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# **FEASIBILITY STUDY REPORT**

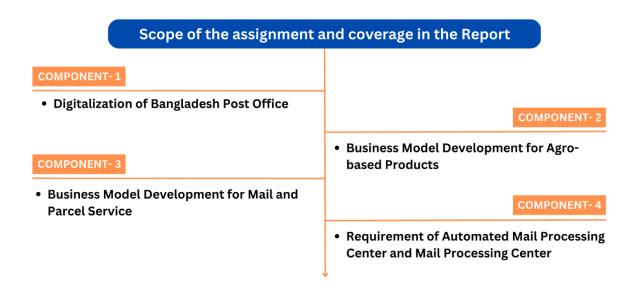
# Component 3:

# BUSINESS MODEL FOR MAIL & PARCEL

# **Context of the Study**

As Bangladesh is moving towards digitalization and planning to harvest the benefits of the 4<sup>th</sup> industrial revolution with the introduction of emerging technologies. Due to technological revolution and the country's economic achievement, time demands to deliver every service with the touch of technology. Accordingly, Bangladesh Post Office (BPO) is planning to initiate different projects to provide benefits to the customers digitally and efficiently. Therefore, the Bangladesh Postal Service automation is essential in providing services with ease and speed through digitalization. Besides, SDGs targets 5.b, 8.10, 9.c, 17.6 and 17.8 encourage the Post and Telecommunications Division (PTD) to take the new technology through BPO.

This study is being undertaken to carry out the requirement analysis on digital transformation, service model designing and overall enhancement of postal services. The scope of work under the study have been mapped below:



#### The study conducted by:

**The NewVision Solutions Ltd.,** is a Research & Consultancy firm working in the sectors including energy, transportation, water & sanitation, agriculture & environment, and industrial and institutional and the **Tri-Vision Limited** is an innovative solutions and service provider in the field of Information and Communication Technology (ICT), Information Technology Enable Service (ITES), Technology Consultancy, Architectural Design, Development and support services.

The team of NewVision Solutions Ltd. and Tri-Vision Ltd. by using their extensive experience, technical ability, and management skills, implemented the feasibility study.

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# A. ACRONYMS AND ABBREVIATIONS

a2i		Asniro to Innovato
-	:	Aspire to Innovate
ACR	:	Annual Confidential Report
ACS	:	Assistant Controller of Stamp
AD	:	Acknowledgement Delivery
AGM	:	Assistant General Manager
AHP	:	Analytical Hierarchy Process
Al	:	Artificial Intelligence
AIR	:	Audit Inspection Report
AIT	:	Advance Income Tax
AMC	:	Air Mail Centers
AME	:	Assistant Maintenance Engineer
AMPC	:	Automated Mail Processing Center
API	:	Application Programming Interface
ARPU	:	Average Revenue Per User
ATI	:	Agriculture Training Institute
ATM	:	Automated Teller Machine
ВВ	:	Bangladesh Bank
BBS	:	Bangladesh Bureau of Statistics
BCR	:	Benefit-Cost Ratio
BDCCL	:	Bangladesh Data Center Company Ltd.
BDT	:	Bangladeshi Taka
BIAM	:	Bangladesh Institute of Administration and Management
BNPL	:	Book Now Pay Later
ВРО	:	Bangladesh Post Office
BRT	:	Bus Rapid Transit
BTCL	:	Bangladesh Telecommunications Company Limited
СААВ	:	Civil Aviation Authority of Bangladesh
СВ	:	Certification Body
CBRNE	:	Chemical, Biological, Radiological, Nuclear, or Explosive Threats
ССТ	:	Conditional Cash Transfer

CCTV	:	Closed Circuit Television
CEO	:	Chief Executive Officer
СЕР	:	Courier Express and Parcel
CEPT	:	Centre for Excellence in Postal Technology
CGA	:	Controller General of Accounts
COD	:	Cash on Delivery
CPTU	:	Central Procurement and Technical Unit
CRM	:	Customer Relation Management
CSMPC	:	Customer Service Mail Processing Center
DAE	:	Department of Agricultural Extension
DAM	:	Department of Agriculture Marketing
DC office	:	District Commissioner Office
DG	:	Director General
DM	:	Disaster Management
DMS	:	Domestic Mail Service
DNCC	:	Dhaka North City Corporation
DOE	:	Department of Environment
DoP	:	Directorate of Posts
DPC	:	Departmental Promotion Committee
DPHE	:	Directorate of Public Health Engineering
DPMG	:	Deputy Postmaster General
DSA	:	Digital Service Accelerator
DSCC	:	Dhaka South City Corporation
DSDL	:	Digital Service Design Lab
DTCA	:	Dhaka Transport Coordination Authority
EBCR	:	Economic Benefit Cost Ratio
ECA	:	Environmental Conservation Act
e-CAB	:	e-Commerce Association of Bangladesh
EDA	:	Extra Departmental Agent
EDBO	:	Extra Divisional Branch Office
EDDA	:	Extra Departmental Delivery Agent
EDMC	:	Extra Departmental Mail Carrier

EDSO	:	Extra Divisional Sub Office
EDSPM	:	Extra Departmental Sub Post Master
EFT	:	Electronic Fund Transfer
EIN	:	Employer Identification Number
EIRR	:	Economic Internal Rate of Return
EMS	:	Express Mail Service
EMS	:	Emergency Mail Service
EMTS	:	Electronic Money Transfer Service
ENPV	:	Economic Net Present Value
EQS	:	Environmental Quality Standards
ERP	:	Enterprise Resource Planning
ESIA	:	Environment and Social Impact Assessment
ESMP	:	Environment and Social Management Plan
FD	:	Fixed Deposited
FGD	:	Focused Group Discussion
FMCG	:	Fast Moving Consumer Goods
FSM	:	Financial Service Management
FY	:	Fiscal Year
FYP	:	Fiscal Year Plan
G2C	:	Government to Customer
G2E	:	Government to Employee
G2G	:	Government to Government
GAP	:	Good Agricultural Practices
GDP	:	Gross Domestic Product
GEO-code	:	Geographical Code
GEP	:	Guaranteed Express Post
GM	:	General Manager
GO	:	Government Order
GoB	:	Government of Bangladesh
GPO	:	General Post Office
GPS	:	Geographic Positioning System
HIES	:	Household Income and Expenditure Survey

НО	:	Head Office
HoPE	:	Head of Procuring Entity
HR	:	Human Resource
HRD	:	Human Resource Development
HSU	:	Hartridge Smoke Unit
HVAC	:	Heating, ventilation, and air conditioning
iBAS	:	Integrated Budget and Accounting. System
ICT	:	Information Communication Technology
ICTD	:	Information & Communication Technology Division
IEE	:	Initial Environmental Examinession
IFS	:	International Financial Service
ILR	:	Internal Land Rate
IMPC	:	International Mail Processing Center
INGO	:	International Non-Government Organization
IoT	:	Internet of Things
IPC	:	Integrated Parcel Centre
IPPB	:	India Post Payments Bank
IRD	:	Internal Resource Division
IRD	:	Internal Resource Division
IRR	:	Internal Rate of Return
ISC	:	International Service Centers
ISDP	:	Integrated Service Delivery Platform
ISO	:	International Organization for Standardization
IT	:	Information Technology
KII	:	Key Informant Interview
КРІ	:	Key Performance Indicator
LAN	:	Local Area Network
LGED	:	Local Government Engineering Department
LPH	:	Letter Per Hour
LSM	:	Letter Sorting Machin
LTM	:	Limited Tendering Method
MC	:	Municipality

ME	:	Maintenance Engineer
MFI	:	Micro-Finance Institute
MFS	:	Mobile Financial Service
MIS	:	Management Information System
MJM	:	Mail Journey Management
MMS	:	Mixed Mail Sorter
MoA	:	Ministry of Agriculture
MoFE	:	Ministry of Forest and Environment
МОРА	:	Ministry of Public Administration
MoPT&IT	:	Ministry of Post, Telecommunication and IT
MPC	:	Mail Processing Center
MRT	:	Metro Rail Transit
MT	:	Metric Ton
MVP	:	Minimum Viable Product
NAPD	:	National Academy for Planning and Development
NBR	:	National Board of Revenue
NBR	:	National Board of Revenue
NDC	:	Network Distribution Center
NDC	:	Nodal Delivery Center
NGO	:	Non-Governmental Organization
NID	:	National Identity
NJS	:	Non-Judicial Stamp
NOA	:	Notification of Award
NOC	:	No Objection Certificate
NPV	:	Net Present Value
NTTN	:	Nationwide Telecommunication Transmission Network
OCR	:	Optical Character Recognition
ОТМ	:	Open Tendering Method
ОТР	:	One-time password
PD	:	Project Director
PF	:	Provident Fund
PFS	•	Proposal for Feasibility Study

PH	:	Parcel Hub
PI	:	Postal Innovation
PID	:	Postal Identification
PIN	:	Personal Identification Number
PLI	:	Postal Life Insurance
PMA	:	Postman Mobile Application
РО	:	Postal Order
POD	:	Pay on Delivery
POS	:	Point of Sale
PPE	:	Personal Protective Equipment
PPP	:	Public–Private Partnership
PRP	:	Postal Resource Planning
PSO	:	Payment System Operator
PSP	:	Payment Service Provider
PTC	:	Postal Training Center
PTD	:	Post and Telecommunication Division
QA	:	Quality Assurance
RAJUK	:	Rajdhani Unnayan Kartripakkha
REC	:	Remote Encoding Center
RFP	:	Request for Proposal
RFQ	:	Request for Quotation
RM	:	Regional Manager
RMS	:	Railway Mail Sorting
Rol	:	Return on Investment
RPATC	:	Regional Public Administration Training Center
RSTP	:	Revised Strategic Transport Plan
RTN	:	Road Transport Network
SDD	:	Software Design Document
SDG	:	Sustainable Development Goal
SME	:	Small And Medium-Sized Enterprises
SO	:	Sub Office
SPCBL	:	The Security Printing Corporation (Bangladesh) Ltd.

SPS	:-	Service Process Simplification
SRS	:	Software Requirements Specification
SRTM	:	Shuttle Radar Topography Mission
SSP	:	Site Selection Protocol
STC	:	Surface Transfer Centers
SWOT	:	Strengths, Weaknesses, Opportunities, and Threats
TAITRA	:	Taiwan External Trade Development Council
TIN		Taxpayer Identification Number
TOR	:	Terms of Reference
TOWS	:	Threats, Opportunities, Weaknesses, Strengths
TSO	:	Thana Sub Office
UAT	:	User Acceptance Testing
UDC	••	Union Digital Center
UI	••	User Interface
UNCDP	:	UN Capital Development Fund
UNO	:	United Nations Organization
UPU	:	Universal Postal Union
USPS	:	United States Postal Service
UX	:	User Experience
VAT	:	Value Added Service
VPL	:	Value Payable Letter
VPN	:	Virtual Private Network
VPP	:	Value Payable Parcel
WE	:	Women and e-Commerce Forum
WU	:	Western Union

# B. BUSINESS MODEL FOR MAIL & PARCEL

### 1. SECTION 1: BASIC INFORMATION

1	Name of the Project	:	Digital transformation, service model re- engineering and enhancement of Postal Services (Bangla: ডাক সেবার ডিজিটাল রূপান্তর, সেবার ধরণের পুনর্বিন্যাস ও সম্প্রসারণ)
2.	(a) Sponsoring Ministry/Division (b) Implementing Agency	:	a) Ministry of Post, Telecommunication and IT b) Directorate of Posts (DoP)
3.	Project Objectives (Project to be taken based on the study)	:	<ul> <li>To enhance the postal parcel services with partnership of e-Commerce &amp; Courier companies where all parties will be benefited;</li> <li>To introduce postal agent service as PPP model to simplify the postal business processes to attract more customers;</li> <li>To increase accuracy, faster delivery and assure &amp; transparent article tracking by automating the Mail Processing Centers;</li> </ul>
4.	Estimated Project Cost (Taka in Crore)	:	BDT 245.25 Crore
5.	Sector & Sub-Sector	:	Physical Infrastructure Division
6.	Project Category (Based on Environment Conservation Rules 1997)	:	Green
7.	Project Geographic Location (a) Countrywide (b) Division (c) District (d) Upazila (e) Others (City Corporation/ Pourashva)	:	(a) Countywide:
8.	Project Duration		Five years

#### 2. SECTION 2: INTRODUCTION

#### 2.1 INTRODUCTION OF BPO

Directorate of Posts known as Bangladesh Post Office (BPO) (Bangla: বাংলাদেশ ডাক বিভাগ) is a service-oriented government organization working under the Posts and Telecommunications Division, Ministry of Posts, Telecommunications and Information Technology. It was formed on December 20, 1971, and got the membership of the Universal Postal Union (UPU) on February 7, 1973. It is dedicated to delivering a wide range of basic postal services and financial services with its countrywide network with some touch of technology. BPO is committed to ensuring a speedy, reliable, and affordable service to the large population of all walks of life. The vision of BPO is to provide affordable, quality, and international standard postal services through institutional development and modern technology.

#### 2.2 HISTORY AND ACTIVITIES

The MUJIBNAGAR GOVERNMENT of Bangladesh formed in exile on 17 April 1971 in Kushtia immediately set up a postal service with more than 50 field post offices in different fronts or border areas, fully or partially administered by the MUKTI BAHINI (liberation force). Field post masters and scouts were appointed for carrying mails. It released 8 definitive stamps, which were the first stamps of Bangladesh, on 29 July 1971 simultaneously from Mujibnagar secretariat, the Bangladesh diplomatic missions and the House of Commons in London. With the surrender of the Pakistani armed forces in Dhaka on 16 December 1971, the postal administration of the Mujibnagar government closed all the field post offices and merged itself with the existing postal administration in Bangladesh. Bangladesh inherited a postal system completely disrupted as a result of the WAR OF LIBERATION. After the war the whole postal system had to be reorganized. The total number of post offices in 1971-72 was 6,667 with a staff of 24,983. Initially, the postal system was divided into eastern and western circles; in 1979, the circles were: central (Dhaka), southern (Khulna), northern (Rajshahi) and eastern (Chittagong).



Figure 1: Traditional Postbox

A postal mechanization and modernization project was taken up and by 1980, the post office acquired one mechanical letter sorting machine, 163 stamp canceling machines and 88 new franking machines. The 1980s saw a new turn in the postal system as new post offices were constantly opened and new services introduced every year. The Guaranteed Express Post (GEP) was introduced on 19 February 1984. In July 1984, International Express Mail Service was introduced with the first service established with UK. A new service of sending electronic mail on the Intel Post was introduced on 6 December 1988. The postcode system was introduced on 22 December 1986. To preserve the old heritage of the postal service and the old relics of the post office, a Postal Museum was established in Dhaka on 30 January 1985. To provide training to officers and staff, a Postal Academy was established in Rajshahi in 1986. Since independence Bangladesh Post Office has issued various definitive and commemorative stamps on national and international occasions. To promote philately in the country, the post office organized national philatelic exhibitions in 1984 and 1992.

The post office initiates electronic mail services on 16 August in 2000. Presently, naming e-post service covers 16 main post offices of Bangladesh. Any person without holding own e-mail account can send speedily images, documents and news to use an e-mail address of the post office through this service. Since 26 March of 2010, the post office inaugurates Electronic Money Transfer Service (EMTS) through electronic posting. Now it is easy sending money swiftly with a small amount of cost to the remote area of the country using cell phone. It is possible to dispatch weighted between 20 grams to 20 kg of documents, commodities, letters and memoranda through Express Mail Service (EMS) within 72 hours over 43 countries of the world. Not only that but it is also conceivable to identify the route of sending matters through tracking system. Besides, at present the post office starts postal life insurance, endowment insurance and mobile banking facilities. The post office installs for the sight handicapped people free charge service up to 800 grams to dispatch learning elements.

Postal services around the world reigned supreme as the most popular mode of communications. But with the advances in communications technologies and emergence of private courier services, people's reliance on the traditional postal service has significantly declined. The only way the postal service in any country can now survive or regain its importance is by introducing new services.

The country's postal service area is divided into five zones with five post master generals. The total number of post offices is 9,886, including 1,426 divisional post offices and 8,460 non-divisional ones. There are four GPOs, 23 Grade-A post offices, 45 Grade-B, 420 Upazila post offices, 923 Divisional sub-post offices and 11 Divisional branch post offices under the Divisional Offices.

According to the United Nations Committee for Development and Policy (UNCDP) Assessment, Bangladesh has achieved MIC graduation status for a second time on 26 February 2021. Bangladesh will officially get the United Nations Organization (UNO) recognition in 2026. The 'Digital Bangladesh' initiatives fueled the journey of implementing 'Vision 2021'. Inspiring the successful implementation of Vision 2021 Bangladesh Government has adopted

the vision 2041 or Perspective plan 2021-2041. According to the road map of Vision 2041, Bangladesh will become an upper-middle-income country in 2031 and an upper-income country in 2041. To achieve Vision 2041, Bangladesh needs to implement Four Five-year plans. 8th -Five-year plan (8th FYP) is the first five-year plan moving towards achieving vision 2041. Implementation of the 8th FYP has already been started from July 2020. To carry forward 'Digital Bangladesh' to the next level, the five-year plan 2021-2025 is very crucial. To achieve the sectoral objectives of the 8th FYP Bangladesh and to achieve the mission BPO has to take a lot of activities. Major goals, targets, and strategies (6.7) for postal services in the 8th FYP are:

- Introducing digital postal services along with traditional postal services,
- Introducing domestic and international financial services,
- Bringing mail transportation, collection, and distribution under ICT based strict supervision,
- Adopting activities for making at least one IT-based entrepreneur in each rural post office,
- Establishment of in-house digital commerce hub across the country,
- Commercializing postal services,
- Ensuring imparting of high-quality Internet-based training,
- Providing international standard customer service and introducing the zerotolerance policy,
- Giving importance to rural people in case of providing improved postal services.

