

Report On

**Impact and Challenges for the Procurement of New Products for
a Sustainable Pharmaceutical Industry**

By

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A report submitted to the BRAC Institute of Governance and Development (BIGD), BRAC
University in partial fulfillment of the requirements for the degree of
Masters in Procurement and Supply Management (MPSM)

BRAC Institute of Governance and Development (BIGD)

Brac University

May, 2023

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DECLARATION

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report 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 report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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LETTER OF TRANSMITTAL

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Subject: Submission of report on “Impact and Challenges for the Procurement of New Products for a Sustainable Pharmaceutical Industry”

Dear Sir,

This is my pleasure to display my report on “Impact and Challenges for the Procurement of New Products for a Sustainable Pharmaceutical Industry”, which I was appointed by your direction.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible.

I trust that the report will meet the desires.

Sincerely yours,

Mofiza Akter

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Date: May 05, 2023

NON- DISCLOSURE AGREEMENT

This non-disclosure agreement made and entered into by and between **Md. Sharif Uddin, Deputy Manager – Supply Chain at Popular Pharmaceuticals Limited** with **BRAC University**, located at 66 Mohakhali, Dhaka 1212, Bangladesh for preventing the unauthorized disclosure of confidential information as defined below.

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DISCLOSING PARTY

Md. Sharif Uddin; Date: May 05, 2023

RECEIVING PARTY

Name: Mofiza Akter; Date: May 05, 2023

ACKNOWLEDGEMENT

In light of all the blessings that have been showered upon us, I would want to take this opportunity to express my appreciation to the Supreme Being. Because of the important role he played, the person who supervised both my report and my practicum deserves my utmost gratitude. Because of the substantial amount of collaboration that took place, this report was able to be improved with such a rigorous data analysis, which would not have been possible otherwise. In addition, I would want to express my appreciation to the supervisor at my place of employment for the helpful assistance and insightful thoughts that he provided. It is because of my family that I was able to make it this far and receive a master's degree, which is something that is still unattainable for millions of students all around the world. I would like to take this opportunity to thank them for enabling me to be here today and for everything they have done.

ETHICAL STATEMENT

In order to ensure the research was conducted with honesty and transparency; as well as to avoid harming any participants, the thesis was regulated by the following ethical considerations:

- Participants could withdraw from participating at any given time
- Participants were briefed regarding the nature of the research and questionnaire and their full consent were obtained before the study
- Respondents' identities have been kept confidential
- Works of other authors used in the dissertation have been acknowledged with the use of APA referencing system
- Misinterpretation regarding the objective of the paper has been avoided
- All possible sources of conflict, affiliations and sources of funding has been declared
- All type of bias in the primary data findings has been avoided as best to the researcher's abilities
- All research related communication was conducted with honesty, integrity and transparency

ABSTRACT

The goal of the study was to determine the fundamental difficulties and important facets involved in the launch of new pharmaceutical goods, as well as the typical approach taken to deal with the difficulties that were identified. Finding out the importance of unique and creative ways in the promotion of new pharmaceutical products and the impact that this has on the market value of these products was the second most significant goal of this research.

The methodology that I used conducted an analysis of the data using a statistical technique, and the findings were described in the appropriate context.

Findings: In this age of innovation and creativity, "perfect product launch" and lifecycle management are now viewed in a different and expanded way, so the strategies would be accordingly. This is because companies now a days think about virtually every aspect of research, marketing, product development, suppliers, materials management, manufacturing, distribution, warranty and defect management, maintenance repair and overhaul, and product end of life and disposal. This requires the strategies to be adjusted accordingly.

The obstacles that must be overcome in order to successfully introduce a new product to the market and keep it competitive there are growing in number. These obstacles are typically conquered by coming up with unique and creative solutions both during and after the introduction of a product. And as a result, its development is being supported by active investments, grants by developing economies. This research could be valuable for the researcher who has an interest in marketing, and it could also be useful for whose companies have recently released a product or are about to launch one.

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LIST OF ACRONYMS & ABBREVIATIONS

SDGs	Sustainable Development Goals
UK-MHRA	Medicines & Healthcare products Regulatory Agency in UK
Australia-TGA	The Therapeutic Goods Administration in Australia
EU	The European Union
US-FDA	The United States Food and Drug Administration
NCDs	Non-communicable diseases
AIDS	Acquired immunodeficiency syndrome
URS	Utah Retirement Systems
HIV	The human immunodeficiency viruses
PPL	Popular Pharmaceuticals Ltd.
TRIPS	Trade-Related Aspects of Intellectual Property Rights
QC	Quality Control
PD	Product Development
EBL	Eastern Bank Limited
APIs	Active Pharmaceutical Ingredients
DSE	Dhaka Stock Exchange
LDCs	Least developed countries
GDP	Gross domestic product
MAC	Middle and Affluent Class
BBS	The Bangladesh Bureau of Statistics
ASHRAE	The American Society of Heating, Refrigerating and Air-Conditioning Engineers

HVAC	Heating, ventilation, and air conditioning
IQVIA	IQVIA: I (IMS Health), Q (Quintiles), and VIA (by way of). QVIA (NYSE:IQV) is a leading global provider of advanced analytics, technology solutions, and clinical research services to the life sciences industry.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

One of the industries in Bangladesh that is at the forefront of technical development is the pharmaceutical business. Innovative ideas, knowledge, hard work and professional skills are the key factors to grow up this sector. At this time, the Pharmaceutical Industry of Bangladesh contributes the second highest revenue to the State Treasuries of Bangladesh. Pharmaceutical Industries is meeting 98 % of total demand of pharmaceutical products. Besides that, also exporting its formulations to 62 countries of the world and demand for export is increasing rapidly.

To keep pace with this growth and demand there is a big role of launching new generic products in the market. All products have a certain life cycle. The time span that begins with a product's introduction to the market and ends with its retirement from sale is known as the product's "life cycle." The product's life cycle can help a company to understand and realize its position in the market compared to competitors and the product's success or failure. It also reflects the sales of the products to the company. Considering all these things we can achieve a sustainable growth in the market launching new products which reflects on sustainable procurement in this sector.

Sustainable Development Goals (SDGs) as an opportunity to take sustainability to the next level, which will allow us to improve health care for a greater number of people and get closer to our goal of having no negative impact on the environment by the year 2030.

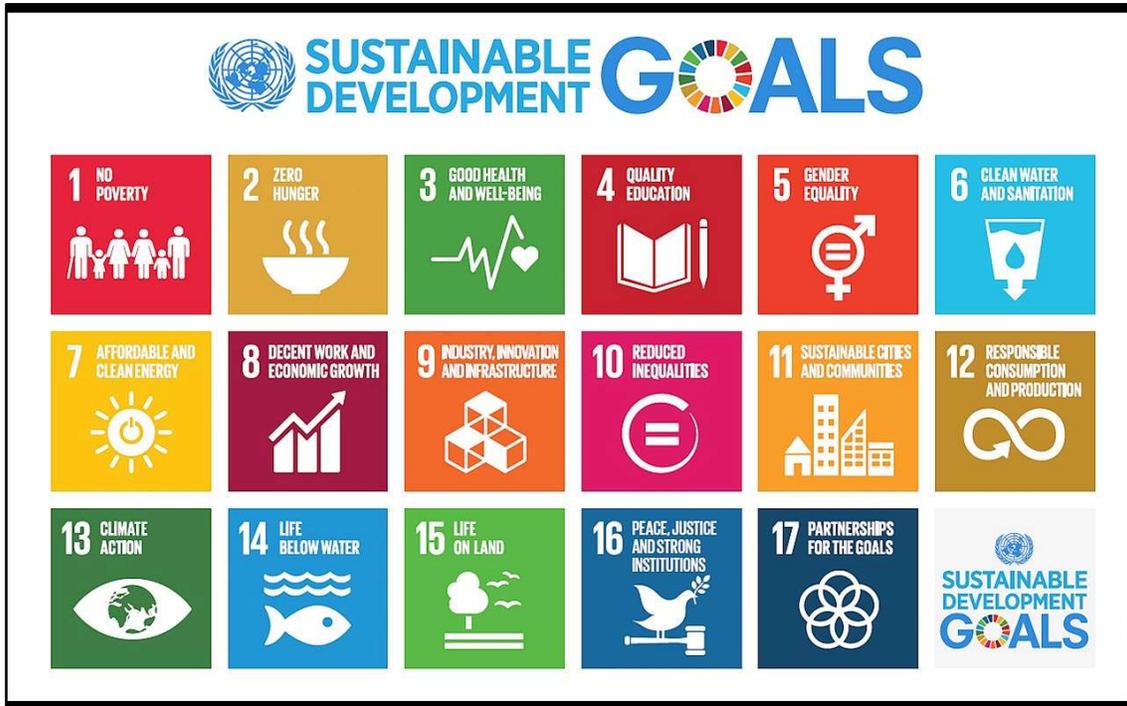


Figure 1 Sustainable Development Goals

Source Sustainable Development Goals (2016), Author (2023)

Our work in a variety of areas is accomplished through collaborative collaborations with a wide range of public and private organizations. We are especially pleased to see that the importance of the increasing burden of diabetes and other non-communicable diseases has been recognized (NCDs).

