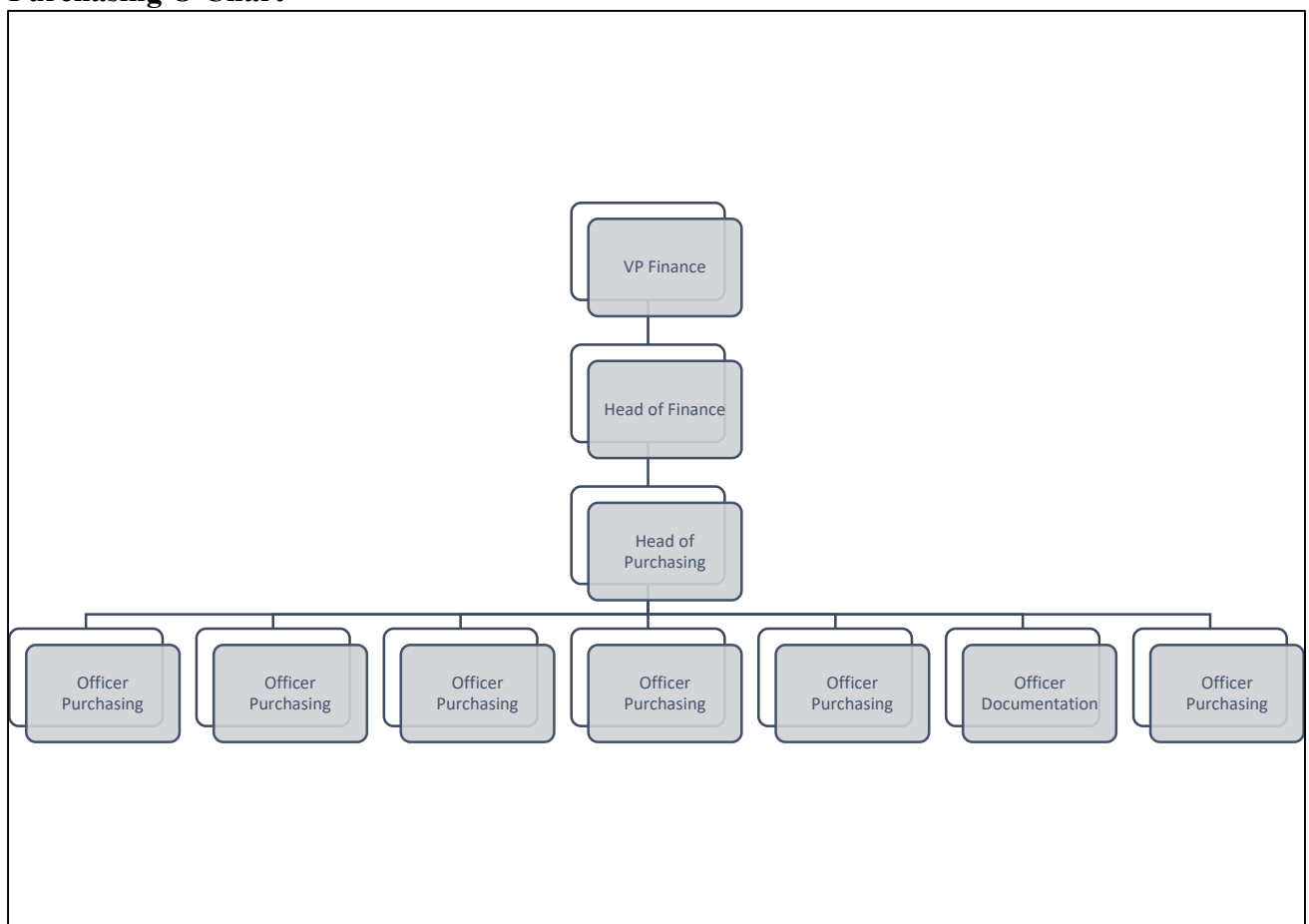


Table-2: Purchasing O Chart of Crystal

Purchasing Work Flow of Crystal Bangladesh Operations:

Purchasing of Crystal BD following OPEX (Consumables)

Budget for the consecutive Year:

Each year forward Consumables budget has given to procurement through FP&A and from that allocation each factory consumables purchasing happen. Following the month ahead, Budget cross check has done by Finance from requirement and utilization, purchasing proceed to purchase required consumables goods for factories.

Monthly Purchase Process:

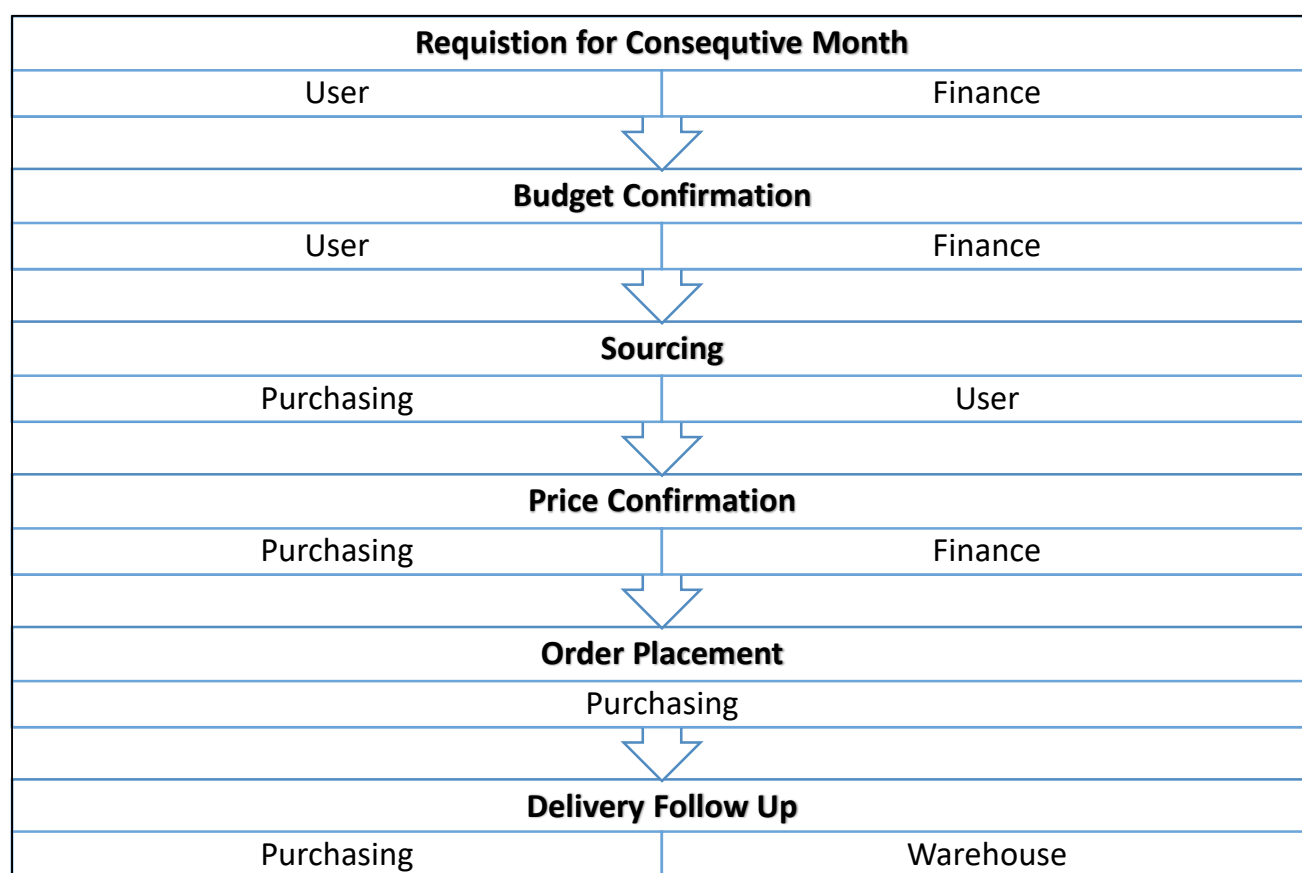


Table-3: Monthly Purchase Process

Monthly Purchase Process inclusion:

- Purchase for monthly consumables
- Purchase from Regular and available market source
- Purchase following Material Requisition Planning
- Purchase following ERP
- Purchase to follow Re-Ordering

Monthly Consumables

Regular items essential for daily business operations and regular replenish in every month.

Regular & Available Market Source

Available market sources near to production facilities and main city

Materials Requisition Planning

Material Requirements Planning (MRP) is used to plan for operational support items and scheduling that determines the quantity and timing of production materials, components, and subassemblies needed to produce a finished product. It helps ensure materials are available when needed, optimizing inventory levels and production efficiency.

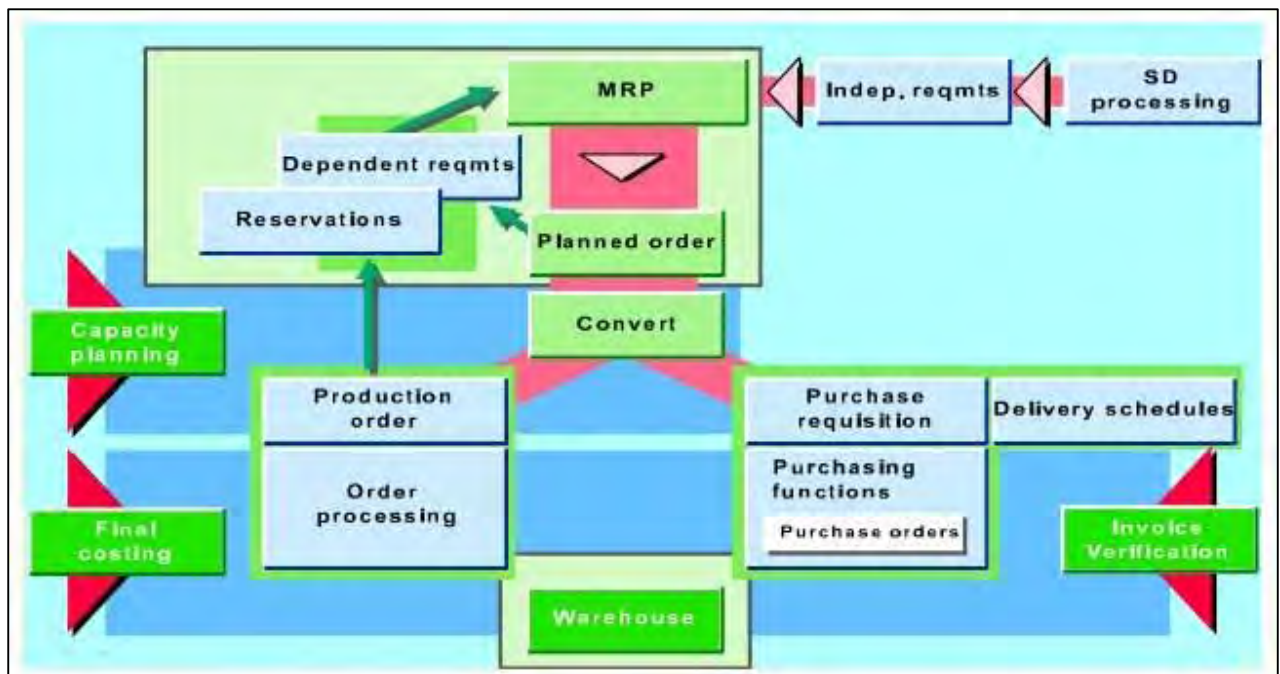


Table-4: MRP in SAP (Source: Internet)

ERP

Enterprise Resource Planning (ERP) used to improve efficiency, streamline operations, and provide real-time visibility into business performance and is a business management software system that integrates and manages various organizational functions and workflows. In general, Crystal use SAP, SAP HANA, and CPS to deal with procurement activities.



Figure-1: ERP (Source: Internet)

Re-Ordering

The reorder level is the inventory point used when new order should be placed to replenish stock. It's the key indicator in inventory management, triggering restocking actions to prevent shortages and maintain operational efficiency. When the stock level of items reach or fall below the reorder level, order is placed to replenish the inventory.