#### 2.3 AUTOMATED MAIL PROCESSING SYSTEM

#### 2.4 PRESENT SERVICES

The Main Services of the Bangladesh post office are to mail Letters, Post Cards, Parcel, News Paper & Periodicals and Book or Packet. The general delivery time is 2–3 days depending upon the distance and communication of the destination. Bangladesh Post Office provides mainly two types of services:

- 1. Postal Services.
- 2. Agency services
- 3. Digital Services

#### **Postal Services:**

a) Ordinary letters and Registered letters

- b) GEP (guaranteed express post)
- c) EMS (Express Mobile Service)
- d) Money order and Parcel service
- e) VPP (value payable post) and VPL
- f) Sale of postage stamps
- g) Booking of postal articles, transmission and delivery

#### Agency service:

Although the Post Office basically renders service for collection, trans-mission and delivery of postal articles, with the need of these several agency services have also been included within the function of the Post Office. These agency services are carried out at a commissioned rate. Main services are:

- a) Savings Bank and Savings Certificate (Deposit and Withdrawal)
- b) Sale of Non-Judicial Stamps
- c) Motor Transport Tax
- d) Sanchaypatra
- e) Prize bond
- f) Sale of Phone card and collection of money for demand note
- g) Collection of customer's duty and VAT
- h) Sale of other stamps
- i) Postal Life Insurance
- i) Phone Card

#### **Digital Services:**

- a) Electronic Money Order Service
- b) Postal Cash Card
- c) Post e-Center and Post e-Payment
- d) Western Union Remittance
- e) Post Call Center
- f) International Financial Service (IFS)
- g) Euro Jairo Remittance Service

#### 2.5 ORGANIZATIONAL STRUCTURE

The highest rank of Bangladesh postal department is director general. The Director General can take various measures to remove various barriers including laws governing the service. The Director General can take decisions to establish and maintain postal communication with foreigners and send it to the Ministry for decision in all cases where the decision of the Ministry of Posts and Telecommunications is required. 4 Additional Director Generals assist the Director General in the work of various groups.

Department of Posts has 5 Postal Circles, 2 Postal Life Insurance Circles and 1 Postal Academy. Bangladesh is divided into 5 postal circles and a Postmaster General is in charge of each circle. Each circle is further divided into divisions headed by a Deputy Postmaster General. Other functions include Postal Life Insurance Postal Division. Postal Life Insurance of the country is divided into two circles. Each circle is headed by a General Manager. Each circle is divided into several regions headed by a Regional Manager assisted by Deputy Regional Manager. They handle the functions of policy collection accounting and claim settlement. Each Regional Office consists of several Field Level Assistant General Manager Offices. The Assistant General Manager is assisted by Superintendents and Inspectors. Bangladesh Postal Department provides services in urban and rural areas through different types of post offices. They are: 1) General Post Office (GPO) 1 in each region 2) Head Post Office in each urban area 3) Upazila/ Thana Post Office in each town and village 4) Divisional Branch Post Office in each rural area 5) extra departmental Branch Post Office in each rural area. The Head Post Offices are the accounting office of all sub-post offices and branch post offices under its jurisdiction. Within rural post offices, there are Extra-departmental Sub-post Offices and Extra-departmental Branch Post Offices are manned by manpower employed on fixed allowances. A postal academy of international standards is being run under the leadership of a principal assisted by a vice-principal and a few instructors. The detail information of Bangladesh Postal Department offices and employees are as follows:

Table 1: Detail Office List of BPO

SI. No.	Class of Office	Number of Office					
	Post Offices						
1	General Post Office (GPO)	4					
2	A grade head post office	23					
3	B grade head post office	45					
4	Upazilla Post office	402					
5	Sub post office/ Town Sub Office	947					
6	Branch (Departmental) post office	10					
7	Extra departmental sub post office	329					
8	Extra departmental Branch post office	8214					
	Sub-total:	9,974					
	Administrative Offices						
1	Directorate of Posts	1					

2	Postal Circle Office	5
3	Postal Life Insurance Circle Office	2
4	Postal Academy	1
5	PLI Regional Office	4
6	Postal Division	29
7	Postal Training Center	4
8	Foreign Post Office	3
9	Airport Sorting Office	1
10	Postal Printing Press	1
9	AGM (Field) office, PLI	12
10	Office of Assistant controller (Stamps)	1
11	Office of International Postal Accounts	1
12	Bag Control office	1
13	Office of Inspector	127
	Sub-total:	193
	G. Total:	10,167

Table 2: Number of Employees of BPO

Sl. No.	Employee Class	Number of sanctioned Posts
1.	First	236
2.	Second	56
3.	Third	11757
4.	Fourth	4831
5.	Extra-departmental Employee	23021
	Total:	39888

#### 2.6 PROJECT BACKGROUND

As Bangladesh is moving towards digitalization and planning to harvest the benefits of the 4th industrial revolution with the introduction of Robotics, Virtual reality, Artificial intelligence, Internet of things (IOT), Big data, Block chain etc. According to the election manifesto of the present government, the Sustainable Development Goal (SDG) spectrum launched in 2021. Due to technological revolution and the country's economic achievement, time demands to deliver every service with the touch of technology. The government of Bangladesh has taken different steps with DSA, a2i, ICTD to introduce digital services in various offices. As a result, the time and cost of those services have already been reduced, and customers are satisfied with theTOR-RFP-BPO-03.08.21-V1.0-01-03-2022 2 services. BPO is planning to initiate different projects to provide benefits to the customers digitally. Therefore, the Bangladesh Postal Service automation is essential in providing services with ease and speed through digitization. Besides, SDGs targets 5.b, 8.10, 9.c, 17.6 and 17.8 encourage the Post and Telecommunications Division (PTD) to take the new technology through BPO.

It is to be mentioned that to modernize and expand the postal services of BPO, a four-member committee headed by a Joint Secretary of Post and Telecommunications Division (PTD) has been formed. This committee has submitted a preliminary report on February 2021. Land related information and information on existing infrastructures and other related information are available in this preliminary report. According to the recommendations of this initial report, a feasibility study is required to consider the technical and financial aspects of a significant size investment before taking any big size project. To finance in conducting feasibility study preparation and approval of Proforma/Proposal for Feasibility Study (PFS) is essential in the procedure of Government development project process and approval method. For the smooth implementation of the feasibility study, Terms of Reference (ToR)/Scope of works of PFS need to be spelled out clearly. So, a committee headed by the Director General of BPO has been formed, and this committee has identified the scope of works of PFS (Appendix-2). The report of this committee and the report of the preliminary committee may be used as additional input to conduct the feasibility study.

#### 2.7 OBJECTIVES OF THE TECHNICAL FEASIBILITY STUDY

The objective of the Feasibility Study is to assess business models of BPO branching into eCommerce services, technical and financial aspects few ideas spawn out of DSDL facilitated by DSA, a2i, ICTD and also technical and economic Feasibility of a possible Automated Mail Processing Center (AMPC) for Bangladesh Post Office. These proposed modernizations fueled by emerging technologies and the expansion of Postal services with innovative business models envisioned to be a great enabler of Vision 2041.

The study has been focused on the following areas:

- High-level enterprise architecture design and technical Feasibility on Digitalization/ Automation of BPO
- Business model development for implementing a business service where BPO will sell
   Agro-based products grown by marginal farmers directly to the end consumer
- Business model development for BPO's mail and parcel services. The business model considered future trends, primarily focusing on the growing digital commerce market.
- Feasibility study on the requirement of the Automation of Mail Processing Center (AMPC)

Business model on BPO's Mail and Parcel Service

Business Model Development for BPO's mail and parcel services:

- A comprehensive business model for BPO's mail and parcel services.
- By Introducing new process and technologies
- Analysis of digital commerce market trend with 10 years forecasting using required policy interventions.

#### 2.8 APPROACH AND METHODOLOGY OF THE FEASIBILITY STUDY

The methodological design of the feasibility study is the combination of quantitative and qualitative research methods such as literature review, data collection and analysis, semi-structured interviews, focus groups discussions, key informant interviews and workshops. The choice of method has been taken into account the needs and capacities of the different target groups and stakeholders (citizen, agencies, companies, local partners, local and district government representatives, etc.). The study team arranged workshops on all components to figure out the ins and outs of that specific component.

#### Approach

Following the research scope of this feasibility study, an exploratory approach has been implemented to understand the mail and parcel market. A series of quantitative and qualitative have been applied for this research, allowing the researcher to analyze data from different sources.

This study was explorative in nature and collected both primary and secondary data from relevant sources. The research team collected data from all possible and relevant sources to achieve the scope, and an appropriate data collection method was followed.

This specific component of the feasibility study has been constructed upon four specifics pillars.

1. Literatures

•BPO Mannuals
•Annual Reports
•International Post Offces: India, USA,
Malayshia, Australia etc.

2. key Informant Interviews

•BPO Officials
•International Postal
•E-commerce
•F-Commerce
•Courier
•Institutions

Figure 2: Major Sources of Information for Agro Business Model

#### Methodology

#### 2.8.1.1 Literature Reviews

The consultant team conducted a thorough literature review to set the base of the feasibility study. While doing that, the team reviewed various documents, including government, national, and international publications.

These documents helped the consultants understand the volume, area-wise parcel delivery, seasonality, pricing, and the market's current situation.

Moreover, the national publications helped to understand the various industry constraints, whereas international publications helped to understand the standard practices abroad.

To study foreign/ International Postal Services, Consultant selected USPS, INDIA and Malaysia post.



#### 2.8.1.2 Questionnaire and Checklist Preparation

Based on the understanding from the literature reviews, the consultant prepared the Questionnaires and checklist to collect field-level primary data.

While preparing the questionnaires and checklists, the consultant focused on the specific questions that helped understand the current market behavior, market mechanism, and business procedure.

After preparing the questionnaires and checklists, these were validated by the BPO and project authorities.

#### **Primary Data Collection**

After validating and finalizing the data collection tools, the consultant team started collecting field-level data. Field data were collected in two ways: Key Informant Interview (KII) and a Questionnaire survey.

#### **2.8.1.3** Key Informant Interviews (KIIs):

With industry experts, key informant interviews were conducted using semi-structured checklists. Experts from both the public and private sectors were interviewed:

Table 3: Distribution of KII Participants

Organizations	Number of KII (75)
BPO Officials	17
International Postal	4
E-commerce	10
F-Commerce	8
Courier	11
Institutions	5
Individual Citizens	20

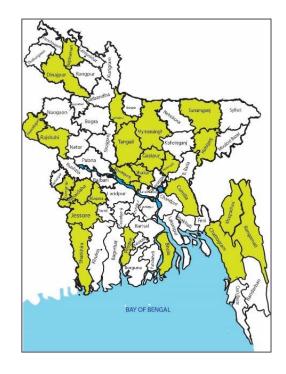
#### 2.8.1.4 Field Visits

Field-level quantitative information was collected through a questionnaire survey. A total 30 Field Visits were conducted through the country.

Table 4: Distribution of Field Visit

	Field Visits (30)	
MPCs	GPO	RMSs
Post offices	Sub-post Offices	Kolkata AMPC

Figure 3: Survey Area



#### **2.8.1.5 Workshop:**

To design the agriculture business model, three workshops were conducted. One is for gathering information, and the other is for validating the draft business model.

Table 5: Participants list for Data Collection Workshop (Private sector)

Groups	Sectors		Companies	Companies Representative	
Group- 1	E-commerce Product Journey	1.	Daraz	Head/ In charge of	
	(With and without warehouse)	2.	Monarch Mart	Logistics or Supply	
		3.	Rokomari	chain or Delivery Channel	
		4.	Ek-Shop	Chamici	
		5.	E-CAB		
		6.	BPO officials		
Group- 2	Perishable Goods and Semi	1.	Chaldal	Head/ In charge of	
	perishable Goods	2.	Women and e-Commerce Forum	Logistics or Supply	
		3.	FoodPanda	chain or Delivery Channel	
		4.	Monarch Mart	Channei	
		5.	BPO officials		
Group- 3	Logistics, supply chain, and	1.	Continental	Head/ In charge of	
	delivery channel of Industrial	2.	Sundarban	Logistics or Supply chain or Delivery	
	Parcel (Courier Companies)	3.	Korotoa Courier Service	Chain or Delivery  Channel	
		4. Tr	Truck lagbe	Chamie	
		5.	CSAB		
			BPO officials		
Group- 4	•	1.	Go go Bangla/Chaldal	Head/ In charge of	
	delivery channel of Non-	2.	E-Courier	Logistics or Supply	
	Industrial Parcel (Courier Companies)	3.	RedX	chain or Delivery Channel	
	companies	4.	Paper fly	Chamilei	
		5.	Pathao Courier		
		6.	Steadfast		
			l Express		
			Delivery Tiger		
			BPO officials		
Group- 5	Existing E-commerce product	1.	e-Post Software Ltd.	Relevant	
	Handling through BPO		Tejgaon MPC Team, BPO	Representative	

Table 6: Participants list for Data Collection Workshop (Public sector)

SL	Name & Designation	Organization
1	Afrida Warima Assistant Geologist	Bangladesh Agriculture Development Corporation
2	Mahmuduzzaman Deputy Director	Bangladesh Bureau of Statistics
3	Himel Jahan Assistant Director	Bangladesh Land Port Authority
4	Jamila Shabnam Senior Assistant Secretary	Bangladesh Public Service Commission
5	Mustafizur Rahman Senior Assistant Director	Bangladesh Government Press
6	Md. Muklesur Rahman Chief	Bureau of Health Education
7	Dr. Touhid Ahmed Deputy Director	Central Medical Stores Depot

8	Shamsul Alam Assistant Secretary	Dhaka Education Board
9	Md. Nazrul Islam Assistant Director	Directorate of Primary Education
10	SM Humayun Kabir Sarkar Deputy Secretary	Ministry of Shipping
11	Sadeka Sultana Joint Director	Open University
12	Md. Akram Chowdhury System Analyst	Chittagong Port Authority
13	Kazi Kamrul AhsanDirector Secretary	NCTB (National Curriculum and Textbook Board)
14	Mohammad Abul Hasnat Principal Officer	Sonali Bank
15	Deputy Manager	The Security Printing Corporation
16	Md. Nasir Uddin Talukdar Assistant Director	Trading Corporation of Bangladesh
17	Mohammad Azizul Maula Senior Personal Officer	Chittagong Port Authority
18	Md. Rabbi Mia	NCTB (National Curriculum and Textbook Board

Table 7: Participant list of validation workshop

SL	Name & Designation	Designation	Organization
•	MD. Reajul Islam	Additional Director General (A & E)	Bangladesh Post Office (BPO)
•	S. M. Shahabuddin	Additional Director General (Postal Service)	Bangladesh Post Office (BPO)
•	Aloka Rani Roy	Director (Training & Research)	Bangladesh Post Office (BPO)
•	Md. Altafur Rahman	Director (S & R)	Bangladesh Post Office (BPO)
•	S. M. Haroonur Rashid	Director (Mails)	Bangladesh Post Office (BPO)
•	Khondoker Shahanur Sabbir	Trainer, Postal Academy	Bangladesh Post Office (BPO)
•	Md. Saleh Ahmed	Director (Planning)	Bangladesh Post Office (BPO)
•	Md. Zahsurul Alam	Director (S & P)	Bangladesh Post Office (BPO)
•	Md. Shah Alam Bhuiyan	Deputy General Manager	Bangladesh Post Office (BPO)
•	Sarif Md. Saifullah	Deputy Project Director (Planning)	Bangladesh Post Office (BPO)
•	Dr. Md. Monirul Islam	Consultant Nutrition	Bangladesh Agricultural Research Council (BARC)
•	Mamunur Rashid	Co-Founder & COO	Fashol™
•	Tareq Rafi Bhuiyan	Managing Director	New Vision Solutions Limited
•	Md. Rezaul Karim	Chief Project Coordinator	Tri-Vision Limited
•	Atiqul Islam Sadi	Project Manager (Comp-2)	New Vision Solutions Limited
•	Tahmid Al- Sakib	Data Analyst	New Vision Solutions Limited
•	Maruf Billah	Project Manager (Comp-3)	New Vision Solutions Limited

#### 2.9 ORGANIZATION OF FEASIBILITY STUDY (MAIL & PARCEL)

#### Present Mail and Parcel Journey of BPO

The Bangladesh Postal Department is a traditional service organization under the Ministry of Posts, Telecommunications and Information Technology of the People's Republic of Bangladesh. The department has been providing postal services to the people of urban and rural areas for a long time. In addition to the postal service, the Bangladesh Postal Department provides various government services. Bangladesh's postal department has a nationwide network. Because of this extensive network, postal departments are very close to the people. No other government agency has such a nationwide network as the Department of Posts. Furthermore, the Bangladesh Postal Department has an extensively trained workforce to provide the service.