As a healthcare sector we are concern about the Good Health. We have to ensure healthy lives for all at all ages. The goal is to lower the global maternal mortality ratio; put an end to deaths that could have been prevented in newborns and children; put an end to epidemics of HIV/AIDS, tuberculosis, malaria, and other communicable diseases; lower mortality rates from non-communicable diseases; and strengthen prevention and treatment.



Figure 2 SDG3: Protect and Improve Health for People of All Ages.

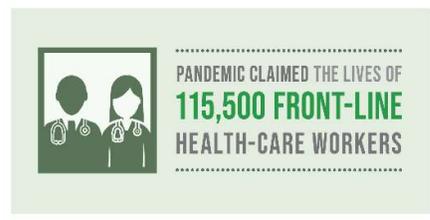
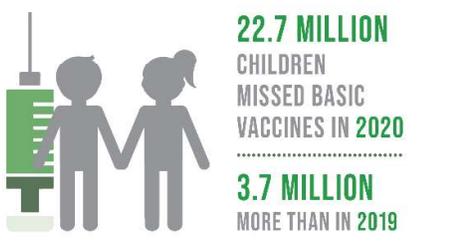
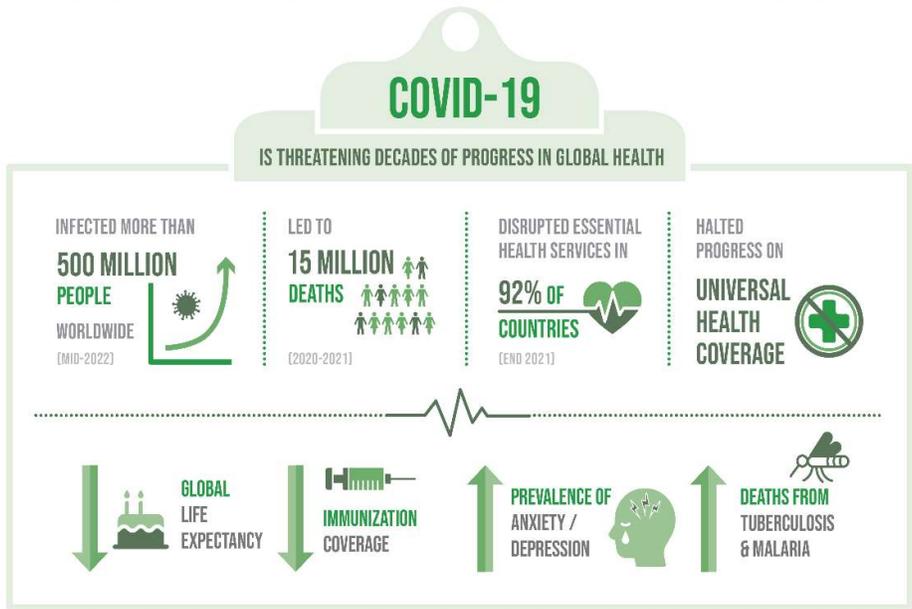
Source SDG's: Sustainable Development Goal 3 (2019), Author (2023)

Our strategy for achieving the Sustainable Development Goals is founded on the SDGs' three guiding principles, which are as follows:

1. The Sustainable Development Goals are applicable in every region of the world and in every industry. Everyone cities, businesses, schools, and organizations are being pressed to take actions.
2. Integration: Each of the Sustainable Development Goals is connected to the others in a unified structure. If even one of the Sustainable Development Goals is not met, then the world cannot be considered a success.
3. Transformation: In order to achieve the Sustainable Development Goals, we will need to make significant adjustments to the way that we live on Earth.

If we consider the global pandemic of COVID-19, there is a need to give significant attention towards the realization of good health and well-being on a global scale. We can see the details in the report of SDGs, 2022.

ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES



THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2022: [UNSTATS.UN.ORG/SDGS/REPORT/2022/](https://unstats.un.org/sdgs/report/2022/)

Figure 3 The Sustainable Development Goals Report 2022

Source SDGs Report (2022)

This vaccination campaign is a component of a larger effort that aims to reach people from a range of situations that prevent them from having access to this effective tool against COVID-19. Specifically, the goal of this project is to reach people in developing countries. This pilot community immunization acts as both an inspiration and a proof of concept for how the Department of Health and civil society partners may reach disadvantaged groups in order to defend their right to health.

In this study Popular Pharmaceuticals limited is the standard to compare with the other pharmaceuticals. In order to make PPL a genuinely multinational company, the product development team on our end is maintaining its rigorous research emphasis throughout the formulation development process.

1.2 Problem statement for New Product Sourcing

A pharmaceutical new product sourcing for raw material, critical intermediates, and excipients for the creation of completed pharmaceutical preparation is regarded to be a difficult process since it involves many channels, requires experienced employees, and must be validated properly. This is because the process involves the preparation of a finished pharmaceutical preparation. The primary reason that contributes to issues during the procurement process is the absence of a complete procurement policy. Also, the absence of appropriate regulatory standards and unbiased market information also contributes to this issue. In addition to them, there is a lack of correctly developed user requirement specifications (URS), which in the end affects both the quality and delivery of the quoted material.

There are a growing number of businesses across the globe that lack the appropriate regulatory documentation. For the new product sourcing if it is first time in Bangladesh we consider for the regulatory certified documents but we have to keep the basic required paperwork for the patient safety as it is lifesaving drugs. We have to also focus on the market demand of a new generic product.

Three factors are central to the sourcing process, and these are:

- Cost structure
- Profit margins
- Competitiveness

1.3 Research Objective

The objectives of this study were-

- 1) Find out the new product impact on total sales of the pharmaceutical company.
- 2) Challenges of pharmaceutical new product sourcing.
- 3) Impact of new product sourcing in sustainable pharmaceutical procurement.
- 4) New product sourcing impact on growth rate of a pharmaceutical company.
- 5) To reach the SDGs with no negative impact on the environment by the year 2030.

1.4 Research Question

For New product development we have to know the following information –

- 1) What is the target market for new product launching?
- 2) Who is the competitor in the market?
- 3) What is the benefit of the product?
- 4) What is the future planning of this product?
- 5) What will be the impact on the market and the company sales?

1.5 Significance of the Study

- 1) Find out the fundamental difficulties and important factors involved in the launch of new pharmaceutical products.
- 2) Overcome the challenges of new product sourcing.
- 3) Learn about the impact that innovative promotion of new pharmaceutical products has on market value. The role of innovative promotion of new pharmaceutical products.
- 4) Will work as an indicator whose will recently launched the product in the market.
- 5) Sustainable Development Goals as an opportunity to advance sustainability efforts, improve access to health care for a greater number of people, and make progress toward the goal of having no negative impact on the environment by the year 2030.

1.6 Scope of the Study

The field of healthcare made significant headway in the fight against a number of the most prevalent diseases and causes of mortality. The average number of years a person can expect to live has increased considerably; the mortality rates for infants and mothers have fallen; we have turned the tide against HIV; and the number of deaths caused by malaria has been cut in half.

The intricacy and interconnectivity of issues pertaining to both health and sustainable development are reflected in the 2030 Agenda for Sustainable Development. To successfully achieve SDG 3, which aims to end poverty and reduce inequality, universal health coverage would be an essential component. The rate of progress has been highly variable, both between countries and within individual nations. There is a disparity of 31 years between the countries that have the shortest life expectancies and the countries that have the longest life expectancies. And while some nations have made remarkable advancements, national averages hide the fact that many others are falling further and further behind. It is vital to take multi-sectoral methods that are founded on rights and that are sensitive to gender issues in order to alleviate inequities and to build good health for all.

Popular Pharmaceuticals Ltd. (PPL) is the industry leader in terms of the manufacturing and marketing of its high-quality and extensive product range, both domestically and internationally. The Popular Medical College and Hospital are the most recent endeavors undertaken by the Popular Group. These institutions will satisfy the Popular Group's dedicated commitment to the health sector of Bangladesh by offering comprehensive medical care.