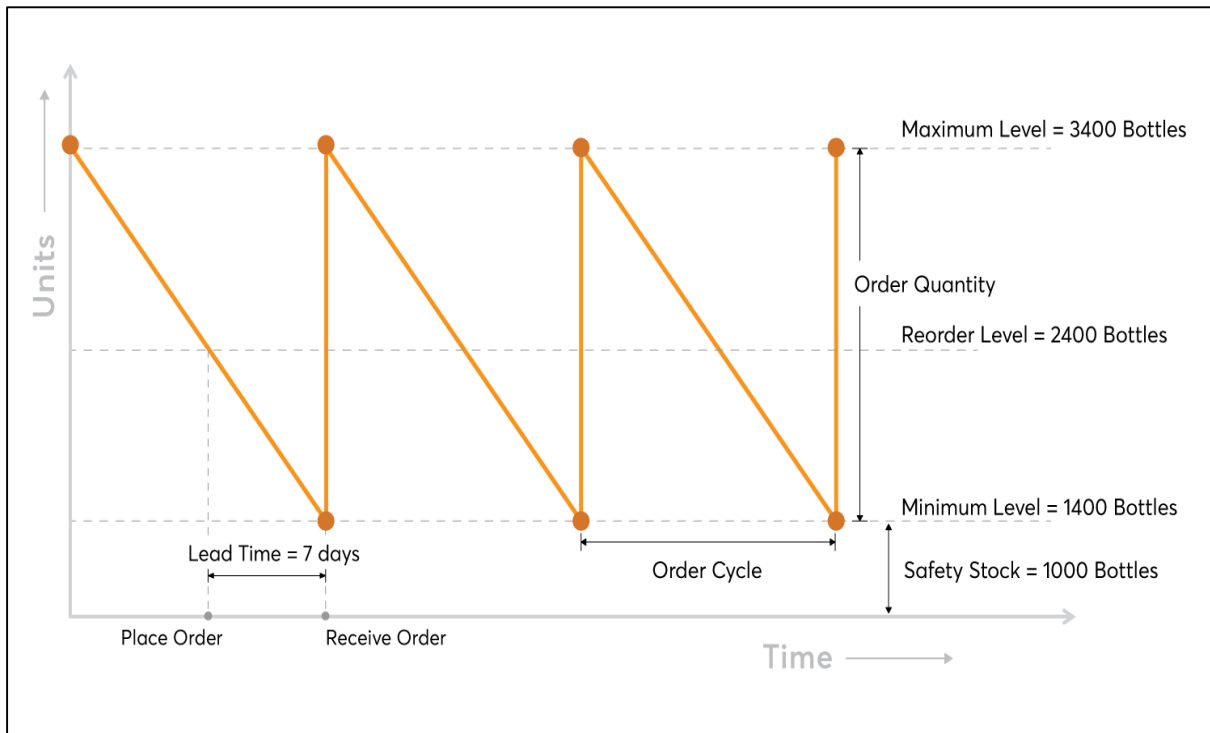


Figure-2: Re-Order Level; Source: Internet

Purchasing follows Centralized System to support Operations

Centralized Procurement System

Crystal procurement is fully centralized, all purchasing decisions are made through a single, dedicated organization. Crystal authority make purchasing decisions through centralized procurement software.

Advantages seems at centralized procurement in Crystal:

- Better management of spend, that leads into benefits of scale
- Implementation of holistic category strategies and tactics
- Improved financial compliance and standardized processes
- Specialized, dedicated team for purchasing
- Centralized management of data and information
- Better relationship management and one point of contact for key suppliers

Purchasing of Crystal BD following CAPEX (Fixed Asset)

Annual CAPEX Budget:

Crystal review and finalize its' forward annual Capital Expenditure (CAPEX) budget in a financial year ahead to outlines projected spending on long-term assets, like property, plant, and equipment, for a specific fiscal year. It helps Crystal to allocate funds, prioritize projects, and manage their capital investments effectively.

Key aspects of an annual CAPEX budget:

Planning and Control:

It provides a framework for planning and controlling capital expenditures, ensuring that they align with the company's long-term goals.

Prioritization:

It helps prioritize investment projects based on their potential return on investment and strategic importance.

Resource Allocation:

It allocates funds to different projects, ensuring that resources are used efficiently and strategically.

Financial Management:

It supports sound financial management by providing a clear understanding of the company's capital investment needs.

Long-term Strategic Planning:

It plays a crucial role in long-term strategic planning by facilitating investments in assets that drive future revenue and value.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Fixed asset purchases:				
Furniture and fixtures	\$28,000	\$0	\$0	\$32,000
Office equipment	0	40,000	0	0
Production equipment	100,000	25,000	80,000	0
Vehicles	32,000	0	32,000	0
Unspecified purchases	15,000	15,000	15,000	15,000
Subtotal	\$175,000	\$80,000	\$127,000	\$47,000
Purchases for new hires:				
Headcount additions	3	2	1	4
\$6,000 × New hires	\$18,000	\$12,000	\$6,000	\$24,000
Total fixed asset purchases	\$193,000	\$92,000	\$133,000	\$71,000

Figure-3: CAPEX Budget Template (source: Internet)

Preparation of Annual CAPEX Budget by Financial Planning and Control Department and Technical PIC's:

- Identify potential projects to strengthen Business Operations and Targets:
 FP&A & Technical Departments submit informal and formal proposals for capital expenditures, including the business case for the expenditure.
- Develop a capital plan:
 This involves a methodical evaluation of the company's physical assets, including their useful life and a replacement program.
- Gather and analyze data:
 Collect data on project costs, timelines, and potential returns on investment.
- Create a detailed budget:
 Outline the specific expenditures for each project, including capital and operational costs.
- Review and approve the budget:
 The budget reviewed and approved by relevant stakeholders, CFO and Board of Directors.
- Monitor and track expenditures:
 Regularly monitor and track actual expenditures against the budget to identify any potential deviations and take corrective action.
- Communicate the budget:
 Ensure that all relevant stakeholders are informed about the budget and their responsibilities.

- **Stretch Target on Budget Savings:**

Technical & User Departments along with Procurement plays a pivotal role to control Budget and set Negotiation to achieve the targets.

CAPEX Purchasing Process:

CAPEX purchase process involves several key steps, from initial need identification to final asset delivery and implementation. It's a strategic process focused on long-term assets, requiring careful planning, approval, and procurement management.