The main objective of the Postal Department is to provide regular and speedy postal services to the public at a minimum cost. The postal department has been operating this service for a long time by gaining public trust using limited resources. The flow chart below illustrates the different steps involved in the current mail and parcel journey of the Bangladesh Post Office.

#### 2.9.1.1 Common Mail Journey of BPO

Challenge <u>Cha</u>llenge Inadequate transport Postal operator Mail carrier -RMS-1 Mail operator I Challenge Inadequate transport facilityTo cope-up with train RMS-2 Mail agent Mail operator Mail agent Door step delivery -Delivery Office-

Figure 4: Common Mail Journey of BPO

Booking Office

Source: Primary survey

The mail and parcel journey of an article starts at a booking office. All offices of the Bangladesh Post Office offer booking facilities. They have postal operators to provide on-the-spot booking facilities for customers. To cope with the present demand, Bangladesh's post office is facing a manpower shortage in this sector. As Bangladesh Postal Department is determined to change the conventional way of serving people by making its service delivery process dependent on modern information and communication technology, they have already introduced DMS (domestic mail service) software which enhances the booking capacity as

well as makes the booking process easier for both ends (mail operator and customer). After booking, the article is taken to a packer to get bagged and ready for the mail carrier. A packer sorts the booked articles into designated bags. Currently, the process is totally manual. After getting the bags, the article is taken to the nearby sorting center (mentioned as RMS-1). Every RMS (sorting center) has a mail agent who collects the mail bags from the carrier, and then the article is manually sorted to prepare for its second trip to another RMS near the delivery office. Upon arrival at the second RMS (referred to as RMS-2) in the flow chart, the article undergoes another manual sorting process before being conveyed to the designated delivery post office. Every post office with a unique postal code has delivery facilities. For letter articles, the Bangladesh post office provides last-mile delivery while for the parcel they prefer window delivery.

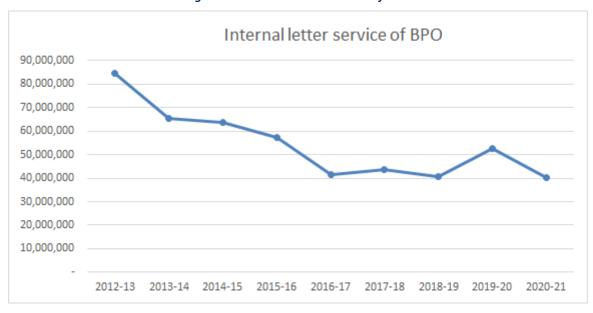
Throughout the world, letter service has been recognized as one of the conventional postal services. With the evolution of time, electronic mail and other technology-based communication media have taken the place of correspondence services as a result of technological revolutions. This is why the trend of letter service is declining all over the world at a periodic rate. As in the rest of the world, the trend of letter delivery in Bangladesh is also declining as a consequence of the technological revolution.

Based on the analysis of annual data at specific intervals, it appears that each of the categories is declining. GEP services received encouraging customer feedback at the time of their introduction, but they have also fallen into a downward trend over time.

However, there is still a market for commercial letters rather than personal letters that sustain current correspondence services. In this situation, there is a possibility of improving the quality assurance of express services and achieving the universality of service to re-enter the commercial letter delivery market with letter services.

#### 2.9.1.2 Domestic Letter Volume of BPO

Figure 5: Domestic Letter Volume of BPO



#### 2.9.1.3 International Letter Volume of BPO

Figure 6: International Letter Volume of BPO



Parcel service as a supplementary service of the UPU is available in 192 member countries. An analysis of the trend of the last few years indicates that domestic parcels have increased to 2018 as COVID has a significant impact in 2019 and 2021. However, the number of foreign parcels has decreased. One of the reasons for the decline in the number of parcels is non-delivery on the same day, non-delivery on time as per customer demand and the non-existence of station delivery centers. While the demand for ordinary letters is declining, the

need for parcels is increasing day by day due to the capitalist market economy. A review of internal parcel volume for the past year shows that registered insurance parcels (about 49%) have delivered the highest volume. It shows that the overall growth of the parcel is positive. On the one hand, the number of ordinary parcels has gradually decreased while on the other hand express and registered insurance parcels have increased. It appears that customers are willing to spend more money for value-added services which is playing a positive role in increasing the revenue of the postal departments. It is a positive indicator for focusing on logistic facilities for the E-commerce market as people are willing to pay more to have a better service.

A main reason for the low number of foreign parcels is the absence of online systems that allow shipping information to be obtained until the last stage of the delivery process. As a result, on the one hand, the volume of foreign parcels is low, and on the other hand, Bangladesh's internal land rate (ILR) cannot be increased. Bangladesh receives a lower delivery fee from foreign postal authorities, but has to pay them a higher amount. Currently, Bangladesh has air parcel service with 178 countries and surface parcel service with 181 countries. According to the UPU statistics, the growth of global parcels is 6.5%, which shows positive growth of global parcels. Through the use of technology, setting delivery policies based on customer demand, and fully operationalizing, parcel delivery will increase.

#### 2.9.1.4 Domestic Parcel Volume of BPO

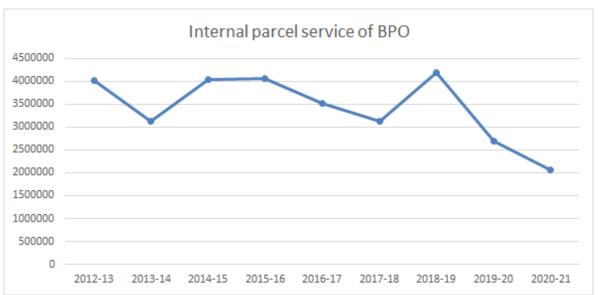


Figure 7: Domestic Parcel Volume of BPO

#### 2.9.1.5 International Parcel Volume of BPO



Figure 8: International Parcel Volume of BPO

Table 8: Year-wise Letter and Parcel Volume of BPO

Year	Domestic	International	Total letter	Domestic	International	Total parcel
Teal	letter Service	letter Service	service	parcel Service	parcel Service	Service
2012-13	84,668,063	433,468	85,101,531	4,005,368	146,262	4,151,630
2013-14	65,617,736	211,879	65,829,615	3,114,353	128,650	3,243,003
2014-15	63,825,521	179,447	64,004,968	4,027,008	138,817	4,165,825
2015-16	57,515,582	148,417	57,663,999	4,060,655	195,713	4,256,368
2016-17	41,671,694	109,421	41,781,115	3,509,390	166,252	3,675,642
2017-18	43,549,418	162,409	43,711,827	3,118,499	76,103	3,194,602
2018-19	40,872,883	183,424	41,056,307	4,189,463	111,389	4,300,852
2019-20	52,681,400	139,446	52,820,846	2,681,861	62,498	2,744,359
2020-21	40,227,369	95,882	40,323,251	2,051,350	104,637	2,155,987

#### 3. SECTION 3: MARKET/DEMAND ANALYSIS

#### 3.1 PROBLEM STATEMENT

#### **Manual Service Process**

Mail article receiving, sorting, and delivery processes are doing now in manual traditional way which is time consuming, non-trackable and citizen have to visit every time nearest post office for any postal services. Introducing tracking system for all mail article and transform the manual service to auto sorting system will be faster delivery and citizen will get more service with less post office visit. Postal department started to use automated mail tracking number system to track and tracs a mail article. Where service process simplification did not consider. Postal department required a total transformation for tracking system including article sorting.

#### Partnership model (EDA and Entrepreneur)

Bangladesh Post Office has existed extra-departmental (ED) sub-post office and ED branch post office with the contractual employee namely Extra-Departmental Sub-Postmaster (EDSPM), Extra-Departmental Agent (EDA), Extra-Departmental Delivery Agent (EDDA) and Extra-Departmental Mail Carrier (EDMC). Presently working the ED employees' number is more than 23,000. The following table shows the ED employees' allowance cost per year:

Table 9: Extra-Departmental employees' yearly allowance

SI.	Extra-Departmental Employee Designation	No. of employees	Monthly Allowanc	Yearly Allowance
1.	Extra-Departmental Sub-Postmaster (EDSPM),	322	5,841	22,569,624
2.	Extra-Departmental Agent (EDA),	8,134	4,460	435,331,680
3.	Extra-Departmental Delivery Agent (EDDA) and	8,456	4,354	441,809,088
4.	Extra-Departmental Mail Carrier (EDMC)	8,456	4,177	423,848,544
	G.Total:	25,368		1,323,558,936

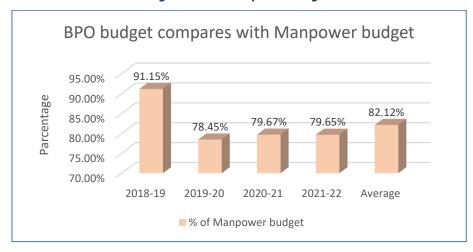
The table shows that, the year cost for ED employees' is 132.35 core.

The last four financial years 2018-19 to 2021-22 budget allocation and expenditure shows that, BPO has highest allocation and expenditure in manpower sector which is average 82.12% where ED employees' also playing a roll.

Table 10: BPO budget compares with manpower budget (taka in core)

Financial Year	BPO total expenditure	BPO Manpower expenditure	% of Manpower budget
2018-19	86506.86	78849.84	91.15%
2019-20	88987.33	69811.85	78.45%
2020-21	90757.47	72309.99	79.67%
2021-22	93434.53	74416.41	79.65%
Average	359686.19	295388.09	82.12%

Figure 9: BPO manpower budget

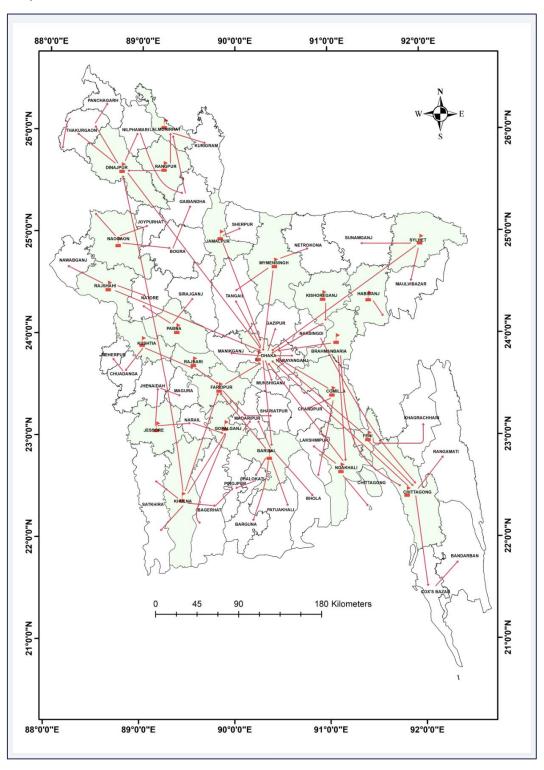


BPO also has 8,500 non-payee Entrepreneur in the postal e-Centers who are generating income from digital services. Unfortunately, entrepreneurs are not involving to provide any BPO services to the citizen.

To increase the revenue earning and postal services, reduce revenue expenditure BPO needs to introduce an Agent Service who will deliver the postal services 24 hours and 7 days a week and gradually include Postal e-Centers Entrepreneurs, ED Employees, Digital Centers Entrepreneurs and Mobile Banking Service Providers as Postal Agent.

### Mail Processing Center and Mail Route

Bangladesh Post Office has a long history to his journey to provide services to the citizen. That's why the mail processing centers including mail sorting and mail routes are expanded time to time which are not organized as geographical location based (like division, district, upazila based). The mail route are not a proper combination of roads highway, railway and waterway.



### 3.2 RELEVANCE OF THE PROJECT IDEA

The relevance of the project idea covers the most recent national 8<sup>th</sup> Five Year Plan, Sustainable Development Goal, Bangladesh Perspective Plan 2041. The major project objective is to:

- The overall Digitization/Automation of the Bangladesh Postal Resource Planning,
   Postal Mail and Parcel Services, and Postal Financial Services;
- Business Model Development for Agro-based product from Marginal Farmers to Consumers;
- A comprehensive Business Model Development for expansion of Mail and Parcel Services;
- Establishment of AMPC or MPC including the application of emerging technologies;

The proposed project has linked the project goals, outcomes and outputs to national perspective plan, five years plan and SDG. The following are the details of relevance with the national development plans:

Relevance with the Perspective Plan 2041

#### 3.2.1.1 9.2 The State of Progress towards Innovation Economy

"Since 2017, 8500 post offices have been converted into post-e-centers where IT training is being provided."

#### 3.2.1.2 10.6 Communications

"Bangladesh Post Office offers a range of services, including Express Mail Service, an electronic mail service, e-post for internet and e-mail services. Private providers supply high quality international courier services. All this progress has greatly benefitted trade and commerce, especially online commerce.

This progress has continued during the PP2021 and the strategy is broadly on track. The communications outlets for Bangladesh are multi-faceted and vibrant. The flow of information through social media, video and print media has moved ahead well with huge private investment. This is a major area of success for the PP2021.

PP2041 will build on this success and continue to modernize communications in Bangladesh. The PP2041 strategy will continue to provide policy and institutional support to private investment in expanding telecommunications network and services, boost the expansion of private print, audio and video media, and provide an enabling environment for competitive and healthy expansion of communication services and knowledge and information sharing.

Public and national interest will be protected through regulations that ensure that information exchange is fact-based and prevent improper use that fans social unrest or creates law and order breaches. The PP2041 will implement the provisions of the Right to Information Act that supports the growth of an informed and democratic society.

Postal services will continue to be modernized through faster transfers of mail with greater reliability of services. Private services in partnership with global carriers will continue to be encouraged. Service modernization through the use of digital technology such as mail tracking will be strengthened."

Relevance with the Sustainable Development Goal

#### 3.2.1.3 Goal-2

"End hunger, achieve food security and improved nutrition and promote sustainable agriculture."

### Target-2.3

"By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment."

### Target-2.c

"Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility."

#### 3.2.1.4 Goal-8

"Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all."

### Target-8.2

"Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors."

### Target-8.3

Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

### Target-8.5

By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

#### 3.2.1.5 Goal-16

"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels."

### Target-16.6

"Develop effective, accountable and transparent institutions at all levels."

Relevance with the 8th Five Year Plan

### **8FYP GOALS, TARGETS AND STRATEGIES FOR POSTAL SERVICES**

- a) Introducing digital postal services along with traditional postal services;
- b) Commercializing postal services;
- c) Introducing Domestic and International Financial Services;
- d) Bringing Mail transportation, collection and distribution under ICT based strict supervision;
- e) Ensuring imparting of high-quality ICT based training;
- f) Following international standard in providing customer service and introducing zero tolerance policy;
- g) Giving importance to rural people in case of proving improved postal services;
- h) Adopting activities for making at least one IT based entrepreneur in each of rural post offices.
- i) Increasing the capacity of mailing operator and courier service licensing authority in order to ensure quality service.
- j) Expansion Department of Posts digital financial service 'Nagad' provided remote areas across the country.
- k) Bringing all the villages of the country under the services of digital post office.
- I) Introduction of nationwide ad-mail service by 2021.

- m) Establishment of in-house digital commerce hubs across the country.
- n) Introduction of education insurance "Sukanya" for school going girls.

#### 3.3 PROPOSED PROJECT INTERVENTIONS

There are five key places to begin looking for possible project interventions to meet the results-oriented goals:

### Specific Challenges of the department

❖ Bangladesh Post Office Mail and Parcel services are running traditional way where service hours are 5 days week and not more than 6 hours, mail article sorting are most traditional manual, very few uses of information technology, postal department manpower mind setup are traditional, mail article are reducing gradually, each year expenditure are going up than allocation which making postal department as loss-making organization;

### **Project Objectives**

- ❖ To develop an Integrated Service Delivery Platform (ISDP) for Directorate of Posts to automation of all possible services;
- ❖ To establish a Business Model and an Application Programming Interface (API) to connect all e-Commerce and Courier companies to expand Parcel Business where both parties will be benefited;
- ❖ To introduce postal agent service for pickup & delivery, cash on delivery and to assist customer;
- ❖ To strengthen the logistic department to introduce warehouse to warehouse service for bulk parcel of public & private sectors;

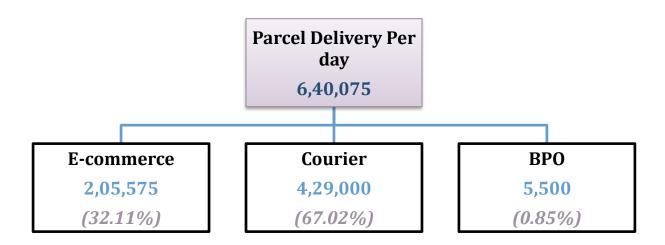
### 3.4 STAKEHOLDERS:

The key stakeholders who will be associated with the project interventions are:

- ❖ Private e-Commerce Service Providers: The e- Commerce Service Providers will be delivered their product in the remote area through BPO network where they don't have any service.
- ❖ Private e-Couriers Service Providers: The e-Couriers Service Providers will be delivered their product in the remote area at the customer's door step through BPO network where they don't have any service.
- ❖ Postal Agents: BPO will create an agent service to provide BPO services 7/24. The 8,500 Postal Entrepreneurs can be included as agent.