A pharmaceutical company would register for patents in order to safeguard its intellectual property before introducing its wares to the market in any given nation. It is essential for the product to receive clearance from the regulatory bodies in charge of drugs in that nation in order to safeguard the interests of consumers. In most cases, the procedure of applying for approval is started simultaneously with the process of registering a patent.

- The main goal of SDGs is to attain universal health coverage, which includes protection against financial risk, access to necessary health care services of high quality, and access to critical medications and vaccines that are safe, effective, of high quality, and affordable for all people.
- Provide access to essential medicines and vaccines that are affordable, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full extent the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) re: communicable and non-communicable diseases that primarily affect developing countries; support the research and

development of vaccines and medicines for communicable and non-communicable diseases that primarily affect developing countries.

- Significantly boost health spending, as well as recruitment, development, training, and retention of health workers in developing countries, particularly the world's least developed nations and tiny island developing states.
- Strengthen all nations' capabilities, but especially those of poor nations, to issue early warnings, cut risks, and oversee both national and global health dangers.

1.7 Conceptual Framework

The sourcing process involves:

- Collecting data on good quality sources of goods and services
- Negotiating contracts
- Market research
- Product testing for quality
- Considering outsourcing for goods
- Constituting standards that the company will use.

New product introduction process -

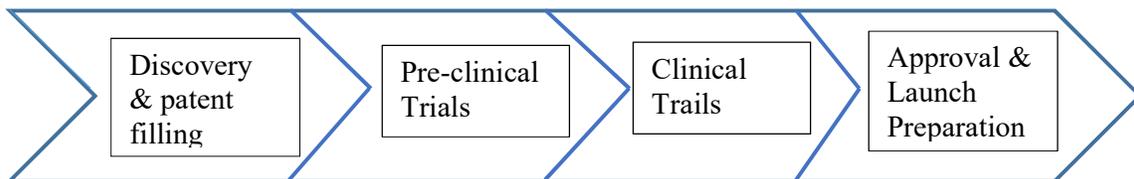


Figure 4 Overview of the New Product Introduction Process

Source FDA (2004), Author (2023)

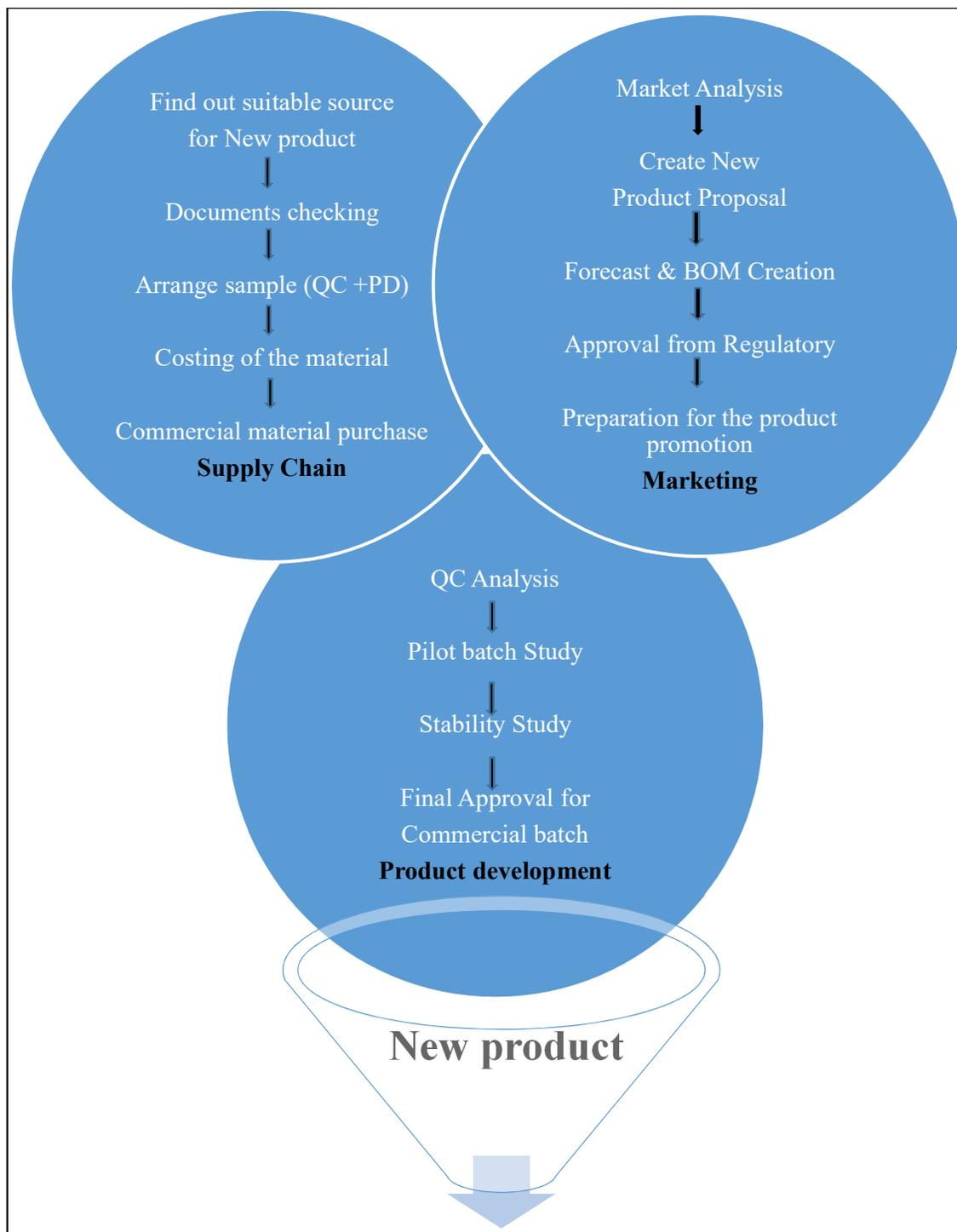


Figure 5 New Product Development Flowchart

Source Author (2023)

Sourcing: The process of finding suppliers of goods or services, usually for a business entity/organization. The term "sourcing" refers to the process of locating potential suppliers for a certain service, performing an analysis of each potential provider, and, lastly, entering into a contract with one of the potential suppliers to purchase the necessary goods or services. To put it another way, sourcing is the process of creating a contract.

Getting the deliveries from the supplier identified and making sure that payments are made to the supplier are both activities that fall under the category of "procurement." To put it another way, procurement is the process of actually carrying out the contract.

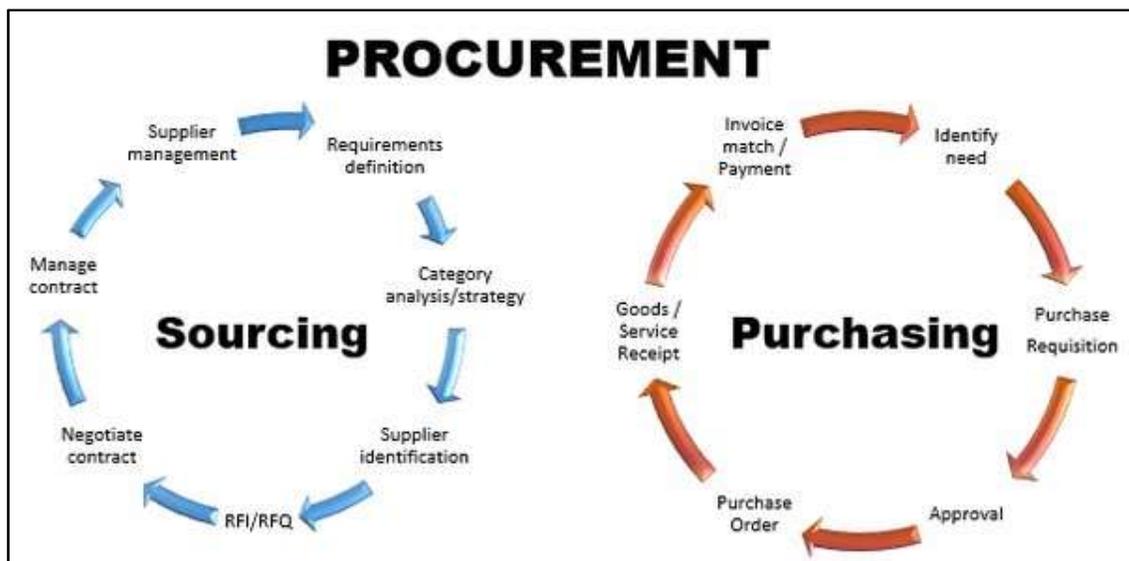


Figure 6 Process of Sourcing & Purchasing

Source Wikipedia (2022)

CHAPTER 2

LITERATURE REVIEW

2.1 Literature Review

On the strength of the industries, Bangladesh's economy is continuing to make steady progress throughout the course of each day. Apart from the textile and garments industry the pharmaceuticals industry is one of the most promising sectors of Bangladesh which is currently contributing significantly to the country's economy. The pharmaceuticals industry in Bangladesh is at the center of the country's healthcare system. When compared to other industries in Bangladesh, this one is at the cutting edge of technical development. The medicines industry has risen to an enviable position both in the home market and in the global market. The pharmaceutical industry in Bangladesh has a success story that has become legendary. The expansion of Bangladesh's pharmaceuticals sectors has been phenomenal, and the country has a great deal of untapped potential. To stand with this potentiality and prestigious position in domestic and international market we have to developed new products with updated technology to treat the disease.