Breakdown of CAPEX purchase process:

1. Needs Analysis and Project Definition:

Identify the need: Determine the strategic reason for the CAPEX purchase. Is it to improve efficiency, expand capacity, or comply with regulations?

Define the project scope: Outline the specifics of the desired asset, including features, specifications, and desired outcomes.

Conduct market research: Explore available options and compare vendors to ensure the best fit and value for the project.

2. Budgeting and Funding:

Estimate costs: Determine the total cost of the asset, including purchase price, installation, and any related expenses.

Develop a budget: Create a comprehensive budget for the project, factoring in all potential costs.

Secure funding: Obtain approval for the budget and secure the necessary funds for the purchase.

3. Procurement:

Vendor selection: Evaluate potential vendors based on price, quality, reliability, and contract terms.

Contract negotiation: Negotiate terms and conditions with the selected vendor, including delivery schedules, warranties, and payment terms.

Purchase order creation: Issue a purchase order to formalize the purchase agreement with the vendor.

4. Implementation and Monitoring:

Asset delivery and installation: Ensure the asset is delivered on time and installed correctly, in accordance with the contract terms.

Monitoring and tracking: Track the project's progress, cost, and delivery schedule to ensure it stays on track.

Performance evaluation: Evaluate the performance of the asset after implementation to determine if it meets the project objectives.

5. Additional Considerations:

Risk assessment: Identify and mitigate potential risks associated with the CAPEX purchase, such as delays, cost overruns, or technical issues.

Contingency planning: Develop contingency plans to address potential challenges or unforeseen circumstances.

Stakeholder communication: Keep all stakeholders informed of the project's progress and any changes that may occur.

In essence, the CAPEX purchase process is a strategic journey that follows careful planning, execution, and monitoring to ensure the successful acquisition and implementation of long-term assets.

Supplier Base Strategy on OPEX

Enlisted Supplier Base for Monthly Re-Ordering: Category wise Selected Supplier based on availability and performance. Monthly one time order placed to selected Lowest Vendor through ERP and Delivery schedule confirmation and monitored by Purchasing Department.

Supplier Base Strategy on CAPEX

Enlisted Supplier after Selection on Negotiation: Specific Requirement wise Supplier selected to be done and Cross Functional Team worked to make a proper formation on Procedural work and follow up of work confirmation.

Crystals' Existing Risk Strategy on Supply Chain Management:

Crystal Risk management is coined through structured process of identifying, analyzing, and responding to potential risks that could negatively impact an organization's goals or assets. It involves anticipating, assessing, and mitigating these risks to ensure an organization's stability, operations, and overall success.

Key aspects of Crystals' risk management include:

Identification:

Recognizing potential threats and vulnerabilities, such as financial uncertainties, legal liabilities, technology issues, or natural disasters.

Analysis:

Evaluating the likelihood and potential impact of each identified risk.

Response:

Developing and implementing strategies to minimize or eliminate risks, including avoidance, mitigation, transfer, or acceptance.

Monitoring:

Continuously tracking the effectiveness of risk management measures and making adjustments as needed.

Types of Risk Management:

Financial Risk Management: Addressing risks related to investments, cash flow, and profitability led by Country FP&A

Operational Risk Management: Managing risks related to the day-to-day activities of organization coordinated by FP&A & CFT

Strategic Risk Management: Addressing risks that could impact long-term organizational goals led by FP&A and Operational Head