### 3.5 DEMAND ANALYSIS (MAIL AND PARCEL JOURNEY)

Market Categories and Size



Transportation sector is one of the key sectors for any economy. Any industry or market need transportation services to carry their goods from one place to another. Mode of transportation and their scale depends on the type of the market.

In this chapter we are going to discuss about the different potential markets. Which required frequent transportation facilities.

#### Public Sector/ E-commerce **Banking Sector** F-commerce **SSNP** • Per day Delivery 2 Lac • Per day Delivery 30 • Handicraft Market • Deliver 21.1 Cr Mail • 61 scheduled banks Parcel, Thousands Parcels, Size 12,000 Cr BDT and Parcel Every Year • Millions of Customers Market growing at Market Growing at • 3 Lac Market Player Number of Offices 18% 250+ • TCB Construction **Export-Import** NGO/INGO **FMCG Market** Market Raw material • Per day 356 Cr. Ex-IM • 42,000+ • 2500+ NGO/ • 39,000 Cr. Market Bulk Logistic Educational INGO • 12 Land Ports, 1 • Bulk Logistic Market Airport, 3 Seaports Institutes · Branch offices at Market • 20,234,646 upazila level numbers of students • 6,27,193 Teacher

#### E-commerce

#### 3.5.1.1 Market Overview

The E-commerce industry is one of the booming industries in Bangladesh. The B2C e-commerce sector is growing at an annual rate of 17.61% (Karim 2022). Products and services cover retail shopping travel and hospitality online food service media and entertainment healthcare and wellness and technology products and services. Presently Daraz Chaldal AJker Deal Rokomari etc. e-commerce companies are well known in Bangladesh.

The Covid -19 pandemic has brought a revolution in the e-commerce market in Bangladesh as people sourced necessary goods from online. Mr. Asif Ahnaf a director of e-Cab believes during the covid-19 pandemic in 2020 the e-commerce sector has grown 200%-300% (Sajid 2020).

The government introduced a digital commerce policy in 2018 to serve as a guideline for e-commerce companies and to protect consumer rights. To protect consumer rights and prevent fraud the Bangladesh Bank launched the payment gateway's "escrow service" in June 2021 (Karim 2022).

#### 3.5.1.2 Market Size

The e-Commerce market size is pretended to be BDT. 65966 crores by the end of 2022 which is almost 16% more than in 2021. By the end of 2026 the size of the e-commerce market is anticipated to be at BDT 150000 crore. The e-Commerce Association Bangladesh estimates that in 2021 more than 2500 e-commerce platforms were active in Bangladesh the vast majority of which were small businesses (95%) with medium-sized enterprises (4%) and large firms (1%) (Karim 2022).

According to the findings from workshop with e-commerce market players currently per day 2,00,000 parcels are being delivered all over the Bangladesh.

### 3.5.1.3 Market Players

There are several e-commerce platforms in Bangladesh operating well in the industry. Chaldal is leading the grocery market in Bangladesh and receives approximately 12000 orders every day (Workshop Finding).

On the other hand Daraz is famous for selling items like electronic items furniture toys fashion products etc. The company started operations internationally in 2012 and debuted in Bangladesh formally in October 2015. Daraz has established a name for itself in the local online shopping market since its most recent rebranding earlier this year which capitalized on a growing consumer trend. Currently Delivering 150000 Parcels per day the company aims to attract 100 million clients by 2030 (Tonmoy 2022).

Based on the findings from workshop and different secondary sources the consultants have found some of the famous e-commerce companies in Bangladesh – they are mentioned below;

- ✓ Shajgoj famous for women makeup and cosmetic items
- ✓ Rokomari Heaven for booklovers
- ✓ Pickaboo Tech-savvy consumers will search for mobile phones and other accessories
- ✓ Ajker deal famous for garments fashion item. Also computer items Kitchen accessories etc. are found here.

### 3.5.1.4 Supply Chain

Retailers/ merchants need to sign up with e-commerce companies by submitting necessary documents like trade license NID and TIN. After signing up they can sell products through the e-commerce platform. Based on the discussion with different e-commerce officials the consultants have discussed the e-commerce supply chain under the following two segments;

# 3.5.1.5 Current Distribution Process of the different e-commerce and logistic companies:

Online order

Merchant Notification

Product Pickup from merchant

Packaging at Warehouse & Sorting

Handover to Courier

Delivery man

Doorstep delivery + Payment receive / Return

Figure 10: Merchant product journey (without warehouse)

Figure 11: E-commerce product journey (with warehouse- e.g. Daraz)

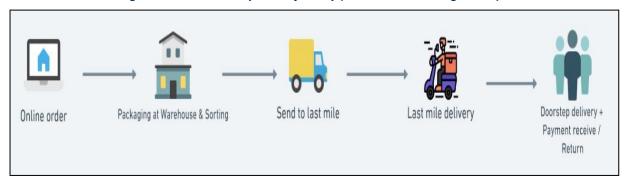
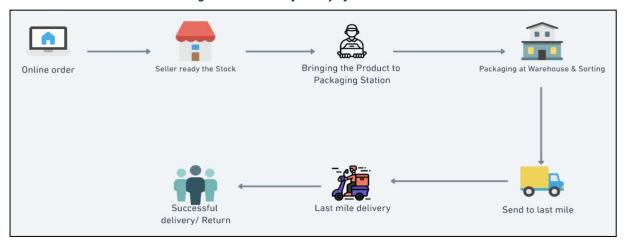


Figure 12: Product journey of Rokomari.com



### 3.5.1.6 Back Channel

Back channel means product journey from merchant to e-Commerce warehouse. At first the customer place order on the e-commerce website which is notified to the retailer's account. After receiving the order, the retailer either can deliver the product to the e-commerce company office or the e-commerce company can receive the product from the retailer's doorstep. The retailer requires to pay extra to the e-commerce company for doorstep pickup. After receiving the product from the retailer, the product is sent from e-commerce company office or retailer's doorstep to their warehouse for sorting and packaging.

E-Commerce Office

Warehouse

Back Channel

Back Channel

Front Channel

Figure 13: e-Commerce Business Supply Chain

#### 3.5.1.7 Front Channel

The front channel indicates the product journey from the warehouse to the customer's doorstep. At the warehouse products are packaged and sorted according to the customer's location. After sorting the product is sent to the customer's doorstep. Sometimes products are sent from one warehouse to another warehouse before sending to the end customer. Often E-commerce companies use their own transportation facilities to transport products from the retailer's doorstep to the warehouse warehouse to warehouse or warehouse to the customer. Also the companies use vehicles from third-party logistic support like vehicle vendors and courier companies to transport goods.

### F-COMMERCE (SOCIAL MEDIA)

#### 3.5.1.8 Market Overview

F- commerce is getting familiar in Bangladesh and numerous new and existing businesses are expanding business through Facebook. Individuals particularly women use Facebook Marketplace to launch new businesses or expand existing ones. Women own 70% of Facebook-based businesses that have opened since the pandemic began and there has been a more than 65 percent increase in Instagram businesses owned by women (Shahriar Rahman 2022).

Because of the enormous popularity of Facebook in the country even large e-commerce companies have f-commerce-based subsidiaries. Mr. Fahim Mashroor CEO of Ajker Deal for example states that in addition to a dedicated online platform Ajker Deal also conducts business on Facebook under the same name and customers particularly women prefer it for better one-to-one communication (Ahmed 2022).

### 3.5.1.9 Market Size

According to TAITRA a global market research and information service organization approximately 3 lakh Facebook-based business entities operate in the country with a market size of around Tk. 1000 crores (Ahmed 2022).

### 3.5.1.10 Market Player

Because of Facebook's tremendous popularity in the nation even large e-commerce businesses that have a subsidiary now perform f-commerce the latest version of online business with the aid of the social media platform. For example, MR. Fahim Mashroor CEO of Ajker deal stated that they are conducting business on Facebook which allows consumers especially ladies to purchase their product with convenience - it is helping them to expand the business significantly.

Also, there are many According to Women and e-commerce (WE) there are 4 lakh women entrepreneurs conducting business through various online platforms such as Facebook.

### 3.5.1.11 Supply Chain

In the workshop officials from courier companies like Sundarban, Paperfly, E-Courier and others stated that F-commerce-based entrepreneurs often lack a dedicated delivery facility. Some of them have their delivery team but the delivery facility is not sufficient to cover a

large area and volume. Considering this fact F-Commerce entrepreneur often rely on courier companies. Even some F-commerce businessmen take warehousing facilities from courier companies.

F-commerce retailers conduct business from shops or homes where they store products. After receiving an order on the Facebook business page, they package the product and send it to the customer through own logistic facilities or by the courier companies. However, those who take warehouse facilities from courier companies command the company to package the product and send it to the destination by the courier company app.

SME Micro and Cottage Industry

#### 3.5.1.12 Market Overview

Small and Medium Enterprises (SMEs) are regarded as one of driving forces behind the rapid economic growth of Bangladesh. Presently Bangladesh government has categorized different industries-based investment – they are cottage industry Micro Industry Small Industry and Medium Industry.

Table 11: Investment wise Industry Classification

Types of Industry		Investment (Taka)
Cottage Industry	Manufacturing	Below 1 million
Micro Industry	Manufacturing	1 to 7.5 million
	Service	Below 1 million
Small Industry	Manufacturing	7.5 to 150 million
	Service	1 to 20 million
Medium Industry	Manufacturing	150 to 500 million
	Service	20 to 300 million

Source: Bangladesh Bank SME and Special Programs Department.

https://www.bb.org.bd/smeportal/openpdf.php

Presently there are different cottages and SME businesses like pottery jute items cool mat Nakshi Katha small and medium electrical businesses agricultural products etc. are in an increasing trend.

At the workshop held at the headquarter of Bangladesh Post Office different e-commerce and e-courier company representatives stated that for the global expansion of e-Commerce and F-commerce many people in Bangladesh find it a profitable business platform and become

SME entrepreneurs generating new ideas. Presently different SMEs are selling food items fashion items like clothes electronics items toys plants etc. through different e-Commerce websites and Facebook pages. According to the workshop findings online business has brought a revolution for women's empowerment. Presently many women in Bangladesh stay home and started different SMEs like selling clothes jewelry and different products through Facebook and e-commerce platforms.

Though SMEs are one of the driving factors for Bangladesh economy the sector faces difficulties to flourish due to significant obstacles such as lack of fiscal incentives management problems access to finance policy inconsistency etc. SMEs currently make up only 20.25 percent of Bangladesh's GDP. Bangladesh has an 80 percent SME to total enterprise ratio compared to 97.60 percent in India 99 percent in China 99.70 percent in Japan and 60 percent in Pakistan (Khan 2020).

As per the Bangladesh Bank's (BB's) instructions 20 percent of all bank loans must be provided to the SMEs. Unfortunately, the entrepreneurs are not getting that amount of loans (Khan 2020).

### 3.5.1.13 Portion of SMEs in the GDP of Bangladesh

According to the data of Bangladesh Bureau of Statistics the GDP of Bangladesh in FY 2021-22 was Taka 39764622 million whereas manufacturing-based SMEs cottage and micro industries have contributed a total of Taka 4653412 million – 11.70% of the total GDP in the fiscal year. On average the manufacturing-based SMEs and cottage and micro industries have contributed approximately 10. 60% of the GDP from FY 2017-18 to FY 2021-22.

Table 12: GDP of Bangladesh in the last 5 years (Taka in million)

Financial Year	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Small Medium and Micro Industry	1738580	1980659	2086958	2489993	2942670
Cottage Industry	994902	1160137	1263346	1433023	1710742
Total	2733482	3140796	3350304	3923016	4653412
Total GDP	26392479	29514288	31704694	35301848	39764622

Source: Bangladesh Bureau of Statistics

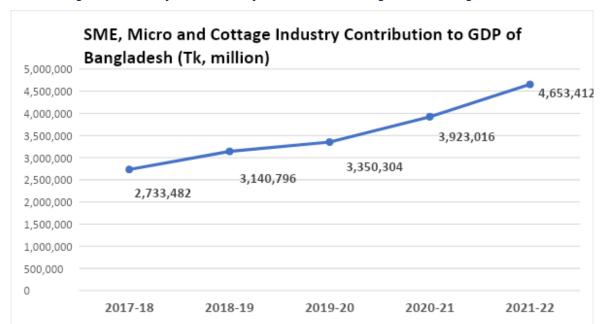


Figure 14: Trend of Contribution of SME Micro and Cottage sector in Bangladesh GDP

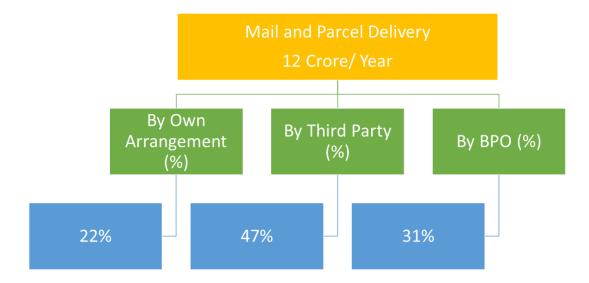
### 3.5.1.14 Scope of BPO at the SME sector

Several important aspects were identified from the workshop held at BPO with e-Commerce and e-courier companies. BPO has connectivity all over Bangladesh with post offices and transportation services like covered vans trains launches etc. Therefore, this government organization can already reach people all over the country which other courier companies do not have. It indicates with the development of existing mail and parcel service BPO can provide quality logistic support to different SMEs all over Bangladesh. In addition being a government entity BPO can provide modern quality postal services at a cheaper rate. This factor will be highly appreciated by SMEs all over the country and they will frequently use it to deliver their product to their customers.

At the workshop different courier company representatives said that frequently face difficulties to package and transport different products. For example, a courier company official shared their own experience that his company delivery man once broke a glass item product while delivering. The delivery man stated that the packaging of the product was not appropriate. The official said their company cannot diversify packaging facilities for various items.

In this regard for being a government entity BPO has the financial strength to make diversified packaging facility for different SME products. The government of Bangladesh has classified 115 SME sectors (mentioned in the appendix) from which BPO can choose different sectors and can design packaging accordingly. For example, they can peak sectors like Nakshi Katha handicraft of different sizes mobile phone & accessories glass items tea sanitary products etc. It will increase safety issue and SMEs will find it a suitable and cheap logistic system.

#### **Public Sector**



The Public Sector i.e., Government sector of Bangladesh are the largest institutes in Bangladesh. The have infrastructures all over Bangladesh. The government organizations have to transport or delivery different types of articles over the year. Official letters publications forms equipment etc., are frequently delivered around the country.

From the workshop organized with government offices it has been found that every year more than 20 Cr. of mail and parcels are delivered. Besides Agro-based governments are offices carry 20 Lac MT of Goods.

### Public Offices current practice:

- Bangladesh Agriculture Development Corporation and The Security Printing Corporation Ltd. are mostly dependent on BPO for only mail delivery and these entities do not use BPO for parcel delivery. Also, the Trading Corporation of Bangladesh and the Agricultural Development Corporation rely on third-party logistics. Letter and agro-products are mostly delivered articles by the Trading Corporation of Bangladesh and Bangladesh Agriculture Development Corporation and for agro-products, they use own arrangement or third parties.
- Education Board, Directorate of Primary Education, and NTRCA are highly dependent
  on their logistics for Mail and Parcel delivery. NCTB is fully dependent on third-party
  logistics. BPO has significant opportunities to deliver parcels (especially education
  materials) from these groups. However, it requires policy change and separate
  arrangements.
- DGFP, CMSD and BBS mostly depend on third-party logistics to deliver mail and parcel.
   A little amount of mail is delivered by BPO for BBS. Similarly, the Ministry of shipping, the port authorities and the Bangladesh government Press significantly deliver mail by BPO. They rely on third-party logistics and a little amount of mail and parcel is delivered by their logistics.

Table 13: Public Sector Mail and Parcel Handling

SI. No.	Organization	Type of Products	By Own Arrangement (%)	By Third Party (%)	By BPO (%)
	Trading Corporation of	Letter-5000 pc	0%	95%	5%
1	Bangladesh (TCB)	Agro Products- 1.1 lac MT	0%	100%	0%
	Bangladesh Agricultural	Letter-3,00,000 pc	0%	0%	100%
2	Development Corporation (BADC)	Agro Products- 20 lac MT	45%	55%	0%
3	The Security Printing Press	Letter 2000pc	0%	5%	95%
4	National Curriculum and Textbook Board (NCTB)	1,500,000	0%	100%	0%
5	Open University	501,700	10%	0%	90%
6	Education Board	100,400,000	90%	0%	10%
7	Directorate of Primary Education	2,276,970	90%	0%	10%
8	Non-Government Teachers Registration and Certification Authority (NTRCA)	270,000	100%	0%	0%
9	Directorate General of Family Planning (DGFP)	1,000,000	0%	100%	0%
10	Central Medical Stores Depot (CMSD)	3,000,000	0%	100%	0%
11	Bangladesh Bureau of Statistics (BBS)	750,000	30%	60%	10%
12	Ministry of Shipping	12,000	5%	5%	90%
13	Chattagramg Port Authority	30,000	5%	70%	25%
14	Bangladesh Land Port Authority	5,000	0%	0%	100%
15	BG Press	5,000	0%	90%	10%
16	Sonali Bank	Cheque, Cards, Documents	20%	60%	20%

### **Export and Import Sector**

Bangladesh being an open economy trades huge amount of goods each year. Every day Bangladesh imports and exports goods of 356 cr. Which required good amount of logistics support in side Bangladesh. This value is increasing at 30%-40% rate year on year. The trades are being handed from 12 land ports 3 seaports and 1 Airport.