The pharmaceutical industry in Bangladesh is growing at a quick rate, and a number of the country's enterprises have already been accredited by a variety of international regulatory bodies, such as the UK-MHRA, the Australia-TGA, the EU, and the US-FDA, amongst others, for quality management and the manufacturing of quality products.

One of the many industries in Bangladesh that can rightfully serve as a source of national pride is, without a doubt, the pharmaceutical industry. Other industries in Bangladesh also deserve praise.

2.2 Past Research Work

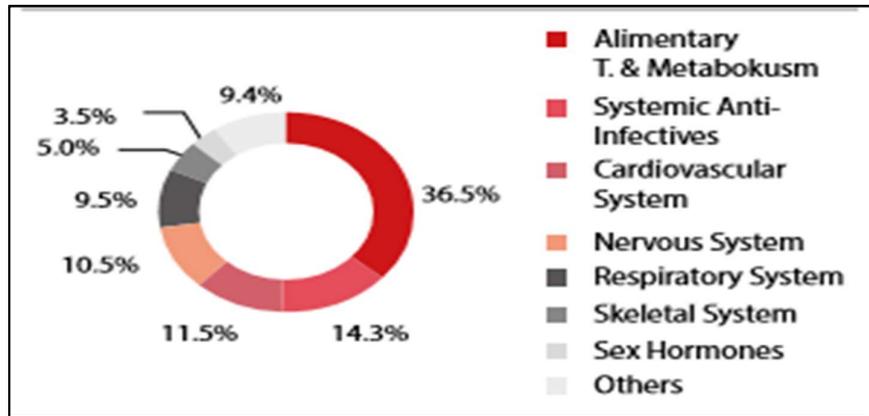


Figure 7 Pharmaceutical Market Segments by Share

Source Bangladesh Association of pharmaceutical industries (2022)

In the pandemic situation we can see that local pharma companies export anti-viral medications like Remdesivir and Favipiravir to treat COVID patients. More than 20 Bangladeshi pharmaceuticals companies exported COVID drugs, including Incepta, Beacon, Square, Popular, Eskayef, Beximco, Opsonin, ACI, Renata, and Ziska.

The pharmaceutical sector in Bangladesh is one of the most innovative and forward-thinking in the country. Pharmaceutical manufacturers are creating a variety of dosage forms, some of which are more complex than others and include biological Products, Vaccines, human insulin, anticancer and hormones medications.

Nonetheless, the business is still reliant on the importation of raw materials (active pharmaceutical ingredients) from a number of different countries, including China, India, Korea, Singapore, Germany, Switzerland, Spain, Italy, and Malaysia. The figure that follows presents the various pharmaceutical market segments in terms of their share.

The pharmaceutical business has grown at an average rate of 15.6% per year over the past five years that report was released by EBL Securities. As a result, the size of the industry has increased to more than BDT 275 billion at the present time.

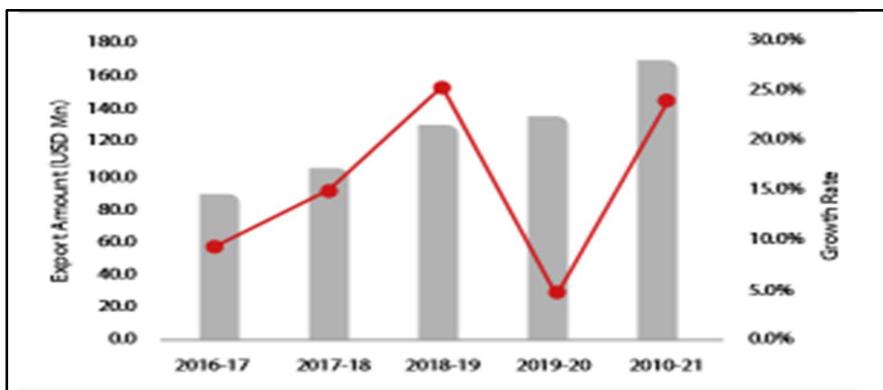


Figure 8 Growth Trend of the Pharmaceutical Industry

Source DATABD.CO (2022)

It is anticipated that the size of this sector will reach BDT 1.0 trillion by the year 2030 and the growth may be 16% annually. The growth rate will be higher if we are successful in carrying out the idea of creating the Pharmaceutical API Industrial Park in Munshiganj on a plot of land of 200 acres. (Jalal, 2022).

In Bangladesh we are mostly produces off-patent generics (about 80%) and a portion of on-patent medicines (but patented elsewhere), mostly over the counter products, that is, non-prescription medicines or medicinal preparation. According to the data that is currently available, more than \$150 billion worth of medications will lose their patent protection by the year 2021, and another \$250 billion worth will do so by the year 2023. The potential for increased investment in generic pharmaceuticals are there for Bangladesh to take advantage.

From 2012 to 2022, the Food and Drug Administration of the United States gave its approval to market 446 brand-new medications in the country. Pharmaceuticals companies always follow the list of approved novel drugs list by USFDA for launching the new product in the market. Bangladesh will need to introduce as many products in the local market so these products are exempted from patents. Bangladesh can follow the examples of patent acts of other developing countries, such as India. (Begum, 2022).

Bangladeshi Pharmaceutical companies are enjoying about 90% market share while multinationals hold 10%. After covering practically all of its domestic demand, Bangladesh is now selling pharmaceuticals to about 160 other countries around the world. According to information provided by the Export Promotion Bureau, domestic pharmaceutical businesses generated a total of \$163,833,000 in revenue from July to April of the current fiscal year (FY),

which runs from 2021-22. During the fiscal year 2021-22, there was a 27% increase in the export of pharmaceuticals. Bangladesh’s pharmaceutical companies are rapidly growing. They have made \$169.02 million in FY 2020-21 and \$135.79 million in FY 2019-20. In FY 2018-19, the sector made \$129.95 million, and in FY 2017-18, it earned \$103.4 million.

Pharmaceutical businesses in Bangladesh are making significant investments in the modernization of their production facilities and in the acquisition of certificates from a variety of jurisdictions, including the United States of America, Australia, Canada, and Europe. In value terms, exports are mainly concentrated in emerging markets. Bangladeshi pharmaceutical companies now producing and exporting high-tech Anti-Cancer products. Bangladesh has five manufacturing units registered with USFDA.



Figure 9 Profit Growth of Listed Pharmaceutical Companies

Source Habib, (2022)

The profits of all 18 pharmaceutical companies listed on the Dhaka Stock Exchange (DSE) grew around 5 per cent to Tk 850 crore in the third quarter of 2021-22.

Biotech can be the pioneers for Pharmaceutical industry for the overall improvement. The significant shift that brought the attention of the world to the market status of the country is a direct result of the innovation that occurred in the fields of science and research and development. The curve representing the overall ratio or contribution of Bangladesh's pharmaceutical market at the global level has been unexpectedly altered as a result of this development. Within a very short amount of time, the breed of biotechnology corporation that has established itself in Bangladesh has acquired certain practices and has qualified itself to bring down the unmet requirements and answers to a large number of patient populations. Some of the primary variables that are responsible for the burgeoning consumption in the local market include an increase in life expectancy, a growing per capita income, a changing disease profile, population expansion, changes in lifestyle, and an increasing patient population.

By 2025, it is anticipated that the pharmaceutical market will be worth more than US\$ 6 billion, representing an absolute growth of 114% from 2019 levels. Majority of this growth will be contributed by local companies with a market share of more than 90% as similar to past trends attained over the last two decades.