Chapter-5

Survey on Supplier Relationship Management & Risk Management

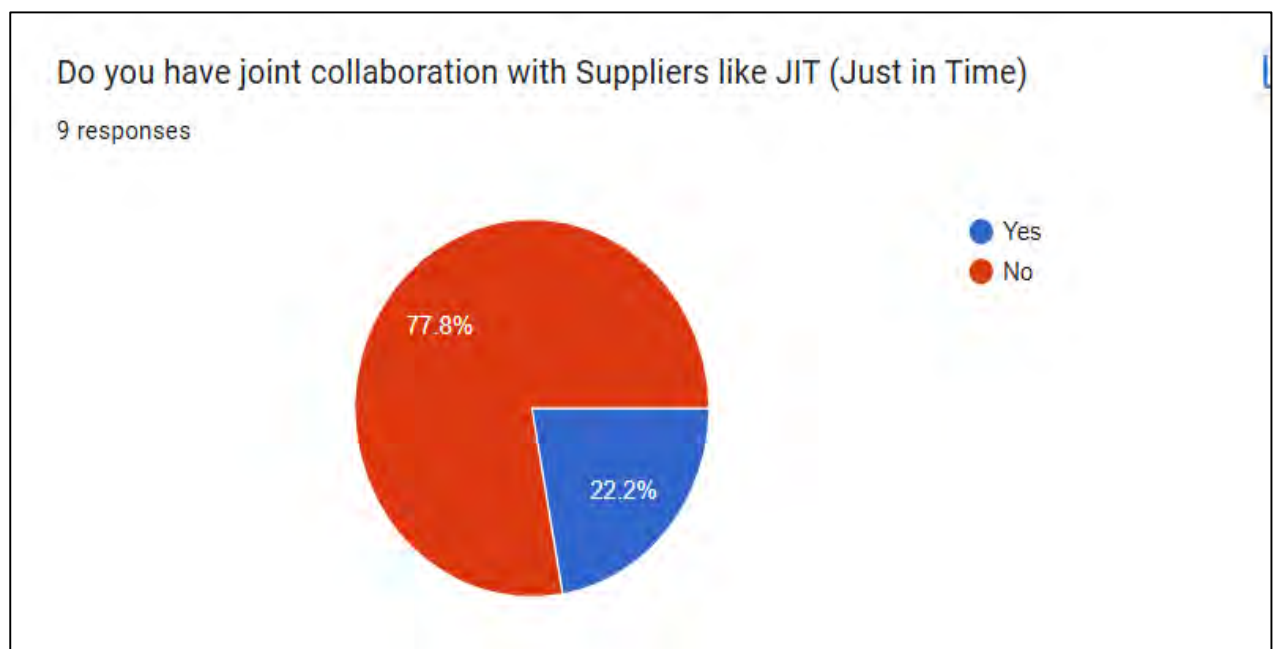
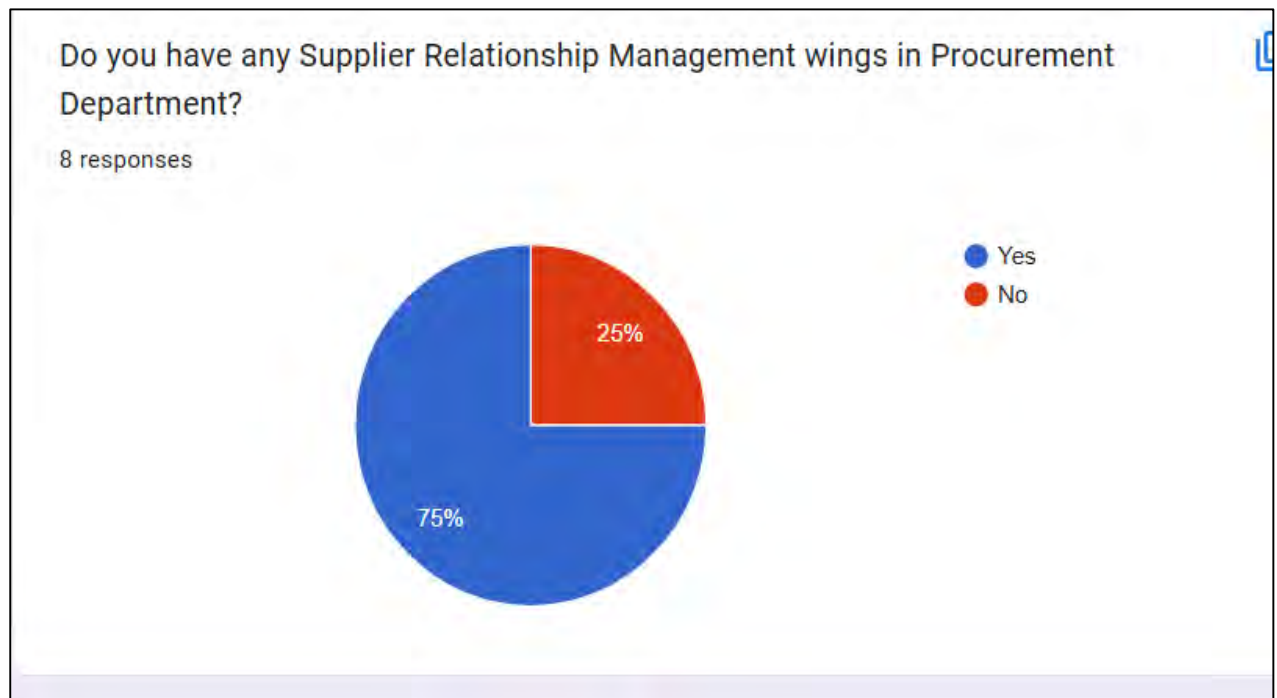
I conducted an Expert Opinion Survey to understand existing SRM & Risk Management Practices to 15 Expert Supply Chain Personnel where 9 Respondents opinion is taken to consideration and the results are as follows:

Research Questionnaires are as follows

Sample Thesis Questionnaire

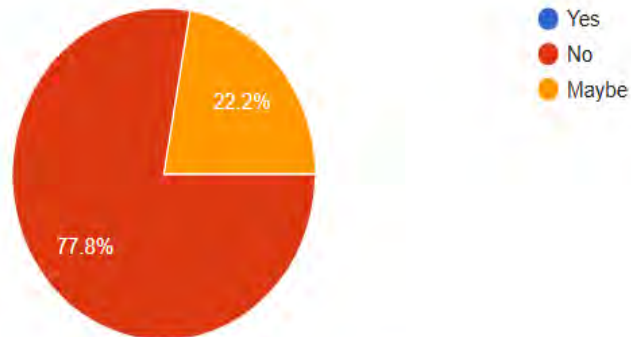
1. What is the name of your industry? **Ans:**
2. What is the year of your industry incorporation? **Ans:**
3. What is the size of your industry? **Ans:** Small/Medium/Large
4. How many manpower are in your Procurement Department? **Ans:**
5. Which is your supplier methods of doing business with you? **Ans:** Cash/Cheque on Delivery/Credit
6. Do you have any Supplier Relationship Management wings in Procurement Department? **Ans:** Yes/No
7. How many supplier you have doing business more than 5 years? **Ans:** Less than 10/More than 10
8. How many suppliers have more than 95% order fulfillment rate? **Ans:** Less than 10/More than 10
9. What is the general quality response time of your suppliers? **Ans:** Less than 24 hours/More than 24 hours
10. Do you have joint collaboration with Suppliers like JIT (Just in Time) **Ans:** Yes/No
11. Do you visit Supplier facilities frequently? **Ans:** Yes/No
12. Do you have annual supplier meet in practice? **Ans:** Yes/No
13. Do you have supplier prequalification checking in practice? **Ans:** Yes/No
14. Do you have Supplier Enlistment process in Practice? **Ans:** Yes/No
15. What is your Vendor Sourcing Process? **Ans:** References/Online search/Direct Market
16. Do you have any gain sharing process? **Ans:** Yes/No
17. Do you have risk strategy? **Ans:** Yes/No
18. Do you follow Risk Mitigation plan? **Ans:** Yes/No
19. Do you have risk register? **Ans:** Yes/No
20. Do you have any Risk Management Department? **Ans:** Yes/No

Results on major topics are received as follows:



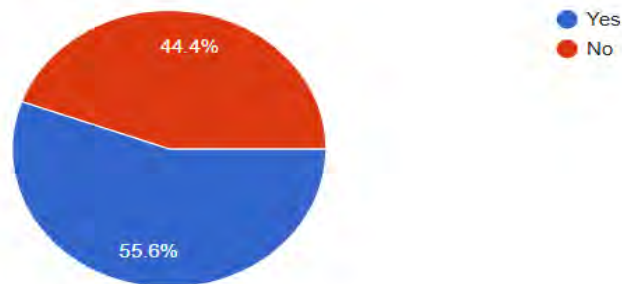
Do you have any gain sharing process?