#### **Educational Institutes**

In Bangladesh there are more than 42 thousand of education institutes which have 627193 number of teachers and 2,02,34,646 numbers of students. Each year this institutes are sending different types of mail and parcel over the country. Though Bangladesh Post office is working with the education boards and ministries but there are also lots of private institutes.

Each year this institutes are delivering admit cards certificates books publications convocation gowns and other stuffs. This could be a lucrative market for BPO to deliver the products from institutes to students' residence. Also these institutes are delivering goods from their one branch to another.

### NGO/iNGOs

NGOs/INGOs plays a vital role in the economy of Bangladesh. They are scattered all over Bangladesh. Some of them are Dhaka-based and some of them are remotely working in the rural areas.

Currently there 2505 NGOs/INGOs are working for the development of Bangladesh. These NGOs are working in different sectors and supplying different types of aid to the people. Sometimes these aids are financial and sometimes these aids are in kind.

1 million people are working in this industry. BRAC is the largest NGO of Bangladesh with over 3000 branch offices around the country.

This could be a potential sector for Bangladesh Post office.

### Fast Moving Consumer Goods (FMCG)

This is a multi-billion-dollar market providing millions of products across the country to 16 million people every day. This industry combinedly holds the largest distribution network in the country.

The industry is supplying three major categories of products Food & Beverage, Personal Care and Household Care. Most of them are packaged as non-perishable goods that are easy to transport.

### Cross Border E-commerce:

The global e-commerce market size is around \$4.9 trillion, and cross-border e-commerce is a significant part of this growth. Bangladesh can take advantage of this growth by expanding its e-commerce capabilities and targeting international customers.

Bangladesh post has already customs facility at the GPOs who send international parcels from Bangladesh to Other countries, also receive international articles.

By focusing more on this market, BPOs revenue could increase exponentially.

On behalf of Amazon, BPO will take the Shipping, customs and HS Code issues, Invoicing, Tax vat reimbursement.

### 3.6 FEASIBLE MARKETS FOR BANGLADESH POST OFFICE:

Markets	Type of Business/ Concern	Type of Products	Type of Logistics Required	How BPO Can serve
E-commerce	B2C, B2B	Parcel	Regular Mail and Parcel Delivery Logistics	With some operational upgradation BPO can easily serve
SME and Handicrafts	B2C, B2B	Parcel	Regular Mail and Parcel Delivery Logistics	these markets by using their can mail route infrastructure
F-commerce	B2C	Parcel	Regular Mail and Parcel Delivery Logistics	
Bank	B2C, B2B	Documents, Cheque Book etc.	Regular Mail and Parcel Delivery Logistics	
Educational Institutions	B2C	Certificates, Documents, Scripts, Question Paper, etc.	Regular Mail and Parcel Delivery Logistics	
NGO/INGO	B2B	Relief goods, Documents, Parcel	Dedicated Mail/Parcel Transport (Hub to Hub)	Right now, BPO's Logistic Delivery service is immensely

FMCG	B2B	Goods (Bulk)	Dedicated	limited, In the
Companies			Mail/Parcel	Future with
			Transport (Hub	proper
			to Hub)	Infrastructural
Export- Import	B2B	Goods (Bulk)	Dedicated Mail/Parcel Transport (Hub to Hub)	incursion and by Opening a new Brach BPO can Service these industries also.
Construction Raw material	В2В	Goods (Bulk)	Dedicated Mail/Parcel Transport (Hub to Hub)	

## 3.7 SWOT ANALYSIS

Bangladesh Post office (BPO), one of the oldest and largest government-owned organizations in Bangladesh, has been providing citizen-centric services since its inception. The organization derives its competitive advantage from its national footprint.

Even in the private/ open market competition, the organizations survive due to government support and an extensive network of infrastructures.

But BPO could not afford to ignore the emerging market threats from a wide range of global, regional, and local players.

The market has vast opportunities and threats that BPO has to grab and avoid. However, despite its strengths, it also has many weaknesses. Addressing these weaknesses is very important. Otherwise, the growing competition and existing/ new market players will override BPO's Market position. The following figure shows the brief of the SWOT analysis of the Bangladesh Postal Department:

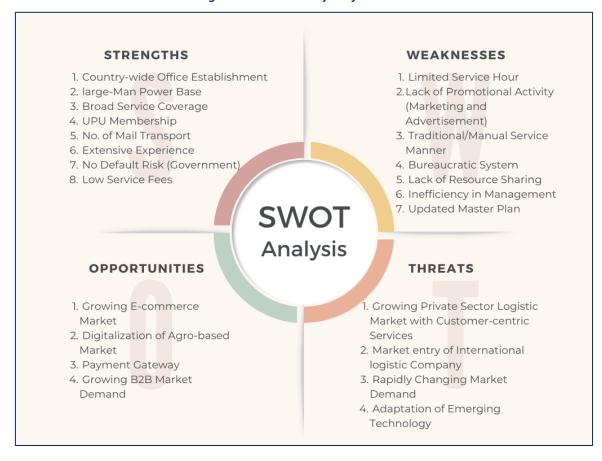


Figure 15: SWOT Analysis of the BPO.

Below we have discussed the Strengths, Weaknesses, Opportunities, and Threats in more detail:

Strengths

BPO being one of the oldest and government-owned organizations, has several strengths. Below Strengths of BPO are discussed.

### ✓ Country-wide Office establishment:

BPO has 9,886 offices all over Bangladesh.

- These offices are branched out from Divisions, Districts, Upazilas, and most of Bangladesh's unions. Among these offices, 1,111 can book any letter and parcels from all the offices (9,886) letter, and parcels can be delivered.
- One of the core strengths of BPO is that it has at least one office per 15 square km, and for 15,000 People, it has one official.

### ✓ A large number of Manpower:

BPO has a workforce of 39,888, including officers and staff; currently, each employee serves 3,760 customers.

### ✓ Service coverage:

According to BPO's Mandate, each citizen is under service coverage in Bangladesh. No citizens are left, even those living in remote areas like char. No private company in Bangladesh has such extensive service coverage.

#### ✓ UPU Member:

Bangladesh is a Universal Postal Union (UPU) member. Being a member of BPO's International postal wing is very compliant and has connectivity with all the UPU Members worldwide.

### ✓ Mail Transport:

Bangladesh post office has more than 500 mail motor vans nationwide. No other companies have such a number of self-owned vehicles in Bangladesh. On top of that, BPO has excess to the Bangladesh Railway's Mail train, through which they can transport mail and parcels at a meager cost.

### ✓ Extensive Experience:

BPO has more experience than any other logistics/ mail and parcel delivery company in Bangladesh. Due to this vast experience, they could manage to solve and also have solutions for any challenges they face.

### ✓ No Default Risk:

BPO has zero default risk being a government institute. Recently we have seen many private companies committing fraud/ escaping with public money. BPO has that advantage over any other company; due to this superiority, they also have the highest reliability among domestic and international customers.

#### ✓ Low Service Fees:

BPO is a highly subsidized service-providing institute in Bangladesh. Due to its mandate of non-excluding any citizen of Bangladesh, the service fees of BPO are low and, in some cases, below market prices.

#### Weaknesses

With strengths, BPO also has significant weaknesses, which are not letting BPO go to its optimum potentiality. Below the weaknesses are discussed in detail.

#### Limited-Service Hours:

- BPO's Office hours are limited compared to other private sector companies. Where all the mail and parcel delivery offices work beyond regular office hours, BPO booking and delivery offices operate from 9 to 5, sometimes even less.
- Thus, working-class people working 9 to 5 and trying to book parcels in the evening or night-time are not getting this facility.
- So, they are moving to private companies.

### Lack of Promotional Activity:

- Bangladesh Post Office has no marketing and promotional activities budget. Thus,
   they are not getting new customers even after introducing new services and activities.
- Ultimately, their new services become obsolete due to a lack of demand. One example is "speed post."

#### • Traditional and Manual Service Manner:

- Most of the services of Bangladesh postal are still running on a manual process, though they have recently introduced some automation in some offices, but that automation is not integrated and shareable.
- According to government policy ICT Budget should be at least 2% of the total budget, whereas BPO has only 0.31%.
- Automation still requires human effort, making things more complicated and lengthier.
- All the mail sorting centers are human-intensive workplaces; thus, things are taking more time, and delivering mail and parcels is taking time.

### • Bureaucratic System:

Being a government institution, the Bangladesh Post Office has to maintain a bureaucratic system. Where all the private companies can make the decision quickly, BPO takes time to approve them. Due to this system, BPO cannot take the fast-movers advantage.

### • Lack of Resource Sharing:

The resource-sharing tendency is significantly less among government institutes. Though it takes less effort to share resources among public institutes, BPO's resources are not adequately shared with others.

### Management Inefficiency:

- Bangladesh Post Office is one of the largest and oldest public institutes, but there are many scopes to increase efficiency in human resources management.
- According to consultant analysis, a large amount of money is spent on EDSOs and EDBOs every year, but not enough outputs are generated from their services.
- Again, in the booking and delivery offices, people are not cooperative with customers;
   sometimes, customers are dissatisfied and not returning for BPOs service again.

#### Master Plan:

During the feasibility study, the consultant could not find any master plan or perspective plan of BPO to understand their long-term vision/goal. For an institute like BPO, there should be a Master plan or specific target plan which will work as their sacred book.

### Opportunity

With the advent of urbanization and globalization, many opportunities are coming up for BPO. With enough preparedness and competence, BPO has to utilize these opportunities; otherwise, in the long run, BPO's remaining or current market position will be overthrown. Below the opportunities are discussed.

### • Growing E-commerce market:

- During the study, we understand that both global and national E-commerce market is expanding. Nationally the market is growing by around 20% per year, which opens up an excellent opportunity for BPO.
- Apart from that, the largest E-commerce company in Bangladesh Daraz is suffering from logistics facilities to maintain delivery all over Bangladesh.
- Whereas most e-commerce, F-commerce, and SMEs use third-party delivery Services.

 Thus, increase Digital-Commerce Industry is an excellent opportunity for Bangladesh Post Office.

### Digitalization of Agro-Market in Bangladesh:

- Though it is a part of the E-commerce Market, one of the fast-growing segments is the agro-market.
- People are moving from the traditional to the digital agro-market, where daily agroproducts are purchased from digital platforms.
- With BPO's newly built MPC and Chiller Chambers, the opportunity to work in this Market increases.

### Growing Digital Payment facility:

- With the change in consumer behavior, the landscape is becoming digital —moving towards contactless and cashless transactions. The country has made notable improvements in many development areas recording a 57 percent increase in financial inclusion between 2013 and 2018 and a 31.5 percent internet penetration as of the beginning of 2022. As a result, the country is experiencing tremendous growth in digital services as the current generation is tech-savvy and relies on online services for convenience.
- Within two years, MFS transactions grew more than 46 percent while the transaction values in internet banking have increased by 59 percent. At the same time, credit card payments have increased by 53 percent, and debit card transactions surpassed a whopping 175 percent.
- In the past two years, most extensive and medium-sized shops have quickly adapted to digital POS systems. Almost all e-commerce and social media sites have integrated digital payments through debit/credit cards, bank transfers, and MFS payments. In addition, payment gateway systems such as PSO and PSP have further eased the payment procedures for online merchants.
- Thus, BPO has an excellent opportunity to increase its consumer base by adopting the digital payment system.

### B2B Market Demand:

- Nationally and Globally, B-2-B Business is increasing yearly.
- o According to DHL, the B2B E-commerce Market will be increased by 70% by 2027.
- Some of the biggest retail brands and Businesses create a demand for B2B Services.
   Bangladesh post could avail of this opportunity.

#### Threats

With excellent opportunities and potentiality, there are many threats for the Bangladesh post office in the current and coming days.

### • Growing Private Sector Logistic Market with Customer-centric Services:

- In Bangladesh, there are more than 1,000 logistics/ mail and Parcel delivery companies.
- They are providing customer-centric service, which provides convenience to customers. BPO's services must be customer-friendly; otherwise, the private sector will capture customer segments.

### Market entry of International logistic Company:

- Bangladesh's logistics scene has been getting much attention from multinational players of late.
- Several multinational players have entered the market in the last two years. Hong Kong-based logistics startup Lalamove officially launched its operation this year.
   Lalamove is the second multinational logistics startup to enter Bangladesh in 2022.
- In addition, early this year, Indian logistics startup Delhivery launched in Bangladesh.
   Previously, another Indian logistics company Ecom Express invested in Bangladeshi logistics startup Paperly.
- Competition has already been growing in the vertical, with companies raising new investments. These new developments have intensified the competition and created new market realities.

### • Rapidly Changing Market Demand:

The demand for services is changing rapidly in Bangladesh. Like people prefer pickup services for delivering mail and parcels, but the Bangladesh Post office has no such facility. Thus, BPO has to change its service patterns and adopt demand-driven services.

### Adaptation of Emerging Technology:

Currently, technology is changing very quickly, and the private sector is adopting them quickly. If BPO does not adopt these technologies quickly, its services will be outdated.

#### 3.8 TOWS ANALYSIS

A TOWS analysis is a planning tool that examines a company's threats, opportunities, weaknesses, and strengths. Using this analysis, the consultant prepares strategies for BPO for future challenges and initiatives.

#### **TOWS Matrix Canvas**

	Internal Strength	Internal-Weakness
External Opportunities	1. Strengths-Opportunity Strategies	3. Strengths-Threats Strategies
External Threats	2. Weakness- Opportunities Strategies	4. Weakness- Threats Strategies

The above matrix helps you to plan the strategies. **The First Quadrant** will identify, which of the strengths can be used to maximize the opportunities we identified during the SWOT analysis.

**The Second Quadrant** tells you; how can you use the company's strengths to minimize the threats the consultant identified?

**The Third Quadrant** suggests you 'What action(s) can you take to minimize the company's weaknesses using the consultant's identified opportunities?

And finally, **The Fourth-One** tells you, how can you minimize the company's weaknesses to avoid the threats that consultant identified.

# TOWS Matrix Analysis for BPO

	<ul> <li>Internal Strength</li> <li>Country-wide Office         Establishment</li> <li>Large-Man Power Base</li> <li>Broad Service Coverage</li> <li>UPU Membership</li> <li>No. of Mail Transport</li> <li>Extensive Experience</li> <li>No Default Risk (Government)</li> <li>Low Service Fees</li> </ul>	<ul> <li>Internal-Weakness</li> <li>Limited-Service Hour</li> <li>Lack of Promotional Activity (Marketing and Advertisement)</li> <li>Traditional/Manual Service Manner</li> <li>Bureaucratic System</li> <li>Lack of Resource Sharing</li> <li>Inefficiency in Management</li> <li>Updated Master Plan</li> </ul>
<ul> <li>External Opportunities</li> <li>Growing E-commerce Market</li> <li>Digitalization of Agro-based Market</li> <li>Payment Gateway</li> <li>Growing B2B Market Demand</li> </ul>	<ul> <li>Deliver E-commerce and Agro-Based Products Country wide, using broad service coverage, existing manpower and vehicles.</li> <li>Using governmental strengths, incorporate a payment gateway, to include more customer, who prefer online payment.</li> <li>Using low fees rate capture, the B2B market, and transport mail in bulk.</li> </ul>	<ul> <li>Increase service hour, automate service processes, use technology for efficiency to deliver products faster for the e-commerce industry and agro-based perishable goods.</li> <li>Do more promotional activities so that more customers like e-commerce, agro-market and B2B market come to BPO</li> <li>Empower management level employees and prepare a strategic paper like masterplan, so that management level employee could take decision faster and provide faster services</li> </ul>
<ul> <li>External Threats</li> <li>Growing Private Sector         Logistic Market with         Customer-centric Services</li> <li>Market entry of International         Logistic Company</li> <li>Rapidly Changing Market         Demand</li> <li>Adaptation of Emerging         Technology</li> </ul>	Prepare MPCs/ AMPC to facilitate private and international market players to delivery products in remote areas with existing strengths.	<ul> <li>Making public-private partnerships to reduce inefficiency and open-up resource sharing opportunities to overcome threats from private and international companies.</li> <li>Adopt digitalization initiatives to adopt emerging technologies faster to cope up with rapidly changing market demand.</li> </ul>

### Future Strategies for Bangladesh Post office

- Deliver E-commerce and Agro-Based Products Country wide, using broad service coverage, existing manpower and vehicles.
- Using governmental strengths, incorporate a payment gateway, to include more customer, who prefer online payment.
- Using low fees rate capture, the B2B market, and transport mail in bulk.
- Prepare MPCs/ AMPC to facilitate private and international market players to delivery products in remote areas with existing strengths.
- Increase service hour, automate service processes, use technology for efficiency to deliver products faster for the e-commerce industry and agro-based perishable goods.
- Do more promotional activities so that more customers like e-commerce, agromarket and B2B market come to BPO.
- Empower management level employees and prepare a strategic paper like masterplan, so that management level employee could take decision faster and provide faster services.
- Making public-private partnerships to reduce inefficiency and open-up resource sharing opportunities to overcome threats from private and international companies.
- Adopt digitalization initiatives to adopt emerging technologies faster to cope up with rapidly changing market demand.