2.3 Report Highlights

- Bangladesh Pharmaceutical Market Opportunity: More Than US\$ 6 Billion by 2025
 - Share of Local Pharmaceutical Companies: >90%
 - Share of Generics Drugs in Pharmaceutical Market: >75%
 - Leading Drugs Market Insight by Availability, Dosage & Price Analysis
 - Number of Ongoing Clinical Studies: > 300 Clinical Studies
 - Pharmaceutical Exports Opportunity: > US\$ 450 Million by 2025
- (Research and Markets , 2020)

CHAPTER 3

STUDY OBJECTIVES & METHODOLOGY

3.1 Methodology

The remarkable expansion of the pharmaceutical market creates the annual growth rate of more than 12 percent over the period from 2019 to 2025. According to a report published by Research and Markets, a company based in Dublin that specializes in market research and analysis, it is anticipated that by the year 2025, it will have surpassed \$6 billion, representing an absolute growth of 114% from its levels in 2019.

The methodology adopted in this study is given below:

1. Reviewed the published Articles.
2. Interview session with New product launching committee of different Pharmaceuticals.
3. Data collection from the primary and secondary sources.
4. Analysis of results quantitatively & qualitatively
5. Suggestion for better pathway
6. Recommendations and suggestions for future study

3.2 Sources of Data

Visited the pharmaceutical companies head office and conducted the discussion session with new product launching committee to collect the in-depth information. Also conducted the phone call and collected the information from yearly report, Publications & Articles.

3.2.1 Primary Data Source

Based on my working experience first of all collected all the information of New product sourcing of Popular Pharmaceuticals Ltd. After that arrange a discussion session with Acme, JMI, Incepta, Healthcare, Square, Radiant, Renata, Unimed & Unihealth, Labaid & Orion regarding their yearly new product launching, Sells, challenges & Impact in procurement.

3.2.2 Secondary Data Source

Data obtained from secondary sources, such as published articles, statistics, books, reports, documents and periodicals produced by a variety of domestic and international agencies, etc. Annual reports provided by Pharmaceutical companies for the purpose of conducting analysis.

3.3 Data Analysis Method

3.3.1 Quantitative Method

Collected New product launching list of Popular Pharmaceuticals Limited for 2021 & 2022 with total sales value.

Analysis the sales volume of top five products and their Impact on total sales of the company in sustainable procurement.

3.3.2 Qualitative Method

Selected the five top selling new product from two different Pharmaceutical company with the sales volume. Analysis the data and find out the impact of new product sales value on the total sales of the company.

New product launching data of Top twenty pharmaceuticals company with the value and market share.

3.4 Flow Chart of Study Method Design

The primary objective of this study was to suggest a procedure for the sourcing of new products and to investigate the impact that this process has on total sales in the pharmaceutical industry. In the following, you will find a structure that will provide a summary of the approach, methodology, or course of action.

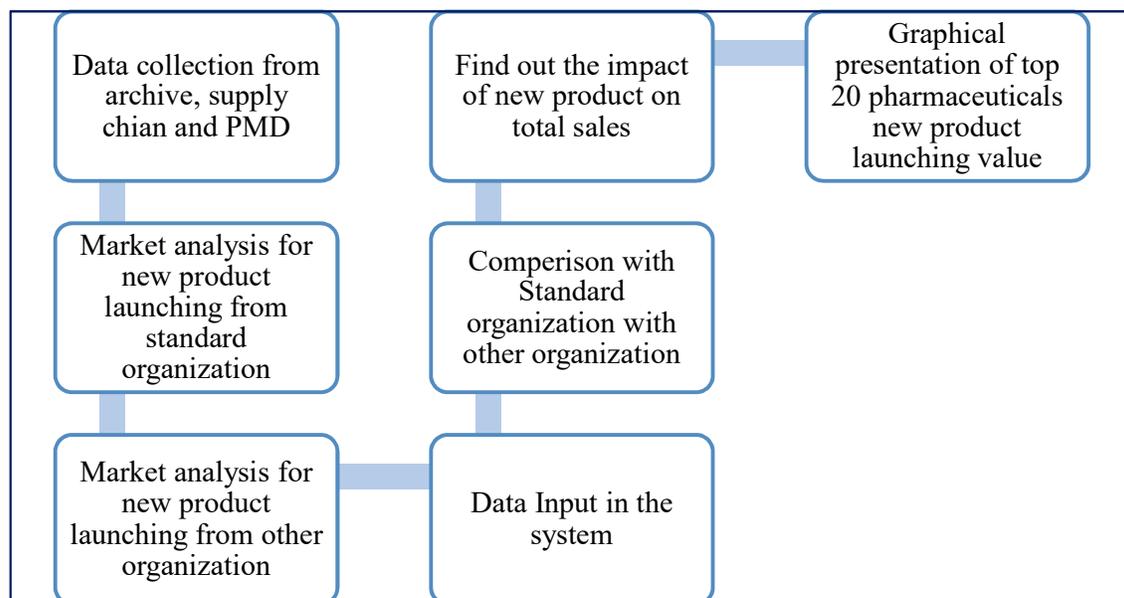


Figure 10 Study Method Designed with Flowchart

Source Author (2023)

3.5 Analysis of the Pharmaceutical Industry in Bangladesh

Bangladesh is consistently ranked as one of the world's least developed countries, but it boasts one of the highest levels of success (LDCs). There are a variety of various sectors in Bangladesh that we can be proud of, and there is no doubt that one of such industries is the pharmaceutical industry. It is widely regarded as one of Bangladesh's many reasons for the country's economic growth and technological advancement, and it is one of the most technologically advanced industries now in operation. The country may take a great deal of pleasure in the fact that it continues to be successful in the industrial sector. The intelligent attitudes, broad knowledge, and forward-thinking ideas of experts working in the industry are the key contributors to the successful development of the sector over time.



3.5.1 Economic Growth

The expansion of Bangladesh's economy is roughly mirrored by the expansion of the country's pharmaceutical industry. The gross domestic product of the nation saw growth of 5.4% during the fiscal year 2020–2021, and per capita income reached a new high of USD 2,227. The growth of the pharmaceutical business was 18.6%, mirroring the expansion of the economy overall. The World Bank (WB) projects a GDP growth rate of 6.2% for the fiscal year 2022–2023, whereas the government projects a growth rate of 6.6%. It is anticipated that by FY 2025, the population that belongs to the MAC (Middle and Affluent Class) would account for 17% of the total population, which is an increase from the 7% share that it held in FY 2015. The demand for medications is almost certain to rise in the future as a consequence of increased purchasing power and rapid urbanization.



3.5.2 Public Consciousness Regarding Health Care

Residents of both city and country are becoming more aware of issues related to health, including modern medicine and appropriate nutrition. According to the BBS, in 2020 the typical lifespan in Bangladesh would be 72.6 years, up from 66.4 in 2002. This represents a significant improvement. Because people are today more concerned about their health than they were in the past, they consult with medical professionals and other experts more frequently than in the past. This, in turn, leads to a rise in the overall expenditures made by the population of Bangladesh on medical care.



3.5.3 The Expanding Animal Health Industry

There is now a 30 billion BDT market for veterinary care. Renata, Eskayef, Navana, Square, ACI, Popular, Acme, and Opsonin are some of the local pharmaceutical businesses that control the majority of the market share. Incepta also has a significant presence. With a market share of more than 5%, Renata is the clear leader in this category. The poultry market in Bangladesh has a value of BDT 350 billion and is the key factor that contributes to Renata's market share. The company's primary lines of production include antibiotics, minerals, vitamin supplements, enzymes, and toxins-binding agents. Both the meat and dairy industries have suffered losses as a result of the COVID-19 pandemic. There was a 40-45% decline in chicken meat and egg output compared to the preceding calendar year, and there was a corresponding drop of 40% in the number of licensed chicken coops. Protein intake is expected to dramatically rise as Bangladesh. As a result, there will be a greater need for products designed to keep animals healthy for the growing livestock and poultry industries.