9 responses



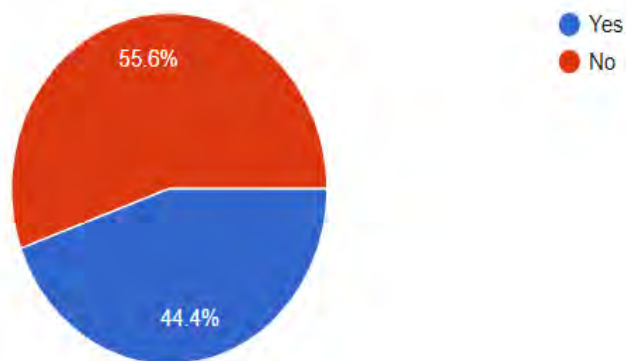
Do you have risk register?

9 responses



Do you have any Risk Management Department?

9 responses



Results on Research:

1. 75% Respondents tell they have SRM Wings in Procurement
2. 77.8% Respondents have no Joint Collaboration with Vendors
3. 100% Respondents have no gain sharing arrangement with Vendors
4. 55.6% Respondents have Risk Register only (observation on answer- Not Sure)
5. 55.6% Respondents have no Risk Management Department

5.4 Observation on overall results:

Existence of SRM Wings (75%)

A majority of organizations have established SRM wings within their procurement function, indicating awareness and formal structuring of supplier relationship management. However, this is not translating into strategic or collaborative partnerships, as evidenced by points 2 and 3.

Lack of Joint Collaboration with Vendors (77.8%)

Most organizations are not engaging in joint initiatives or planning with their vendors. This implies SRM may be limited to transactional or compliance-based relationships rather than strategic collaboration.

No Gain Sharing Mechanism (100%)

A complete absence of gain sharing models suggests missed opportunities for win-win outcomes, innovation, and long-term value creation with suppliers. This also reflects a low maturity level in supplier relationship strategies.

Uncertainty about Risk Register (55.6% - Not Sure)

More than half of respondents are uncertain about having a risk register, which indicates a lack of formal risk identification and documentation processes. This undermines the organization's preparedness to respond to supply chain disruptions.

Absence of Risk Management Department (55.6%)

More than half of the organizations do not have a dedicated Risk Management Department. This significantly weakens their risk resilience framework and their ability to proactively manage procurement and supply chain risks.

5.5 Insights Take Away:

- While SRM structures are present in many organizations, strategic depth and collaborative practices are missing.
- There is a critical gap in risk resilience infrastructure, with insufficient formal mechanisms like risk registers and dedicated departments.
- Organizations are operating in silos, with procurement not fully integrated with risk or supplier innovation strategies.

5.6 Recommendations

1. Promote strategic supplier collaboration models, including joint planning and gain-sharing frameworks.
2. Establish or strengthen risk management functions within procurement.
3. Ensure implementation and awareness of risk registers across teams.
4. Invest in capacity building for procurement professionals on advanced SRM and risk management practices.

Chapter-6

Suggested Right Fit for Supplier Relationship Management:

1. Supplier Segmentation

All suppliers are not required to get equal attention. Supplier segmentation based on criticality (e.g., strategic, bottleneck, leverage, routine) is important.

To-Do:

- Form strategic SRM with **strategic and bottleneck suppliers**.
- To identify Deep & Potential engagement, implement Kraljic Matrix

2. Supplier Evaluation

Major proportion of manufacturing firms have lack of formal metrics & tracking of supplier performance evaluation.

To-Do:

- Design well defined Supplier Key Performance Indicators (KPI)
- Deploy performance scorecards and periodic reviews.
- Combine Supplier performance to Operational performance and business readiness

3. Supplier Collaboration

Joint innovation and mutual gain formation.

To-Do:

- Combined work on demand forecasting & joint production planning
- Innovate agile response criteria like VMI (Vendor Managed Inventory)
- Win-Win Platform creation
- Target Joint Logistics planning and implication for cost savings
- Implement Gain Sharing process to strengthen strong relationships

4. Joint Agreement with Long Term, Key-Suppliers

To avoid supply chain disruption and cost stability.

To-Do:

- Identify Key Suppliers and formation of Yearly Procurement Contract
- Focus on **price adjustment**
- **Focus on service levels**
- Joint monitoring on **risk mitigation**.

5. Supplier Risk Profiling

Enhance risk visibility related to supplier

To-Do:

- Form combined **risk assessments** with critical suppliers.
- Forecast Risk related to operational, financial, and geopolitical areas.
- Develop and maintain **supplier risk register**.

6. Development of Local Suppliers

Foster cost reduction and capability increase of local suppliers to standardize response time

To-Do:

- Figure out operational performance areas with top suppliers like **joint Kaizen or 5S programs**.
- Initiate training and development programs.
- Joint work on Supplier Compliance improvement

7. Fastest SRM Routes

Improvement of Information System Development on SRM

To-Do:

- Scale to **ERP-integrated SRM tools**
- **Shared performance monitoring to both Buyer & Suppliers**

8. Mutual Gain Sharing

To promote innovation and shared accountability options.

To-Do:

- Launch **pilot Cost Savings projects**
- Share realized gains to build long term trust

9. Annual Supplier Meet

To align suppliers with company performance goals and reward top performers.

To-Do:

- Annual supplier day to discuss goals, share insights, and appreciate performance.
- Idea and innovation sharing and internal benchmarking option check.

Chapter-7

Suggested Right Fit for Risk Resilience Enhancement

Ways risk resilience influences business sustainability:

1. Ensures Continuity of Operations

- Resilient companies have **contingency plans**, alternative suppliers, and inventory buffers.
- During events like port delays, strikes, or pandemics, such firms **continue operating**, while others halt.

Risk Resilience minimizes operational disruption, ensures consistent customer service, and safeguards revenue.

2. Reduces Financial Volatility

- A strong risk framework avoids **emergency procurement, penalties, and waste**.
- Resilience improves **forecast accuracy and budget control**.

Risk Resilience protects profitability, stabilizes cash flow, and supports long-term investment planning.

3. Builds Supplier Trust and Loyalty

- Risk-sharing and joint mitigation improve relationships with key vendors.
- Suppliers are more likely to prioritize resilient partners.

Risk Resilience enhances supply chain stability and access to innovation.

4. Improves Decision-Making and Governance

- Having a **risk register**, **early warning systems**, and **scenario analysis** supports timely decisions.
- It also enhances board-level confidence and investor trust.