### 4. SECTION 4: TECHNICAL/TECHNOLOGICAL & ENGINEERING ANALYSIS

### 4.1 INTERNATIONAL POSTAL SERVICES & PRACTICES

### 4.1.1.1 US Postal Case Analysis:

### **Short background:**

The United States Postal Service is the only delivery service that delivers to every address in USA: 160 million homes businesses and Post Office Boxes. For being self-funded the Postal Service receives no tax dollars for its operating expenses.

With over 34000 retail locations and one of the most popular federal government websites the Postal Service has an annual operating revenue of more than \$71 billion and delivers 48 percent of the world's mail. US Postal has over 630000 employees.

### **Product/Service Line:**

To meet its universal service obligation USPS provides services to customers in all areas and communities across the country. The Postal Service serves rural areas communities and small towns and uses several transportation methods including air and land transportation to move mail through this vast network. (USPS Annual Report 2021, 2021).

#### First Class Mail:

This category includes domestic and international letters, cards and large envelopes (up to 4 pounds). Large envelopes delivery can weigh up to 13 ounces to domestic destinations and less than 16 ounces when mailed internationally. First-Class Mail is not accessible for inspection which contains bills or statements of account payments and other mailable contents (USPS Annual Report 2021, 2021).

### **Marketing Mail:**

Advertising and marketing materials are falling into this category. Marketing mails weighs less than 16 ounces and meet the requirement that their contents do not require first-class mail delivery. Typically marketing mail is used for direct marketing to numerous delivery addresses. Also marketing mail facilitates direct mail to the doorstep. With this option customers can prepare direct mails without their names and addresses for delivery to both business and residential clients along distinct carrier routes (USPS Annual Report 2021, 2021).

#### **Periodicals:**

The distribution of newspapers magazines and newsletters is categorized under the periodical section. Customers need USPS authorization to use this service (USPS Annual Report 2021, 2021).

### **Shipping and Packages:**

- First-Class Package Service:
- o Commercial: Shipper or package weight less than 1 pound
- Retail: Box thick envelopes or tubes 13 ounces or less

### Package Services:

- o Merchandise or Printed matter: library and media mail weighing up to 70 pounds.
- Parcel Select and Parcel Returns services: "last-mile" products and USPS Marketing
   Mail Parcels. It provides commercial customers with a facility for package shipment.
- Priority Mail: Offered both within the US and abroad with domestic day-specified (non-guaranteed) delivery.
- Priority Mail Express: It provides overnight to 2-day delivery with money-back guaranteed service. Besides it offers article tracking proof of delivery and basic insurance up to \$100. Most U.S. destinations can receive Priority Mail Express service which is available 365 days a year (USPS Annual Report 2021, 2021).

#### International Mail:

This category includes international mail and shipping services provided through individual customer contracts and agreements with foreign postal administrations. Priority Mail Express International and Priority Mail International compete in the cross-border e-commerce market in over 190 countries. Furthermore, for shipping to many countries First-Class Package International Service provides competitive solutions to both retail and commercial mailers. Global Express Guaranteed is a FedEx-branded service that operates in over 190 countries (USPS Annual Report 2021, 2021).

### Other Services:

This broad category includes PO Box services money orders and USPS Extra Services.

PO Box services provide customers with an additional method for private and convenient mail delivery.

 Money orders: Money order is a secure convenient and cost-effective method of remittance payment. Money orders can be purchased and cashed at most Post Offices or financial institutions for up to \$1000. O USPS Extra Services: USPS Extra Service provides several facilities such as security proof of delivery and loss recovery. Certified Mail Registered Mail Signature Confirmation Adult Signature and insurance up to \$5000 are available services under this category. Extra Services are available online at Post Offices and at self-service kiosks of the US Postal Service (USPS Annual Report 2021, 2021).

### The Most Revenue-Generating Service By USPS:

The most revenue generating service for USPS Shipping & Packages Followed by First-Class Mail and then Marketing Mail. The following table shows the revenue generated by different USPS services in the past three consecutive years (USPS Annual Report, 2021).

Table 14: Revenue Generated by USPS Services

Product and Services	FY 2021	FY 2020	FY 2019
First-Class Mail	\$23281	\$23781	\$24431
Marketing Mail	\$14590	\$13909	\$16359
Shipping and Packages	\$32013	\$28529	\$22783
International Mail	\$2223	\$2408	\$2474
Periodicals	\$942	\$1024	\$1194
Other Services Revenue	\$3960	\$3472	\$3895
<b>Totals Operating Revenue</b>	\$77009	\$73123	\$71136

(USPS Annual Report, 2021)

### **Business Operation Areas:**

The business operation area is divided into the following categories;

- Retail and Delivery Operations Dedicated to efficiently accepting and delivering mail and packages with a high level of customer satisfaction.
- Logistic and Processing Operations Focused on efficiently processing and moving mail and packages to delivery units (USPS, 2021).



Figure 16: Retail and Delivery Operation Areas and Districts

(USPS, 2021)

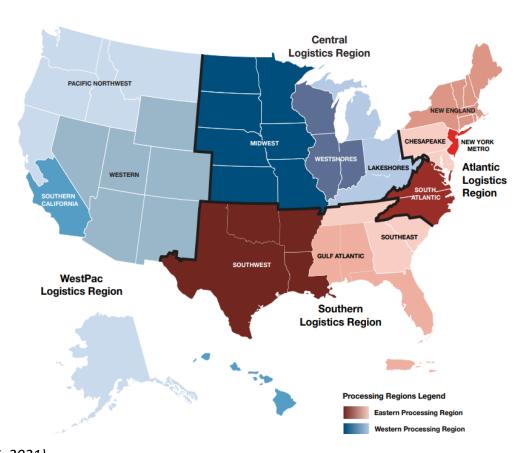


Figure 17: Logistic and Processing Operations and Regions

(USPS, 2021)

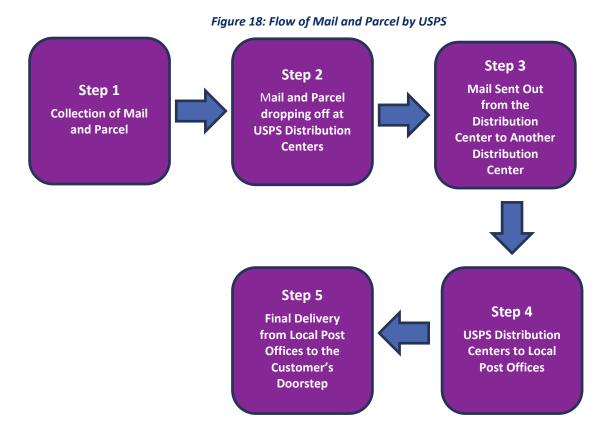
### **Target Customer:**

- Individual citizens
- E-commerce companies.
- Merchants (B2B B2C and others)
- Corporate customers like offices educational institutions hospitals etc. (Digital Commerce 360,, 2022).

### **Value Chain Analysis of USPS:**

USPS made mail and parcel delivery to more than 163 million cities rural PO Box and highway delivery points. Presently USPS has 31000 Postal Service-managed Post Offices stations and branches plus approximately 3000 additional Contract Postal Units Community Post Offices and Village Post Offices A large network of commercial outlets sells postal stamps and provide postal to the customers. Customers can also buy stamps and acquire services through the USPS website (USPS, 2021).

The mail and parcel journey follows the following steps in the figure (US Global Mail, N/A)



**Step 1- Collection of Mail and Parcel:** 

Mails and parcels are collected in three ways:

- Customers drop mail or parcel at a local post office. Afterward a postal employee receives the mails or parcels to the logistic system by using a unique bar code setup.
- Customers drop mails or parcels at mailbox/ collection box. Then postal employees collect them.
- Customers drop mail or parcel to the affiliated partner organization. Postal employees collect from partner organizations (US Global Mail, N/A).

### **Step 2 - Mail and Parcel dropping off at USPS Distribution Centers:**

After collection the postal employees drop mail and parcels to the USPS distribution centers. Mails and parcels are sorted based on different categories. For example, first-class mail will be separated from other types of mail. The mail will then be organized and further divided into distinct states and ZIP Codes before being delivered from the USPS distribution center. The sorting process is automated under the supervision of USPS employees.

There are several types of distribution centers. Like,

- Processing and Distribution Centers (P&DC) P&DCs process and distribute mail from regional Post Offices and collection boxes.
- Customer Service Facilities (CSF) Customer Service Facilities (CSFs) are Post Offices stations and branches that contain processing equipment. Customer Service Mail Processing Centers are another name for Customer Service Mail Processing Centers (CSMPCs)
- NDCs (Network Distribution Centers) NDCs consolidate mail processing increase operational efficiency reduce costs and maintain service while expanding surface transportation reach. There are currently 22 NDCs in the United States (US Global Mail N/A).
- Annexes Annexes provide additional processing and distribution capacity to larger facilities.
- Surface Transfer Centers (STC) STCs are specialized surface transportation networks that distribute dispatch consolidate and transfer First-Class Mail Priority Mail and Periodicals.
- o Air Mail Centers (AMC) AMCs process and distribute inbound and outbound domestically flown mail for a specific geographic area.
- o Remote Encoding Centers (REC) RECs process video images of letter mail to generate an envelope barcode.
- International Service Centers (ISC) ISCs process and distribute international mail both inbound and outbound (United States Postal Service, 2015).
- In the distribution centers automated sorting machines use barcodes to sort mail and parcels. This not only allows for faster sorting and streamlining but also improves the overall accuracy of each USPS shipment (US Global Mail N/A).

\*Unique Bar Codes are Attached to Envelopes and Boxes: Sorting is conducted with a unique barcode system. Each mail and parcel have a unique barcode attached to it. All of these unique barcodes are grouped and attached to pieces of mail on their way to the next distribution center. All these pieces of mail are bundled into large pallets and groups and then the entire group is scanned with a single barcode that updates all the rest associated with it.

0 9 5 5 6 0 0 1 1 4 0 7 5 3 100002379 / 43561670

Figure 19: barcode used by USPS attached to mail and parcel

It's much more efficient accurate and reliable than breaking down each pallet separating each piece of mail scanning separately and then rinsing and repeating the process each time a new USPS distribution center receives the pallet (US Global Mail, N/A).

### **Step 3 - Mail Sent Out from the Distribution Center to Another Distribution Center:**

The next step in the chain is to combine the mail and parcel with other pieces sent to the next USPS distribution center. The inter distribution center mail and parcel transportation is conducted by various modes of transport. For example, some of that mail will be loaded onto USPS trucks and transported long distances. Other components will be loaded onto the aircraft for faster delivery. Others will be in smaller USPS vehicles for local delivery.

A piece of mail may need to visit two or more distribution centers occasionally it reaches a single sorting center. However, no matter what mail will inevitably find itself in the nearest regional Network Distribution Center (NDC). The USPS logistical system (particularly the automated software solutions) is frequently looking for the shortest and most direct route for that piece of mail to travel between addresses of the distribution centers (US Global Mail N/A).

### Step 4 - USPS Distribution Centers to Local Post Offices:

After reaching the final destination the USPS distribution center will load mails and parcels onto smaller trucks and deliver them to the neighborhood post office. For some rural areas

some post offices serve as "regional hubs" delivering mail to smaller post offices before it is handled by mail carriers and delivered house by house.

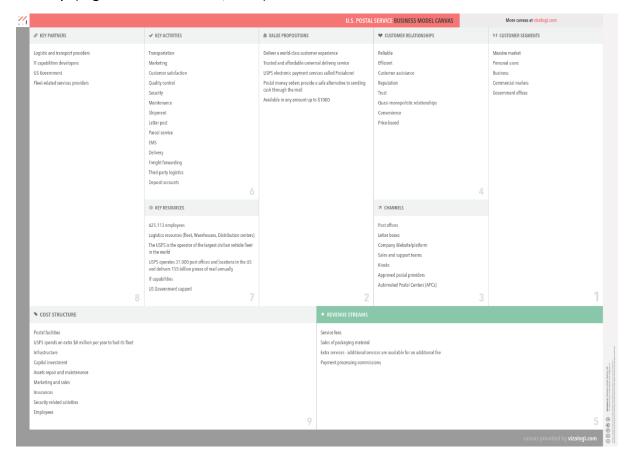
### **Step 5 - Final Delivery from Local Post Offices to the Customer's Doorstep:**

From the local post office, the mail carrier will deliver mail and parcels to the customer's doorstep. Some mail will be placed in PO boxes instead of doorstep delivery especially for rural customers who do not receive physical home mail delivery.

### **Uniqueness of their business:**

USPS offers a range of services to e-commerce platform providers merchants and B2B sellers like discount rates flexibility in volume delivery free packaging pickup Saturday delivery etc. USPS offers next-day delivery service with discounted delivery rates aimed primarily at marketplace operators other shipping companies and small businesses. (Digital Commerce 360,, 2022).

USPS collaborates with foreign e-commerce platforms to enhance business opportunities in a wider range. For example, China's Alibaba Group's logistic arm Cainiao signed a Memorandum of Understanding with USPS to improve shipping solutions for online sellers and consumers in China the USA and Latin America. This agreement enables merchants to conduct business beyond their country and also customers can purchase goods from another country. (Digital Commerce 360, 2015).



### 4.1.1.2 Indian Postal Case Analysis

### **Short Background:**

The Department of Posts operates the largest postal network in the world consisting of 156434 Post Offices. The vast postal network of India originally began in 1727 when the first post office was established in Kolkata. General Post Offices (GPOs) were subsequently established in the then-three Presidency towns of Kolkata in 1774 Chennai in 1786 and Mumbai in 1793. To provide consistency across postal operations the Indian Post Office Act of 1837 was passed. The more extensive Indian Post Office Act of 1854 which laid the groundwork for the nation's current postal system came after this Act. In the same year the Railway Mail Service and the Sea Mail Service from India to Great Britain and China was started operation. The Indian Post Office Act of 1898 strengthened the nation's mail service even more (India Post, 2022).



Figure 20: Statistics of India Post

### Mail & Parcel Services India Post:

Generally, there are four types of mail and parcel carried by India post.

- Registered Post: Registered articles provide secured delivery of the article to the customer. Registered articles have a registration number. For the registered article a record is kept of all the stages of article passes through. In addition, the registered article is delivered with special precautions (Speed Posts, 2022).
- o **Unregistered Post:** There is no proof of sending articles by unregistered post.
- Insured Post: Insured posts cover all risks associated with postal transmission. All charges
  on insured articles such as postage registration and insurance fees are paid in advance.
  Postage stamps affixed to an insured article must be separated so that they do not serve
  to conceal damage to the letter or parcel's cover (India Post, 2022)

• Value Payable Article: In the process of Value Payable Articles (VP Articles) the receiver of the article pays while receiving the article. The post office at the sender's point books it as a registered VP article with a VP money order payable by the receiver. The VP article is forwarded to the receiver's post office along with the VP money order. Lastly the receiver receives the article after paying according to the money order (India Post, 2022).

**Speed Post:** Speed Post India's domestic express market leader offers express and time-bound delivery of letters and parcels weighing up to 35 kg. Speed post can be insured up to Rs. 1 Lack. The main feature of the Speed post is faster delivery of mail and parcel. Speed post offers a volume-based discount and Cash-On-Delivery facilities which are beneficial for e-commerce businesses (India Post, 2022).

**Business Parcel:** Business parcel is facilitating the e-commerce sector of India. Some features of business posts are mentioned below;

- Weight up to 35 kilograms
- Door-step pickup and delivery
- Attractive volume discount (India Post, 2022).

### The Most Revenue-Generating Area:

Speed Post is the most revenue-generating area for India Post. Between FY2018 to FY 2020 Speed post is accounting for 54% to 63% of revenue from e-commerce and other sectors.

The vast growth in the e-commerce sector has brought huge revenue for India Post. India Post earned Rs. 9530.9 crores especially from delivering e-commerce articles as well as other traditional postal articles (BusinessToday.In, 2021).

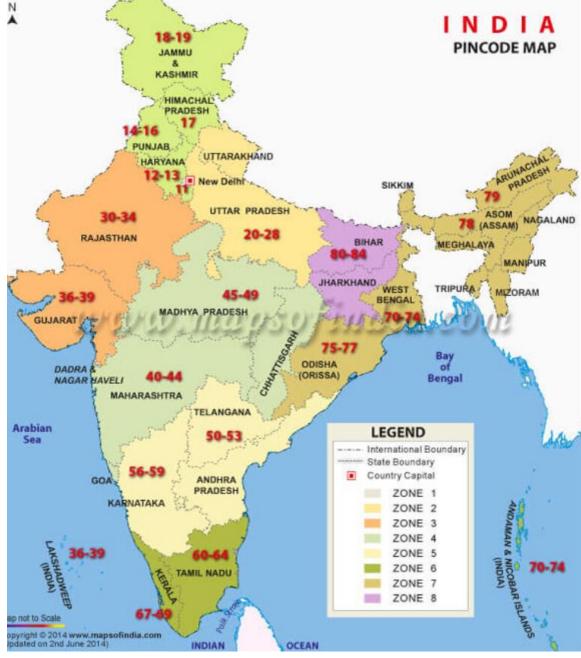


Figure 21: Coverage of India Post Based on Map

Source: (FAQTLY, 2022).

Area Coverage - India Post: India post has divided the country into 9 postal zones – among them 8 are geographic zones and the rest is for the Indian Army. The postal articles follow a 6-digit code to travel to the final destination (for example 110001). Based on the postal zones and the first two digits of the PIN code the coverage of India post is exhibited in the following map. (MapsofIndia, 2022).