3.5.4 Expanding Outlook of the Supply Chain

Two distinct components - finished formulations and active pharmaceutical ingredients (APIs) comprise the value chain of the pharmaceutical business. In order to import active pharmaceutical ingredients (APIs), which are essential for the production of pharmaceuticals, the entire industry must rely on China and India. Production can be hampered by both disruptions in the supply chain and increases in prices on a global scale. Only 15 local enterprises were responsible for the production of 41 API molecules as of 2019, according to a research that was published in The Daily Star. On the other hand, Gonoshasthaya Pharmaceuticals Ltd was responsible for the production of sixty percent of the raw materials. The problem has been addressed by the government's decision to construct an API Park at Munshiganj as a potential solution. It is anticipated that manufacturing would begin by the end of the year 2022. Goals for the API policy include a 97% reduction in reliance on imported raw materials and a tenfold increase from \$1.5 million to \$90 million in 2016 to 2032 in revenue from exports of API. These objectives are lofty, but not inconceivable. However, reducing reliance on APIs from India, Europe and China would take a very long time. There are now 27 companies that have been given space in API Park. The first companies to start making things at the park will be Healthcare Pharmaceuticals and ACME Laboratories.

3.6 Overview of Popular Pharmaceuticals Limited

Popular Pharmaceuticals Ltd. is a leading manufacturer of medicines and active pharmaceutical ingredients (APIs) based in Bangladesh.

3.6.1 Mission

"Popular Pharmaceuticals Ltd. will be the leading pharmaceutical company of the country within 2015 as manufacturer of high-tech, high quality affordable medicines"

3.6.2 Vision

To establish an environment around the pharmaceutical field through the highest level of innovative and technical support which will add value to our society and act as a driven force of our humanity.

3.6.3 Manufacturing Facilities

The plant is equipped with cutting-edge manufacturing facilities for ophthalmics, oral solids and liquids, creams and ointments, small volume parenterals (injectables), and Parenterals in large volume (IV Fluids). In addition, Popular Pharmaceuticals Ltd. possesses facilities that are distinct and solely devoted to the production of penicillins and cephalosporins.



Figure 11 Manufacturing Facility of Popular Pharmaceuticals Limited

Source Author (2023)

APC is also responsible for designing HVAC systems that are compliant with the standards of the ASHRAE, the EU GMP, and the US FDA. Depending on the tasks that are carried out at the production facility, the environmental classifications range from class 100 (A) to class 100 (B), class 10000 (C), class 100000 (D), and class 100000 (E). For the purpose of monitoring and controlling the HVAC system, including Chillers, Pumps, Boilers, and Air Compressors, a Central Building Management System sourced from Siemens in Germany has been installed.



Figure 12 **Quality Control Facility of Popular Pharmaceuticals Limited**
Source Author (2023)



Figure 13 Wet Granulation Facility of Popular Pharmaceuticals Limited
Source Author (2023)



Figure 14 Tablet Compression Unit of Popular Pharmaceuticals Limited
Source Author (2023)

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction:

In this chapter, we will discuss the outputs that have been tested as well as the prospective outcomes of the proposed study. The hypothesis was examined using the approach described in the prior chapter, and the findings are presented in the form of graphical and charted representations. The impacts of this study were the ones that were highlighted at the beginning of the research project, and ideas for how to achieve even better results are provided in the following chapter.

4.2 New Products Sale Impact

The acquired data were examined using the same manner as described in the methodology in order to reach a conclusion regarding the efficiency of the system. First of all, Popular Pharmaceuticals was selected to find out their Impact for New Product Sourcing. Also collected the data from Oponin Pharma Limited for the comparative analysis. Here I collected the data of New Products launched in 2021 and 2022 with the top Five brands new products. The collected data were synchronized and plotted in the expected procedure is given below.

4.2.1 New Products Sale Impact of Popular Pharmaceuticals Limited with Top Five Brands, 2021 & 2022

Total Sales in 2021 = 1,328 Cr

New Products Sale in 2021 = 42.86 Cr.

Total Number of new products launched in 2021 = 42

Top Five New Brands sale value in 2021 = 20.06 Cr

New Product Impacts on Total Sales = 3.22%

Table 1 Top Five New Products Launched in 2021 with Sales Value (PPL)

Top Five New Products Launched in 2021 and the corresponding YTD sales up to Dec'2021			
SL No:	Products Name	Generic Name & Strength	(Value in Cr.)
1	Rabivax Injection	Rabies Vaccine \leq 2.5IU/Vial	10.62
	Rabivax IG Injection	Rabies Immunoglobulin USP \geq 1000IU/5ml (Single Dose)	
2	Iroject 500 IV Injection	Ferric Carboxymaltose INN 500mg/10ml	3.37
3	Candicon Tablet, 2x4's	Voriconazole USP 200mg	2.85
4	Metrinor Tablet	Dienogest BP 2mg	1.7
5	Meglunix Vet Inj, 1x10 ml	Flunixin Meglumine USP 5gm/100ml	1.52
	Meglunix Vet Inj, 1x30 ml	Flunixin Meglumine USP 5gm/100ml	

Source Studied Data (2023)

Total Sales in 2022 = 1,500 Cr

New Products Sale in 2022 = 40 Cr

Total Number of new products launched in 2022 = 41

Top Five New Brands sale value in 2022 = 26.28 Cr

New Product Impacts on Total Sales = 2.66%

Table 2 Top Five New Products Launched in 2022 with Sales Value (PPL)

Top Five New Products Launched in 2022 and the corresponding YTD sales up to Dec'2022			
SL No:	Products Name	Generic Name & Strength	(Value in Cr.)
1	Pegalin ER 82.5 Tablet	Pregabalin BP 82.5mg	11.00
	Pegalin ER 165 Tablet	Pregabalin BP 165mg	
	Pegalin ER 330 Tablet	Pregabalin BP 330mg	
2	Progut MUPS	Esomeprazole MUPS	4.53
3	Delcyst 500 Cap, 1x10's	D-Chiro Inositol 500mg	4.50
4	Luzinta Capsule	Lutein 20mg + Zeaxanthin 5mg	3.15
5	Nabumax 500 Tablet	Nabumetone USP 500mg	3.10
	Nabumax 750 Tablet	Nabumetone USP 750mg	

Source Studied Data (2023)

4.2.2 New Products Sale Impact of Opsonin Pharma Limited with Top Five Brands, 2022

Total Sales in 2022 = 2,050 Cr

New Products Sale in 2022 = 24.69 Cr

Total Number of new products launched in 2022 = 27

Top Five New Brands sale value in 2022 = 14.5 Cr

New Product Impacts on Total Sales = 1.20%

Table 3 Top Five New Products Launched in 2022 with Sales Value (Opsonin)

Top Five New Products Launched in 2022 and the corresponding YTD sales up to Dec'2022			
SL No:	Products Name	Generic Name & Strength	(Value in Cr.)
1	Injefer Injection	Ferric Carboxymaltose 500 mg / 10 ml	5.7 Cr
2	Azonox Capsule	Itraconazole 100 Mg	3.2 Cr
3	Posanox Tablet	Posaconazole 100 Mg	2.8 Cr
4	Empadus M Tablet	Empagliflozin & Metformin	1.9 Cr
5	Olivan Eye Drop	Nepafenac 5 ml Drop	0.9 Cr

Source Studied Data (2023)

4.2.3 New Products Sale Impact of Radiant Pharmaceuticals Limited with Top Five Brands, 2022

Total Sales in 2022 = 1,480 Cr

New Products Sale in 2022 = 28.60 Cr

Total Number of new products launched in 2022 = 13

Top Five New Brands sale value in 2022 = 19.8 Cr

New Product Impacts on Total Sales = 1.93%

Table 4 Top Five New Products Launched in 2022 with Sales Value (Radiant)

Top Five New Products Launched in 2022 and the corresponding YTD sales up to Dec'2022			
SL No:	Products Name	Generic Name & Strength	(Value in Cr.)
1	Carticare TS FC Tablet	Glucosamone Sulfate 750 mg + Chondroitin 600 mg	6.1 Cr
2	Coralcal Vita	Calcium Carbonate (Coral Source) 600 mg + Vitamin D3 400 IU	4.5 Cr
3	Raditrol	Calcitriol 0.25 mcg	4.4 Cr
4	Utifos	Fosfomycin Trometamol 3gm/Sachet	2.5 Cr
5	Rofuclav Sachet 125mg/31.25mg	Cefuroxime Axetil + Clavulanic Acid (125mg +31.25mg)/ Sachet	2.3 Cr

Source Studied Data (2023)

4.3 Comparative Analysis of New Products Sale Impact within three Pharmaceuticals in 2022

Table 4 Comparative Analysis of New products sale in 2022

Pharmaceutical Company	Popular Pharmaceuticals Limited	Opsonin Pharma Limited	Radiant Pharmaceuticals Limited
Total Sales, 2022	1,500 Cr.	2,050 Cr	1,480 Cr
Total Number of new products launched in 2022	41	27	13
New products sale value in 2022	40 Cr.	24.69 Cr	28.60 Cr
Top Five New Brands sale value in 2022	26.28 Cr	14.5 Cr	19.8 Cr
New Product Impacts on Total Sales in 2022	2.66%	1.20%	1.93%