Risk Resilience drives informed leadership and improves compliance with ESG (Environmental, Social, and Governance) frameworks.

5. Supports Environmental and Social Compliance

- Resilient systems include plans for **climate events**, **water stress**, **ethical sourcing**, etc.
- Helps avoid reputational damage and fines from violations.

Risk Resilience positions the company as a responsible, future-ready business aligned with global sustainability goals.

6. Encourages Innovation and Agility

- They treat disruption as an opportunity (e.g., switching to digital procurement, re-shoring suppliers).
- Can quickly reconfigure supply chains or product lines.

Risk Resilience can lead long-term competitiveness through adaptability and innovation.

7. Enhances Brand Value and Market Confidence

- Reliable delivery during crises builds a strong brand.
- Investors increasingly consider **risk maturity** and **resilience scores** in decision-making.

Risk Resilience can lead higher customer loyalty, better financing opportunities, and long-term brand equity.

Chapter-8

Strategies for inaugurating Supplier Relationship Management

SRM Integration Strategies

1. Align SRM with Business and Procurement Strategy

Without alignment, SRM becomes isolated and fails to support broader goals.

Ways to Align SRM:

- Map supplier roles to **business priorities** (cost efficiency, quality, innovation, ESG).
- Ensure SRM KPIs are part of procurement and company-wide scorecards.
- Identify **strategic suppliers** critical to innovation, cost control, and risk management.

2. Embed SRM into the Procurement Process

SRM must not be treated as a separate initiative; it should be built into day-to-day procurement.

Ways to Embed SRM:

- Integrate supplier evaluation and feedback in RFQ, onboarding, contract, and review stages.

- Standardize templates and checklists for **supplier onboarding, audits, and exit**.
- Use **supplier performance metrics** during selection, not just price.

3. Establish Cross-Functional SRM Teams

Procurement alone cannot drive strategic supplier relationships.

Ways to Establish Cross Functional SRM Teams:

- Form SRM teams with members from **procurement, quality, R&D, production, finance**.
- Assign **supplier account managers** or champions for key vendors.
- Encourage regular cross-departmental reviews of critical suppliers.

4. Use Tiered SRM Engagement Models

Not all suppliers need deep engagement.

Ways to Use Tired SRM Models:

- Segment suppliers into **Strategic, Preferred, and Transactional**.
- Apply different engagement levels:
 - **Strategic:** Joint development, LTAs, gain sharing
 - **Preferred:** Quarterly reviews, process improvement
 - **Transactional:** Basic performance monitoring

5. Digitalize SRM Processes

Manual SRM limits scalability, visibility, and data consistency.

Ways to digitalize SRM:

- Start with simple tools like **Excel dashboards or Google Forms**.
- Gradually implement SRM modules within **ERP**
- Automate:
 - Supplier performance tracking
 - Risk assessments
 - Document management (contracts, audits)

6. Integrate Risk Management with SRM

Supplier performance and reliability are key to risk resilience.

Ways to Integrate Risk with SRM:

- Add risk assessment checkpoints during supplier onboarding and annual reviews.
- Maintain a **supplier risk register** linked to business continuity planning.
- Evaluate suppliers for:
 - Financial health
 - Geopolitical exposure
 - Delivery history
 - Quality issues

7. Establish SRM Governance Framework

Governance ensures consistency, accountability, and senior-level oversight.

Ways to Establish SRM Governance Framework:

- Define SRM roles and responsibilities across teams.
- Schedule regular **supplier councils or review boards**.
- Use structured tools like:
 - Supplier scorecards
 - Balanced scorecard metrics
 - Annual business reviews (ABRs)

8. Build Supplier Development & Collaboration Programs

Especially in Bangladesh, many suppliers need capacity building to meet quality and compliance goals.

Ways to Build Supplier Development & Collaboration Programs:

- Run **joint improvement programs** (5S, Lean, Kaizen) for key suppliers.
- Offer **training or co-investment** in capability upgrades.
- Explore **gain sharing or incentive-based models** for performance improvements.

9. Integrate ESG & Compliance into SRM

Regulatory and buyer requirements (especially for export firms) demand ethical and sustainable sourcing.

Ways to Integrate ESG & Compliance:

- Include **ESG, labor, and environmental compliance** in supplier selection.
- Work with suppliers to adopt **social audits, certifications** (e.g., WRAP, Sedex).
- Integrate supplier ESG scores into SRM reviews.

10. Communicate and Celebrate SRM Value

Change management is key to SRM adoption.

Ways to Communicate and Celebrate SRM Value:

- Celebrate supplier contributions through **supplier awards**.
- Share success stories of cost savings, innovation, or crisis support.
- Report SRM metrics in **management and board-level updates**.

Chapter-9

Strategies to Enhance Risk Resilience

1. Establish an Enterprise Risk Management (ERM) Framework

Many organizations handle risks in silos; a central framework enables holistic control.

Ways to Establish ERM:

- Develop a formal **risk policy and governance structure**.
- Identify key risk categories: operational, financial, supply chain, regulatory, reputational, etc.
- Assign ownership and integrate with strategic planning and performance metrics.

2. Create and Maintain a Risk Register

Helps in identifying, assessing, and tracking risks consistently.

Ways to create and maintain a Risk Register:

- Identify risks across departments (procurement, operations, HR, IT).
- Assess each risk by **impact** and **likelihood**.
- Use a risk heat map for visualization.
- Review and update quarterly.

3. Develop Business Continuity Plans (BCP) and Disaster Recovery Plans (DRP)

These are essential for responding to disruptions (e.g., fire, flood, strike, IT outage).

Ways to Develop BCP & DRP:

- Create scenario-based response plans.
- Identify critical functions, staff, systems, and backup resources.
- Conduct **mock drills** or simulations to test response readiness.

4. Diversify Suppliers and Critical Resources

Overdependence on a single vendor or geography increases vulnerability.

Ways to diversify suppliers and critical resources:

- Identify single-source dependencies and develop **dual sourcing** options.
- Establish **local supplier alternatives** where possible.
- Qualify backup suppliers for critical materials.

5. Integrate Risk Metrics into Procurement and Supply Chain

Supply chains are the most vulnerable to disruption.