### Mail Journey - India Post:

Based on different reports documentaries and Indian postal officials statement in different website the consultants have formed the following flow of mail/article journey of India Post from their understanding.

Postman receives the People drops article in From regional post article and brings it to the mailbox/ Post office to the head post the regional post office office office Sorting at the Sorting Sorting at the Sorting Sending article to the Center/ RMS/ AMPC/ Center/ RMS/ AMPC/ receiver's regional Parcel Hub of the Parcel Hub of the post office/ doorstep receiver's end sender's end

Figure 22: Journey of Article

### **Sorting Centers of India:**

After conducting extensive research, the consultants have figured out some sorting centers of India. They are,

- RMS (Railway Mail Service) Traditionally from the very beginning the Railway Mail Service.
- Automated Mail Processing Centers (AMPCs) which are modern mail and parcel sorting centers with technological inclusion.
- Parcel Hubs Parcel are dedicatedly built for sorting and distribution of parcels. It has
  facilitated the e-commerce business and also enabled the faster delivery of parcel.
  (Elaboration of parcel hubs of India will be described in the later part)
- Semi-Automated Parcel Hubs Different types of machinery are used at Semi-Automated
   Parcel hubs for faster sorting.

### **Sorting at RMS:**

There are several steps of sorting at Indian RMS. The steps are explained with picture at the following diagram.

Figure 23: Sorting Steps in the Indian RMS



Step 1: The mail agent receives the bags and entries them by using the computer.



# Step 2: Bag opening and put mail in a box

After receiving a bag, a sorting assistant opens the bag and puts articles in a box. He provides the



# Step 3: Scanning mails and sends it to the sorter

Afterward, another postal officer brings the box closer, scans each article in the box, and put it in



### **Step 4: Mail Sorting**

After scanning the articles, the box is sent to the mail sorters who sorts articles manually based on district or channel.



## Step 5: Scanning Mails before bagging

After Sorting mail manually, the mail sorter sends the mail to another postal worker for bagging. The postal worker further scans articles and put them in a particular bag and then



### Step 6: Scanning tags on bag

Finally mail bags are allocated near to the mail agent. The mail agent then scans the tags onto it and release it for delivery to the next destination.

**Automated Mail Processing centers (AMPC) and Sorting:** 

To speed up the processing of mail the Department of Posts has established Automated Mail Processing Centers (AMPCs) in Delhi and Kolkata. These centers are decorated with a letter.

Letter Sorting Machine (LSM) and a Mixed Mail Sorter (MMS) are two mostly used machines at Indian AMPC. Each have a sorting capacity of 35000 and 18000 items per hour respectively. Increased sorting capacity and mechanized processing facilities enabled faster sorting and faster delivery of mail to these cities and other destinations (India Post, 2021-22). Around 4 Lack to 5 Lack mails are sorted daily in the Delhi AMPC (India Post (AMPC) Corporate Film, 2016).

The Delhi AMPC complex comprises four segments

- 1. The Machine Hall has two high-tech mail processing assembly line machines
- 2. BNPL hub (Book Now Pay Later) that processes speed post consignments of bulk customers
- 3. The Manual Ordinary Mail Processing Area.
- 4. The Transit Mail Office receives and dispatches mail (India Post (AMPC) Corporate Film, 2016).

The sorting steps inside Delhi AMPC is presented by the following diagram

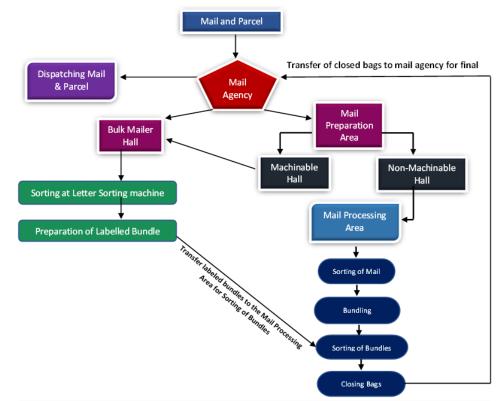


Figure 24: Steps of Article Sorting at Delhi AMPC

Source: (India Post (AMPC) Corporate Film, 2016).

Figure 25: Some Images of Delhi AMPC (Inside) (India Post (AMPC) Corporate Film, 2016)







### **Sorting at Parcel Hubs:**



Step 1: Receipt of Parcel Bag in roller container



Step 2: Scanning of Bags at the time or Receipt



Step 3: Pre sort stagging in the roller container



Step 4:
Bag opening & receipt of parcel
(with laser scanner) at bag
opening table



Step 5:
Preliminary sorting of parcel in package trolleys & segregation of large parcels



Step 6: Secondary/ Detailed sorting parcels in bag stands/ sorting cage



Step 7: Closing of Parcel bags & printing of manifest



Step 8: Scanning of bags while dispatching



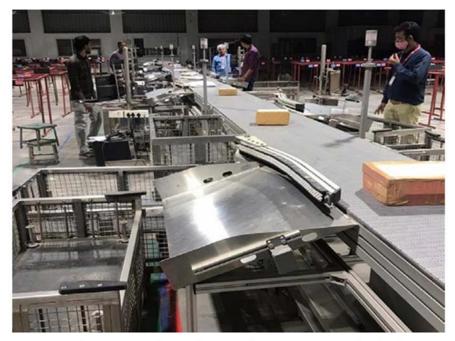
Step 9: Dispatching parcels to the Vehicle

Diagram 1: Sorting Process in a sorting center (khabar, 2020)

### **Semi-Automated Sorting Hubs:**

At eight locations in India semi-automated sorting systems are presently operational with dynamic weighing systems and conveyor belts. By 2024 the postal department wants to have

22 semi-automated parcel processing systems. With a processing capacity of 2500 parcels per hour these semi-automated centers will be specially created to handle large amounts of ecommerce deliveries (India Post, 2021).



Semi-Automated Parcel Processing Centre at Hyderabad

### India Post's Initiative to Develop the Postal Department: (India Post, 2022):

The Department of Posts of India has experienced a new window of opportunity in the Courier Express and Parcel (CEP) sector for the exponential growth of the e-commerce market.

In addition, India Post has collaborated with e-commerce companies such as Amazon, Paytm and Myntra that are aiming to penetrate deeper into the country to deliver goods to the two and three Tier cities. These e-commerce companies depend on the network and reach of India Post to send goods to customers in the remotest corners of the country. This ensures a win-win situation for both parties as they complement each other instead of competing (India Post (AMPC) Corporate Film, 2016).

In light of this the Department of Post of India has planned a dedicated "Parcel Directorate" in 2018 as a business unit to increase the parcel handling capacity from 10.98 crores per annum (as on December 31 2021) to 17.1 crores per annum. In addition, the Department of Posts has set a target to attain parcel traffic from 3.9 to 6.8 Crore per annum. The initiatives include

- Upgrading Parcel Hubs (PH)
- Developing a dedicated network of road transport routes
- Setting up Nodal Delivery Centers (NDC) for automated delivery of parcels
- Creating a dedicated parcel network to ensure timely and secure transmission of parcels and expedited delivery of parcels throughout the nation.

### Parcel Hub:

A revised network for handling parcels has been operationalized with 190 Parcel Hubs. The parcel hubs are distributed into the cities located in three tires — Tire-I Tire-II and Tire-III. A tire is nothing but a geographical distribution of cities. Presently the Department of Post has initiated to upgrade the capacity of the parcel hub to facilitate more parcel sorting.

On the other hand, Integrated parcel processing centers have been developed in 12 cities comprising Delhi Mumbai Bhubaneswar Vijayawada Jaipur Ahmedabad Kolkata Lucknow Ludhiana Coimbatore Guwahati and Hyderabad.

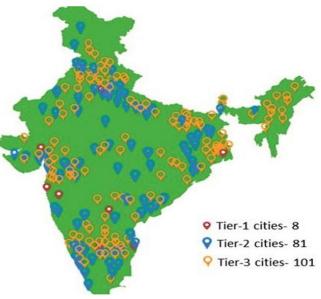


Image 1: Distribution of Parcel Hubs in the three tires.

### **Nodal Delivery Centres (NDC):**

200 locations have been chosen for the construction of Nodal Delivery Centres (NDCs) which will improve the network for delivering parcels by using two- and four-wheeled vehicles. These are spread among 145 cities nationwide to enhance the efficiency of doorstep delivery on the day that parcels are received at the destination post office. The breakdown of cities and towns for the establishment of NDCs is as follows;

Table: Distribution of NDCs among the Tire- I II and III cities (India Post, 2022)

Types of City	Number of NDCs
Tire-I	52
Tire-II	82
Tire-III	66
Total	200

### **Road Transport Network (RTN):**

Under the Road Transport Network (RTN) the department of post intends to establish a larger postal road transportation network linking 400 cities throughout India. This dedicated postal road transport network will enable commercial activity the connectivity to all states.

The Postal Road Transport Network has 68 national routes with a daily run of more than 45000 Km. 348 state-level routes will be added to these in a hub and spoke pattern. The majority of the routes will operate in an outsourced public-private partnership model. Presently 48 national routes have been operationalized through December 31 2021 out of the 68 planned national routes (India Post, 2022).



Image 2: Road Transport Network of the Postal Department of

### **Target customer:**

- Individual Customers
- Institutional Customers (Banks Corporate offices Schools Colleges etc.)
- E-Commerce Companies (Amazon etc.)

### **Uniqueness of India Post:**

### **Real Time Delivery Upgrade:**

The Department of Posts has started delivering Speed Post Registered Letters/Parcels Money Order and Cash on Delivery (COD) parcels through a mobile-based delivery application known as the Postman Mobile Application (PMA). PMA has been designed and developed by the Centre for Excellence in Postal Technology (CEPT) Mysuru. The moto PMA is to meet the demands of customers to update the delivery status of postal articles on a real-time basis. To increase the use of the Postman Mobile Application 20000 extra mobile phones have been given to postmen in urban areas. Postmen are now given more than 70000 cell phones in urban regions and more than 1 lakh in rural areas for real-time delivery updates.

### **Electronic Clearance of Letter Boxes:**

The Department of Post has introduced electronic clearance of letter boxes using internally created "Nanyatha" software to have a digital record of the clearing of street letter boxes.

Electronic visibility in letter box clearance has been made possible via e-Clearance with a mechanism to track letter box clearance. Additionally Nanyatha activates the system that keeps track of letterbox clearance. By signing on to the website tool (http://appost.in/nanyatha/) Nanyatha also enables the general public to learn the status of the letter box clearance in a certain location. 56561 letterboxes nationwide had been converted to electronic clearance as of December 2021.



Image 3: Electronic Clearance of Letter Box (India Post, 2021)

### Online Working of Railway mail Service (RMS) Offices:

All of the Department's Railway Mail Service (RMS) offices have deployed Core System Integration (CSI) technologies which allow for online operation. The adoption of CSI technologies has made it possible for data created in RMS offices to be exchanged in real-time with the main server speeding up the entire mail transmission and processing process. The project has increased postal article delivery to customers. Online activities are being carried out by 241 Speed Post-processing hubs 318 Computerized Registration Centers (CRCs) 318 Unregistered Mail offices 152 Business Processing Centers (BPCs) 34 BNPL Centers and 280 Transit Mail Offices (TMOs) using CSI systems.

### Findings from India Post Case to Facilitate BPO:

- 1. India Post uses tracking codes to track mail and parcel. Also the tracking codes are vastly used in the sorting centers faster sorting.
- 2. India Post has sorting centers dedicated for parcel. As a consequence it has facilitated the e-commerce business of the country.
- 3. India Post has collaboration with foreign e-commerce companies (example- Amazon). It helps India Post to generate handsome revenue and also bring foreign investment

- to the country. Because there is a significant demand of the product from foreign ecommerce companies in India.
- 4. For utilizing different modern types of machinery at AMPC Semi-Automated Sorting Hubs and other sorting centers India Post can facilitate.

### **Challenges faced to Conduct Study:**

- 1. Insufficient information in the secondary sources about the eco-system of India Post
- 2. Insufficient Information about different machineries used at Indian AMPCs
- 3. Not enough information about the volume consumption of different Postal Articles.

### 4.1.1.3 Pos Malaysia

### Overview:

Pos Malaysia Berhad (Pos Malaysia) is Malaysia's national postal service provider and the sole licensee of universal postal services. Over 200 years the company has expanded beyond the traditional delivery of mail and parcels to include retail logistics and aviation products and services. Pos Malaysia has the most extensive last-mile reach in the country delivering to over ten million addresses across the country. It also has over 3500 touchpoints spread across the country giving Malaysians the most comprehensive retail network. Presently Pos Malaysia is the leading e-commerce logistics provider in the country (Pos Malaysia, 2022).

# 92% Next Day Delivery 15,000+ Employees 3,800+ Retail Points (with 662 Post Offices) 390,000+ Daily Parcel Delivery 10 million+ Address Served 100% Malaysia Coverage

Image: Pos Malaysia Website (Pos Malaysia - Impact)

### **Businesses of Malaysia Post:**

Malaysia Post has Several Business Segments.

- Postal Segment
- Aviation Segment
- Logistic Segment
- Other Segments

### **Postal Segment:**

The Postal Segment consisting of the Courier and Mail businesses is the main revenue generator for POS Malaysia. In this segment Pos Malaysia offers to send and receive parcels

insurance services bill payments etc (Pos Malaysia, 2022). In FY 2021-2022 the postal segment contributed 69% of the total revenue (Pos Malaysia, Annual Report, 2021).

### **Aviation Segment:**

The aviation segment of Pos Malaysia is recognized as Pos Aviation. This segment offers a variety of services like ground handling (helping aviation companies to guide passengers before entering the plane) Cargo Handling (Cargo facilities through aircraft) Inflight Catering Aircraft Maintenance and Engineering This segment is also serving the e-commerce sector by providing services like a storage facility labeling of goods pick pack & ship shelves and bulky facilities etc (Pos Aviation, 2022).

### **Logistic Segment:**

Pos Logistics is the official name of the logistics segment of Pos Malaysia. Pos Malaysia offers supply chain solutions to their client by providing different kinds of vehicles. For example oil trucks cargo vans etc. Also they provide project management consultancy support with logistic facilities. For example project management and logistic supply to the oil and gas sector. This logistic service has brought a revolution e-commerce sector by providing warehousing and transporting facilities (Pos Logistics, 2022).

### Other Segments:

Apart from courier aviation and logistic services Pos Malaysia offers different services like Datapos Pos Digicert and Pos ArRahnu (Islamic Pawnbroking Business).

### **Number of Transports:**

Presently Pos Malaysia has the following number of vehicles (Pos Malaysia Annual Report,, 2021)

- o Prime Movers (Trucks) 349
- Vans 2341
- Motorcycles 6332
- Freighter Aircraft 3
- Lorries 349
- Bulk Carrier Vessels (Ships) 2

### Parcel Journey through Modernization Postal System of Pos Malaysia:

Pos Malaysia has 3800+ retail points with 662 Post Offices. Pos Malaysia deliveres service with it's sister concern logistic company "Pusat Pos Laju". Presently there are 102 Pos Lajus all over Malaysia. To better client experience Pos Malaysia redesigned its website and enhanced its mobile application. Between January and July 2020 there were over 1.3 million downloads of the mobile app and 200000 users made app-related transactions each month on average

(TM ONE, 2021). The mail and parcel journey by Pos Malaysia is described under the following three steps.

### **Step 1 – Receiving Parcel from Customer:**

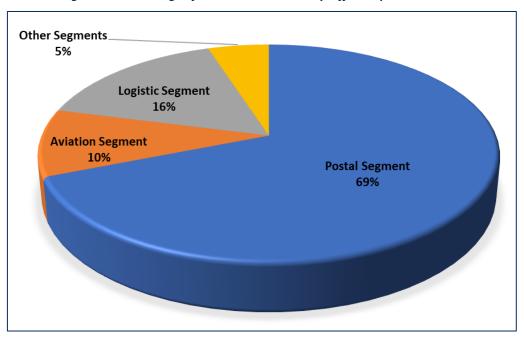


Figure 26: Percentage of revenue Generation by different postal services

Customers can choose a pick-up time and location using the app and courier personnel from Pos Laju will pick up parcels at their doorsteps (TM ONE, 2021). Customers can also drop off packages at the post offices and stores of Pos Malaysia.

### **Step 2 - Parcel Sorting at the Integrated Parcel Centre (IPC):**

Pos Malaysia scans and locks parcels into the system before sending them to the Integrated Parcel Centre (IPC). Pos Malaysia currently operates two IPCs one in Shah Alam and another in Klia. The IPC in Shah Alam is the main processing and exchange center for all items in peninsular Malaysia. On the other hand IPC at Klia focuses on parcels to and from East Malaysia (Saito UC, 2022).

At IPC the packages are sorted by fully automated sorters depending on size and weight. In IPC at Sha Alam there are three units of small sorters for items under 2 kilograms and a large sorter for 2 Kilograms to 40 kilograms. IPCs can sort 330000 items a day. The small sorter can sort up to 10000 parcels per hour whereas the large sorters can sort 5000 per hour. Every parcel has a unique consignment node number. Once a parcel has been placed in a slot on the belt the sorting process can begin. The consignment node is scanned by a volumetric scanner. This will lock its data into the system assigning the parcel's travel route on the

system's conveyor belt exit shoots fleet and manpower assignment. This whole process is done automatically. The process and movement of the parcel can be tracked to its intended destination. It helps customers to track and trace their parcels via Pos Malaysia's website. These various stations represent a region and parcels are dropped into their respective shoots according to the information that has been logged into the system (Saito UC, 2022).