Source Studied Data (2023)

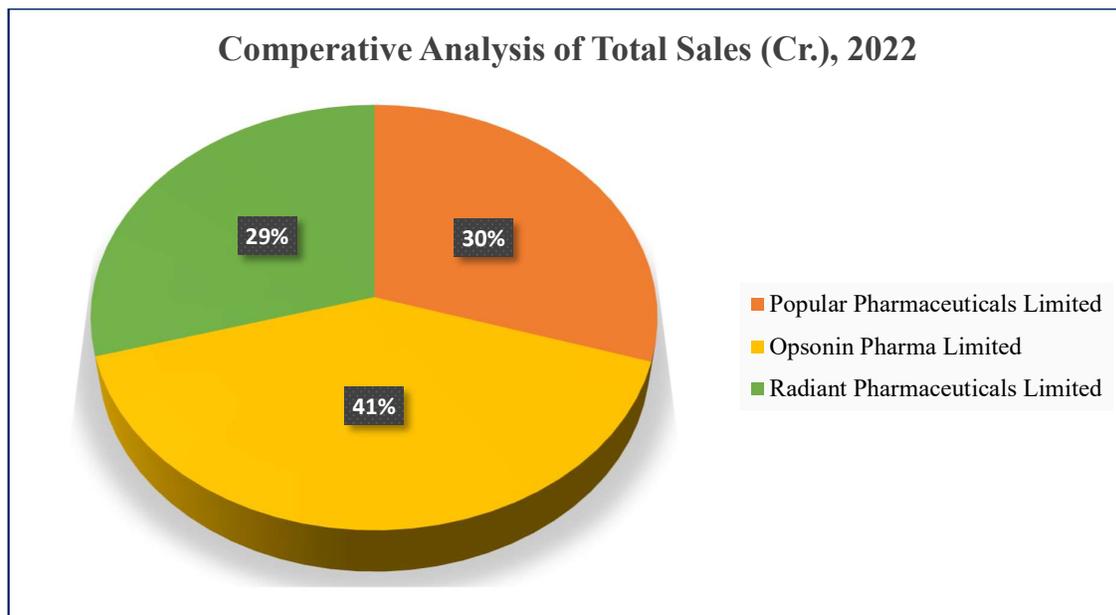


Figure 15 Comparative Analysis of Total sales in 2022

Source Studied Data (2023)

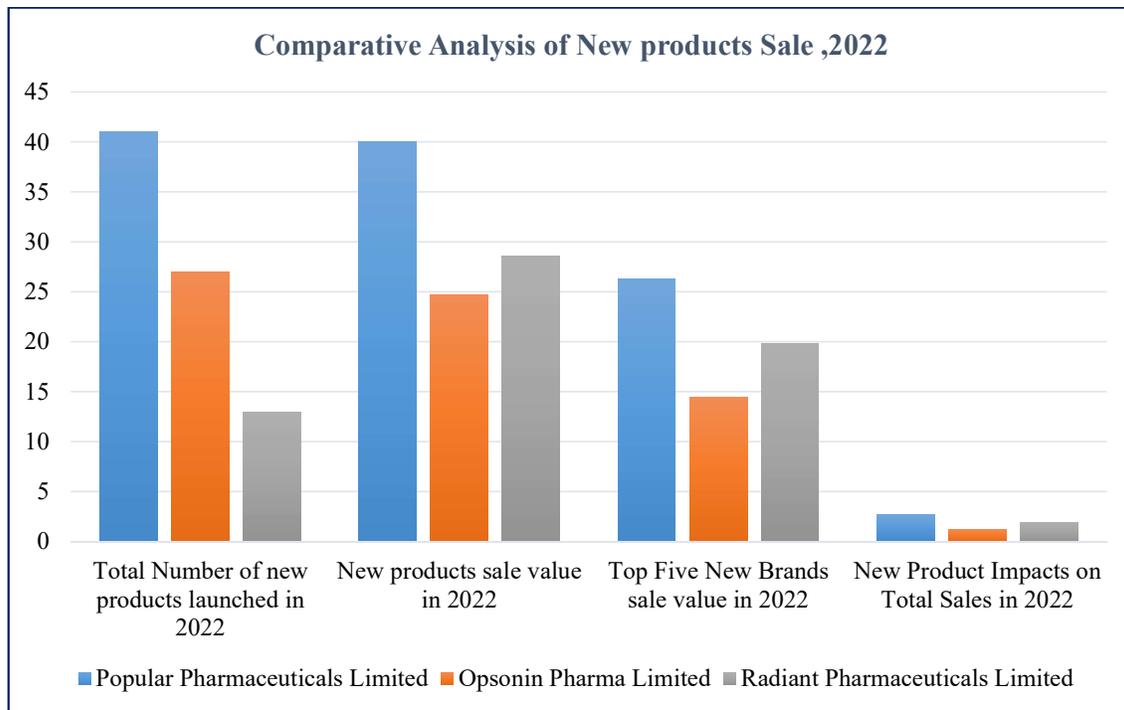


Figure 16 Comparative Analysis of New Products Sale, 2022

Source Studied Data (2023)

4.4 Analysis of Launching New Products Sale volume and Market Share within different Pharmaceuticals in 2022 by IQVIA

Product Lanching update of Bangladesh’s Pharmaceutical market (IQVIA).

344 new brands were launched in 2022, with cumulative revenue of 2966.27 million Taka.

Beximco ranked # 1 in new product launches in 2022 with 492.36 million taka.

Table 5 New Product Launched in 2022 with Market Share and Sales Value

New Product Lunch In 2022			
SL No.	Manufacturer	Value in Million	Market Share
1	BEXIMCO	492.36	16.6
2	INCEPTA	384.63	12.97
3	ACI	329.56	11.11
4	HEALTHCARE	185.39	6.25
5	OPSONIN	170.48	5.75
6	GENERAL	168.48	5.68
7	ACME	165.54	5.58
8	POPULAR	132.33	4.46
9	SQUARE	129.05	4.35
10	ESKAYEF	108.07	3.64
11	ARISTOPHARMA	97.81	3.3
12	NIPRO JMI	91.52	3.09
13	DRUG INTERNATIONAL	91.28	3.08
14	NAVANA	85.97	2.9
15	BEACON	72.61	2.45
16	RADIANT	60.93	2.05
17	JENPHAR BANGLA	51.92	1.75
18	ZISKA	47.1	1.59
19	RENATA	30.21	1.02
20	IBN SINA	23.14	0.78
SELECTED TOTAL		2966.27	100

Source IQVIA (2023)

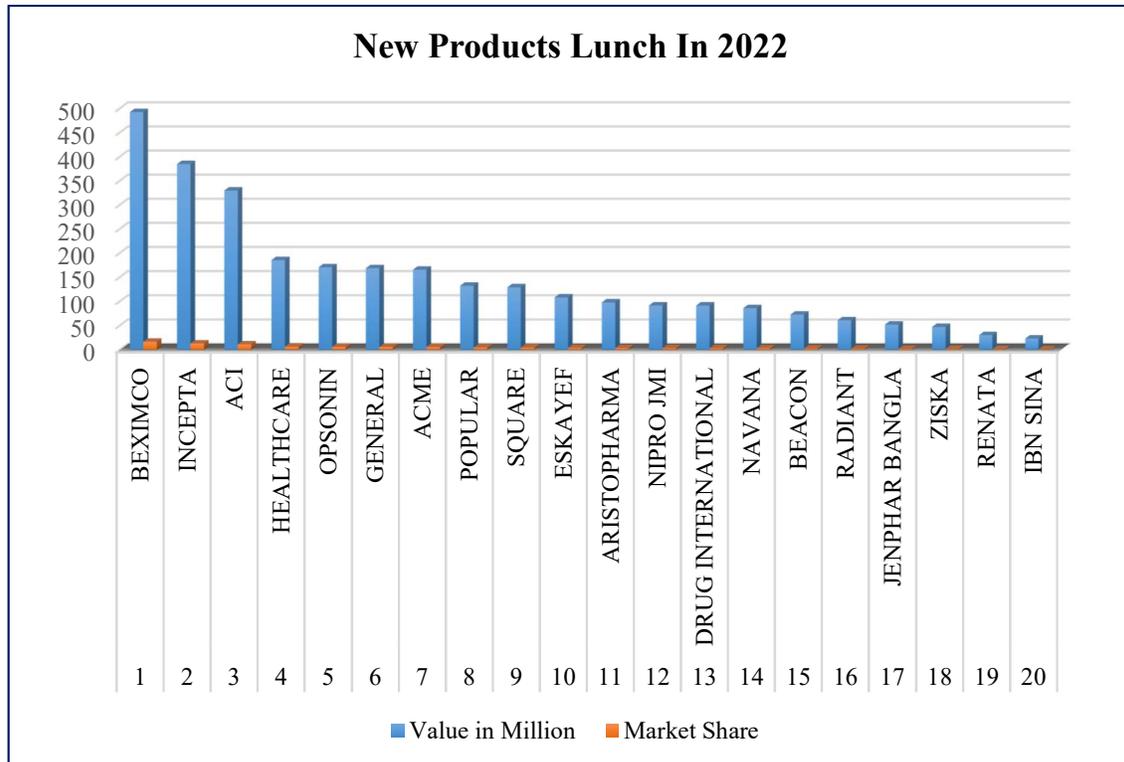


Figure 17 Graphical Presentation of New Products Launched in 2022 with Market Share and Sales Value