Ways to Integrate Risk Metrics:

- Include **supplier risk scores** in evaluation and onboarding.
- Track delivery failures, quality rejections, financial health, and ESG compliance.
- Develop **early warning systems** (e.g., delayed shipments, supplier bankruptcy).

6. Build Risk-Aware Culture and Training

People are central to managing risks proactively.

Ways to build Risk-Aware Culture and Training:

- Conduct regular **risk awareness sessions** for all employees.
- Train key staff on **risk identification, escalation, and response protocols**.
- Integrate risk awareness into **performance KPIs and appraisals**.

7. Invest in Digital Risk Monitoring Tools

Manual risk tracking is inefficient and reactive.

Ways to Invest in Digital Risk Monitoring Tools:

- Use tools for **risk dashboards, automated alerts, and analytics**.
- Start with simple tools like Excel, Power BI, Google Sheets, App Script.
- Advanced options: SAP Risk Management,

8. Embed ESG and Regulatory Compliance in Risk Strategy

Regulatory, environmental, and social risks are increasingly prominent.

Ways to Embed ESG and Regulatory Compliance:

- Monitor **compliance obligations** (local and international laws, audits).
- Align with standards such as **ISO 31000, ISO 22301, and GRI**.
- Track ESG risks like water usage, labor practices, and emissions.

9. Establish Crisis Communication Protocols

Clear communication mitigates panic and reputational risk during crises.

Ways to establish Crisis Communication Protocols:

- Designate a **crisis response team and spokesperson**.
- Prepare standard messages for internal and external stakeholders.
- Use multiple channels: email, SMS, WhatsApp groups, dashboards.

10. Conduct Regular Risk Audits and Scenario Planning

Risk profiles evolve—constant review is critical.

Ways to conduct Risk Audits:

- Audit risk mitigation controls annually or after major incidents.
- Use **scenario planning** for:
 - Natural disasters
 - Currency volatility
 - Regulatory bans
 - Global supply chain shocks

Chapter- 10

Final elaboration of five hypotheses

Hypothesis 1:

“Adoption of SRM and Risk Management Strategies significantly influences performance in the manufacturing sector.”

Elaboration:

In today’s volatile and complex supply chains, manufacturing organizations increasingly rely on the **systematic adoption of Supplier Relationship Management (SRM) and risk management frameworks** to achieve consistency, quality, and cost control. This hypothesis assumes that when manufacturers proactively adopt formal SRM and risk strategies—including supplier performance tracking, risk registers, compliance checks, and contingency planning—they experience measurable improvements in **overall operational and financial performance**. The impact can manifest in reduced lead times, fewer disruptions, better supplier quality, and improved bottom-line outcomes.

Hypothesis 2:

“Strategic transformation of SRM and Risk Management approaches significantly impacts competitiveness in the manufacturing sector.”

Elaboration:

As market dynamics shift due to globalization, digitalization, and sustainability demands, **static or traditional SRM methods are no longer sufficient**. This hypothesis suggests that **transformational changes**—such as moving from transactional to strategic supplier partnerships, adopting digital SRM tools, or integrating risk intelligence platforms—enhance an organization’s ability to **remain competitive**. The strategic shift enables companies to respond more quickly to market changes, innovate collaboratively with suppliers, and proactively manage supplier-related risks, thus gaining a **competitive edge** in terms of cost, speed, flexibility, and resilience.

Hypothesis 3:

“Development of structured SRM practices contributes significantly to operational efficiency and supplier performance in the manufacturing sector.”

Elaboration:

Structured SRM practices—such as supplier segmentation, scorecards, periodic performance reviews, and joint improvement initiatives—help manufacturing companies build predictable, transparent, and results-driven relationships with their suppliers. This hypothesis posits that when SRM is systematized rather than ad-hoc, it results in higher **supplier accountability, improved quality performance, and reduced procurement cycle times**, which together boost **operational efficiency**. Effective SRM also nurtures a culture of continuous improvement and shared value between the manufacturer and suppliers.

Hypothesis 4:

“Stakeholder engagement and supplier collaboration are critical enablers of effective SRM in the manufacturing sector.”

Elaboration:

SRM success is not confined to procurement alone—it requires active involvement from **cross-functional internal stakeholders** (production, R&D, finance) and **external partners** (suppliers, regulators). This hypothesis highlights that **collaboration, transparency, and shared objectives** between stakeholders lead to better alignment, trust-building, and long-term relationships. In manufacturing environments, where supplier performance directly affects production continuity, stakeholder engagement plays a crucial role in mitigating friction, promoting innovation, and enabling more responsive and adaptive supplier management.

Hypothesis 5:

“Strategic outcomes such as cost reduction, risk mitigation, and supplier innovation are key contributors to sustainable business performance through SRM and risk management in the manufacturing sector.”

Elaboration:

This hypothesis integrates **strategic outcomes** of SRM and risk management with the broader objective of **business sustainability**. It argues that effective SRM and risk strategies don't just resolve short-term issues—they foster long-term value by enhancing supply chain resilience, reducing total cost of ownership, and unlocking innovation through collaborative supplier relationships. These factors collectively drive **sustainable performance**, which includes not just profitability, but also reliability, ethical sourcing, and adaptability—especially crucial in the Bangladeshi manufacturing context, where global buyer expectations and compliance demands are rising.

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Appendix.

Gain Supply Chain Visibility:

The supply chain risks faced by business last couple of years to face challenges in diverse and numerous ways. On top of this, supply chain have been under increased scrutiny to ensure that they are ethical, transparent and meet strict and ever-rising regulatory requirements.

Before buying a solution, first Organization should consider if- and- how they might get benefit. They can take a number of logical steps to work through their needs before examining what the market has to offer.

Step 1: Highlight the need: outcome goal:

Consider the key objectives or pain point in Organization. Don't try to tackle everything at once. After taken the first step and resolved the urgent issues, they can add further tools and systems covering other areas

Step 2: Consider how much change you can manage:

Technology can do all sorts of things but it requires individuals who understand how to use it and to start doing so. It may require some training, practice, and patience, so consider how much process change an Organization is willing to undergo.

Step 3: Keep things simple

Don't over specify what you requires to avoid waste of complicated tools.

Step 4: Assess what technology is on the market

Consider not only what you need immediately but what other products or functionality you might like to add in future.