Source Studied Data (2023)

4.5 Challenges for New Product Launching

4.5.1 Achieving an accurate estimation of the market potential

An inadequate grasp of the needs of the market is one of the more typical factors that contributes to the poor performance of a medicine during its debut. Businesses frequently underestimate the degree of difficulty involved in transitioning clients away from their current therapies. If that is combined with restricted access to the market, the results could be catastrophic.

These kinds of problems frequently arise as a result of a lack of knowledge that results in a chasm separating pharmaceutical corporations from healthcare professionals, payers, key opinion leaders, and patients. It is possible for a product to be developed that falls dreadfully short of both the expectations of consumers and those of the market when a gulf like this one develops and businesses base their judgments on data that is either outdated or just inaccurate.

4.5.2 Heightened levels of competition

In the past ten years, there has been a noticeable rise in the level of competition that exists within the pharmaceutical business.

It used to be the case that once a new drug was introduced to the market, it had an opportunity window that lasted for an average of eight years until a new competitor joined the market. In modern times, such period of time is equivalent to only four years on average. And to make a bad situation even more challenging, projections of peak sales have dropped by more than fifty percent over the course of the previous decade.

Both of these constraints greatly limit a company's ability to achieve launch excellence and optimize returns from a fresh launch of a product or service.

4.5.3 Restricted access to the market

To return to a previous study conducted by Deloitte, approximately half of the items that failed to meet their projections for the first year were associated with market access challenges, such as the following:

1. Unfavorable placement
2. Elimination from the formulation
3. Implementation of formulary restraints
4. Insufficient evidence from health-economic analyses to justify price
5. A greater than anticipated increase in the costs of rebates or discounts

Patients and healthcare professionals alike lose faith that they will be able to get their hands on the medications when market access is restricted. This lack of confidence can start a domino effect that escalates into a self-fulfilling prophecy, which puts the potential for a new product to be successful in jeopardy.

4.5.4 The influence that COVID-19 has on both sales and marketing

Although while the globe is slowly beginning to recover from the worldwide epidemic, there are still aftershocks that will have long-lasting implications on the way the pharmaceutical sector operates.

There has already been a discernible shift in the way in which healthcare professionals (HCPs) interact with pharmaceutical companies and the sales agents employed by those companies, despite the fact that it is still too soon to fully comprehend how the aftermath may influence future drug launches.

In the past, sales representatives for pharmaceutical companies created ties through personal interactions with customers. However, because of the pandemic, doing so has become extremely difficult, if not impossible. As a direct consequence of this, face-to-face client engagement has taken a back seat in terms of importance.

4.5.5 Lack of Innovative techniques to market intelligence and stakeholder engagement

Need to see the new tools in order to size and segment the market in a manner that is more precise and efficient. Take into account the points of view of the various sorts of payers, the best way to position yourself for the various types of benefit designs (medical vs. pharmaceutical), and the potential to assume risk. It is important to solicit early advice on target product profiles and to include that input into the design of clinical trials.

CHAPTER 5

CONCLUSION

5.1 Conclusion

Brand expansions usually launch new products. The "core" brand name and the underlying company or corporate name are used in the recently released brand extension. Consumers' familiarity with the primary brand name helps launch new items and quickly conquer new market sectors via brand extensions. This strategy reduces research and advertising costs for the new product marketing and increases the likelihood of success due to core brand equity preference. Brand extensions may improve parent brand equity through reciprocal effects. Brand extensions offer this benefit. A new brand's launch costs rise in a competitive market. Many companies are using brand extensions to decrease the risks of launching a new product. Brand extension helps organizations penetrate new product segments.

For the past decade, corporations have preferred brand extension over product rebranding, according to Ambler. Brand extension is easier to recall. Brand extensions save organizations money and reduce risk. Marketers think customers want brand extensions because they like the parent brand. The brand expansion strategy must encompass the complete brand policy. Today, companies address almost every aspect of research, product development, Marketing, supplier relationships, materials management, manufacturing, distribution, warranty and defect management, maintenance, repair, and overhaul, product end of life, and disposal. Innovation crosses borders. So, both established and developing economies are investing, granting, and offering tax incentives to assist its growth. In this age of ongoing technological innovation, the concept of a "perfect launching product" and product lifespan management has expanded.

5.2 Limitations

1. Before you can even begin to entertain the idea of having a product that is ready to sell, you need to have a complete understanding of your target market, your clients, and your existing competition. The Pharmaceutical sector needs a complete strategic strategy from beginning to end.

2. Insufficient product differentiation: 44% failed to meet customer expectations because the value proposition for their product was not attractive enough for either doctors or patients, or because the product's formulation (inconvenient dosing, the need for titration, or in-office administration) presented barriers that were not outweighed by the additional clinical benefit. This could be because, rather than making sure the product has all the right features to be a commercial success, the product is often pushed forward through clinical research at the expense of degrading target product profile requirements.
3. Limited access to the market: Limited market access was a problem for fifty percent (50%) of the products that were analyzed and failed to meet their first-year projections. Among these drawbacks were an undesirable position on the formulary, exclusion from the formulary altogether, the application of formulary restrictions such as a high price, step edits and patient cost-sharing, a lack of health-economic data to support the pricing, and greater than expected spending on discounts and rebates.
4. Poor risk characteristics: An unexpected finding in a clinical research led to a medical professional's reluctance to prescribe the drug or the presence of a alert triangle, which accounted for around a third of the misses (36%). Concerns for public health and safety were found to exist in certain cases because of predictable patterns of side effects.
5. Poor sales force organization, there aren't any existing programs to help early adopters overcome prior authorization barriers, or significant numbers of prescribers being left out of awareness and education initiatives until later were cited by analysts as contributing factors in 24% of all takeoffs that failed to meet expectations. Due to the fact that industry experts may not be as aware of these problems, we think our estimate is rather reasonable for this region.

5.3 Recommendations

1. Carry out intensive training sessions: Training need to be the primary focus of each and every launch strategy. Launch training can now be carried out in a manner that is more efficient in terms of both time and cost than the conventional face-to-face training that was previously utilized. Organizations should do their best to ensure a more coordinated launch attempt by educating the launch team and other stakeholders

on the potential disruptions that could occur and how to respond to occurrences that could turn out to be unfavorable.

2. **Maintain open lines of communication:** Field reps should get a defined communication cadence that educates, motivates, and sustains a commitment to the product before, during, and after the introduction of the product. Stakeholders will have access to the same information and will have a better knowledge of the product's aims if a plan is established for communication both prior to and following the launch of the product. A new product will have more confidence advocates if its messaging is clear and consistent throughout.
3. **Not to overlook medical professionals:** In addition to their role as facilitators of the eventual usage of pharmaceutical and medical device items, physicians also play the role of consumers of these goods because they have the potential to exert influence within their peer communities. Life science teams can simply question physicians about their reactions to a product in order to gain insight into how those doctors will respond to it.
4. **Involve patients at every point in the process:** Patients have the ability to provide vital information regarding how they react to messages and how their experience of being diagnosed. It is critical to collect this data directly from patients since input from patients that has been mediated through the expertise of medical professionals has less of an impact and, as a result, is less relevant. In this regard as well, insights management technology may make it simpler for product makers to engage with patients not just before a product is launched on the market but also after it has already been released.

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