### **Step 3 - Parcel Sorting at Pusat Pos Laju before Delivering to Customer Doorstep:**

After being packed the parcels are sent to the designated Pusat Pos Laju for further sorting. Depending on the density of an area different Pos Lajus receive different volumes of parcels per day. For example Pos Laju in Shah Allam receives a daily volume of ten thousand parcels whereas Pos Laju in Kanga may only have two thousand parcels daily. Pos Laju consists of a semi-automated sorting system with the combination of a conveyor belt with manual sorting. Courier personnel will pick out items assigned to their route and then load them up into their respective vehicles for delivery (Saito UC, 2022).

### **Public-Private Partnership:**

Pos Malaysia formed strategic partnerships to diversify its revenue stream to stay competitive in the sector. The group's partnership with Allianz Life Insurance intends to increase Malaysians' access to life insurance. They have jointly introduced PostLife Care a low-cost life insurance plan with a daily premium as low as RM 14.

Pos Malaysia also formed a partnership with CollectCo a leading parcel delivery and collection network. Through this collaboration Pos Malaysia secured an additional 1255 partner outlets. The group was able to expand its customer reach while achieving financial sustainability through agent and partner—operated outlets.

Key Findings from the international case studies:

### **USPS**

- Highway delivery points
- •The **USPS logistical system** (A automated software solutions)
- •Discount rates for Ecommerce and Free Packaging
- •Use optical character recognition (OCR) technology (98% accuracy to read Hand Writing)

### **INDIA Post**

- •Speed Post the most revenue-generating area for India Post (54% to 63%).
- Automated Mail Processing Centers (AMPCs) in Delhi and Kolkata
- •Letter Sorting Machine (LSM) and a Mixed Mail Sorter (MMS) are two mostly used machines at Indian AMPC

### Pos Malaysia

- partnership with CollectCo, leading parcel delivery and collection network
- By this partnership Pos Malaysia increase his Network.
- •Use 3 Freighter Aircraft

### **US Postal:**

- USPS made mail and parcel delivery to more than 163 million cities rural PO Box and **highway delivery points**.
- A large network of **commercial outlets sells** postal stamps and provide postal to the customers. Customers can also buy stamps and acquire services through **the USPS website**.
- The **USPS logistical system** (A automated software solutions) is frequently looking for the shortest and most direct route for that piece of mail to travel between addresses of the distribution centers.
- USPS offers a range of services to **e-commerce platform providers merchants** and B2B sellers like discount rates flexibility in volume delivery free packaging pickup Saturday delivery etc. USPS offers next-day delivery service with discounted delivery rates aimed primarily at marketplace operators other shipping companies and small businesses. (Digital Commerce 360,, 2022).
- USPS collaborates with **foreign e-commerce platforms to enhance business opportunities in a wider range.** For example, China's Alibaba Group's logistic arm Cainiao signed a Memorandum of Understanding with USPS to improve shipping solutions for online sellers and consumers in China the USA and Latin America. This agreement enables merchants to conduct business beyond their country and also customers can purchase goods from another country. (Digital Commerce 360, 2015).

### India:

- **Speed Post** India's domestic express market leader offers express and time-bound delivery of letters and parcels weighing up to 35 kg. Speed post can be insured up to Rs. 1 Lack. The main feature of the Speed post is faster delivery of mail and parcel. Speed post offers a volume-based discount and Cash-On-Delivery facilities which are beneficial for e-commerce businesses (India Post, 2022)
- Speed Post is the most revenue-generating area for India Post. Between FY2018 to FY 2020 Speed post is accounting for 54% to 63% of revenue from ecommerce and other sectors.
- The vast growth in the e-commerce sector has brought huge revenue for India Post. India Post earned Rs. 9,530.9 crores especially from delivering e-commerce articles as well as other traditional postal articles (BusinessToday.In, 2021).
- To speed up the processing of mail the Department of Posts has established Automated Mail Processing Centers (AMPCs) in Delhi and Kolkata.
- AMPC- Letter Sorting Machine (LSM) and a Mixed Mail Sorter (MMS) are two
  mostly used machines at Indian AMPC.
- Target Customer:
  - o Individual Customers
  - o Institutional Customers (Banks Corporate offices Schools Colleges etc.)
  - o E-Commerce Companies (Amazon etc.)
- Uniqueness of India Post:

- o Real Time Delivery Upgrade
- Electronic Clearance of Letter Boxes
- o Online Working of Railway mail Service (RMS) Offices
- India Post uses tracking codes to track mail and parcel. Also, the tracking codes are vastly used in the sorting centers faster sorting.
- India Post has sorting centers dedicated for parcel. As a consequence, it has facilitated the e-commerce business of the country.
- India Post has collaboration with foreign e-commerce companies (example- Amazon). It helps India Post to generate handsome revenue and also bring foreign investment to the country. Because there is a significant demand of the product from foreign e-commerce companies in India.
- For utilizing different modern types of machinery at AMPC Semi-Automated Sorting Hubs and other sorting centers India Post can facilitate.

### **Pos Malaysia:**

### • Transport:

- o Prime Movers (Trucks) 349
- o Vans 2341
- o Motorcycles 6332
- Freighter Aircraft 3
- o Lorries 349
- o Bulk Carrier Vessels (Ships) 2

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### 4.2 BUSINESS MODEL

### Proposed Business Model Canvas

Key Partners 🔗	Key Activities 🗹	Value Propositions 🎁	Custome	er Relationships 🤝	Custom	er Segments 🁥
Mail and parcel	(1.1.1/4.1.1) Providing access to generate BPO's barcode to the supplier's end. So that suppliers can print the	(1.1/4.1) Bulk mail & parcel booking facility	1.	Personal assistance- Call center, Entrepreneur	1.	E-Commerce
management online platform operating	address and other relevant information and barcode prior coming to BPO (Bulk).	(1.2/4.2) Discounted Price (For Bulk	2.	Self-service/ Automated service- DMS	2.	F-Commerce
company/ department Mailing operator and	(1.1.2/4.1.2) & (1.7.1/2.4.1/3.4.1/4.5.1) & (1.8.1/2.5.1/3.5.1/4.6.1/5.1.1) Automatic scanning, sorting and instant booking of mail and parcel (bulk and	delivery) (1.3/2.1/3.1) Enhanced		Sel vice- Divis	3.	SME (own production)
courier service license Authority- MOCSLA	individual).	Coverage Area.			4.	Institutions (Sender)
Financial gateway operators	(1.2.1/4.2.1) Automatic discounting price based on number of mail and parcel	(1.5/4.3) Enhance				A. Government
Mobile Financial Service Operators	(1.3.1/2.1.1/3.1.1) Delivering mail and parcels to those locations on-behalf of E-commerce/ F-commerce and	Logistic Facility				B. Education C. Corporate
Insurance Operator	SMEs where own or third-party logistic companies have no infrastructures or less access.	(1.6/2.3/3.3/4.4) Product Liability and			5.	Customers (Product Receiver)
BPO Entrepreneur/ Agents Third Party Call Center	(1.4.1/2.2.1/3.2.1) Receiving cash on delivery on Behalf of E-commerce/ F-commerce and SMEs by BPO Postman	Insurance coverage (1.7/2.4/3.4/4.5)				A. Individual
Training institute	(1.4.2/2.2.2/3.2.2) Using Digital Money Transfer/ EMTS/MFS depositing cash instantly to BPO Account.	Flexible/ Customer- friendly booking system (Time).				B. Corporate/Institutions
Logistics and transport	(1.4.3/2.2.3/3.2.3) After adjusting BPO's charges, BPO will adjust payment every week though banking channel.					C. Government
providers	(1.5/4.3) For E-commerce and different Institutions who have their own logistics but in limited scale BPO will					
2. IT developers	provide logistics support to delivery their products.					
<ol> <li>Bangladesh Government</li> </ol>	(1.6.1/2.3.1/3.3.1/4.4.1) BPO will track each mail and parcel with their barcode.					
Government	(1.6.2/2.3.2/3.3.2/4.4.2) Client will also be able to see the tracking progress with the help of BPO's app (Customer account).					
	(1.6.3/2.3.3/3.3.3/4.4.3) In case of Lost/ Damaged mail and parcel BPO will compensate as per market standard.					

(1.7.2/2.4.2/3.4.2/4.5.2) BPO will operate their metro area's/ commercial area's booking and delivery offices for 24/7	
(1.7.3/2.4.3/3.4.3/4.5.3) BPO will appoint Entrepreneurs/Agents for other areas (outside metro/ commercial) for booking and delivery of mail and parcel 24/7	
(1.7.4/2.4.4/3.4.4/4.5.4) Operate call center for 24/7 for customer inquiries and services.	
(1.7.5/2.4.5/3.4.5/4.5.5) BPO will have an online booking app/platform which can be accessed from anywhere, anytime and by anyone with a valid account.	
(1.7.6/2.4.6/3.4.6/4.5.6) BPO will appoint Entrepreneurs/Agents for picking up mail and parcel from customer doorstep	
(1.8.2/2.5.2/3.5.2/4.6.2/5.1.2) BPO will appoint Entrepreneurs/Agents for 24/7 Delivery services as per customer's convenient time of receiving parcel and mail.	
(1.9.1/2.6.1/3.6.1/4.7.1/5.2.1) BPO will adjust their pricing continuously by comparing with private sector courier companies to provide competitive price.	
(For All value Propositions) Train and inspire BPO officials/ Entrepreneurs/Agents for adopting automation and providing customer-friendly services.	

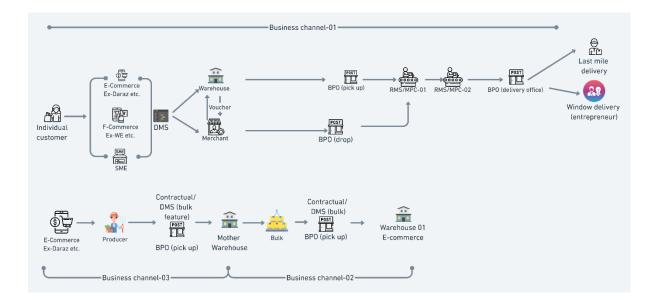
	Key Resources 🏭	Distribution Channels 🚚
	<ol> <li>Online and mobile application</li> <li>DMS (Domestic mail service)</li> <li>EMTS (Electronic money transfer system)</li> <li>MPC &amp; AMPC</li> <li>E-Dak Ghar</li> </ol>	1. Existing distribution channels  2. Pickup (optional) #  3. Last mile delivery (optional) (all)  4. Window delivery (all)
	<ol> <li>Entrepreneur</li> <li>Customer care/ Call Center</li> </ol>	
Cost  1 Software develop	ment and maintenance cost	Revenue
<ol> <li>Software develop</li> <li>Transportation co</li> <li>Promotional activ</li> <li>Additional cost fo</li> <li>Overtime/shifting</li> </ol>	ity cost* r pickup	<ol> <li>Transportation charge</li> <li>Doorstep pickup charge</li> <li>Doorstep Delivery Charge</li> <li>Advertisement through an online platform</li> </ol>

Assumptions of Proposed Business Model and Distribution Channel:

### **Assumption for Business Channel-01:**

BPO service will be enlisted with all the Ecommerce F-Commerce and SME Services.

After shopping during checkout customers will get an option of receiving delivery though BPO or other private delivery company



### Assumption for Business Channel-02 and 03:

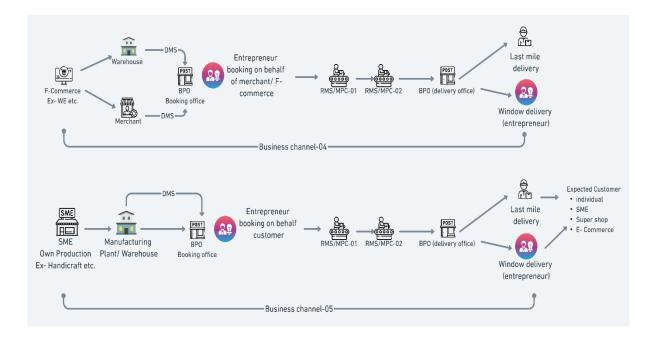
- BPO will have contracts with E-commerce platforms where BPO will provide logistic service to E-commerce to carry products in Bulk for the for them
- Two Channels
  - Manufacturer to Ecommerce warehouse
  - o Ecommerce: Warehouse to Warehouse

### **Assumption for Business Channel-04:**

F-commerce will have exclusive contract with BPO. They will send their products through BPO which they are currently sending through other parcel delivery companies

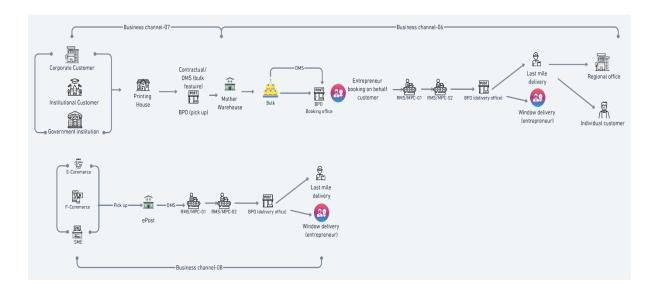
### **Assumption for Business Channel-05:**

SMEs (Own Manufactured products) will have exclusive contract with BPO. They will send their products through BPO which they are currently sending through other parcel delivery companies



### Assumption for Business Channel-06 and 07:

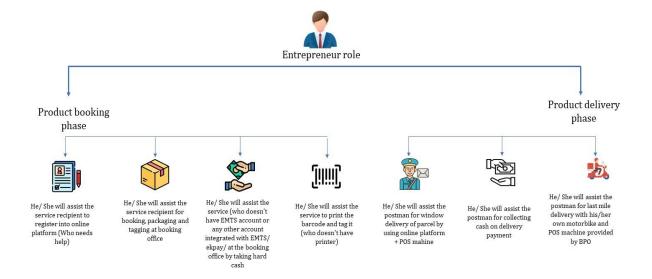
- BPO will have contracts with Corporates Institutions and Government offices where
   BPO will provide logistic service to carry products in Bulk for the for them
- Two Channels
  - o Manufacturer to Warehouse
  - Warehouse to Warehouse/ Customers



### **Assumption for Business Channel-08:**

 Current Business Channel with E-post is very complicated and not working out very nicely  Thus, we are proposing a shorter and efficient business channel by solving the DMS and E-post Software problems

### Agent Role in the proposed Business Model:



### Broad Services to be offered:

Under the proposed business model there are three broad categories of services or functions.

### 4.2.1.1 Products Delivery

Bangladesh Post offices one of the major tasks is delivering mail and parcels all over the country. They have the largest distribution channel among the governmental units also larger than any private entities in Bangladesh.

Despite the advantages Mail and Parcel delivery service of Bangladesh post office is having a downward/ volatile trend. In this post pandemic era where E-commerce/ F-commerce business are thriving and world-wide postal services is enjoying upward trend Bangladesh Post office could not perform at its optimum level.

To attract more businesses to come to Bangladesh post office this business model suggests wide ranges of changes and reforms and introduction of modern-day services.

### 4.2.1.2 Print to Mail Service

Print to mail services typically involve a third-party company that handles the printing and mailing of documents on behalf of businesses or individuals. The process usually involves uploading a digital copy of the document to the print to mail service provider's website or platform, specifying the recipient's mailing address, and paying for the service. The service provider then prints the document, inserts it into an envelope, applies postage, and sends it through the postal system to the recipient.

If Bangladesh Post Office offers a print to mail service, it is likely that they would have their own platform or website where customers could upload their documents and specify the recipient's mailing address. Customers would then pay for the service, and Bangladesh Post Office would handle the printing, mailing, and delivery of the document.



It's worth noting that the availability and specifics of any print to mail service offered by Bangladesh Post Office may have changed since my knowledge cutoff date, and it may be best to consult their official website or contact their customer service for the most up-to-date information.

In Bangladesh lots of companies / government entities would be happy to avail this service as it would lower their printing and mailing cost by at least 60%.

### 4.2.1.3 Fulfillment Center

A fulfillment center is a facility used by companies to store, process, and ship orders for their products to customers. Fulfillment centers are an important part of e-commerce and online retail operations, as they allow businesses to efficiently manage and fulfill orders without having to store and ship products themselves.

Fulfillment centers typically receive shipments of products from the manufacturer or supplier, store them in inventory, and then use technology and automation to process and fulfill orders as they come in. This can include picking and packing products, applying shipping labels, and preparing orders for shipment. Some fulfillment centers also handle returns and exchanges for customers.

Fulfillment centers are often used by businesses that sell products online, as they allow these companies to outsource the storage and shipping of their products. This can be especially beneficial for small businesses or startups that do not have the resources to manage their own warehousing and shipping operations.

Examples of well-known fulfillment centers include Amazon's Fulfillment by Amazon (FBA) service, as well as third-party providers such as ShipBob, Rakuten Super Logistics, and ShipStation.

Bangladesh post office should setup fulfillment center to facilitate F-commerce/ small E-commerce and SMEs.

### (A) HOW THE FULFILLMENT CENTER WILL WORK:

# THE PROCESS OF THIRD-PARTY ORDER FULFILLMENT



### (B) FUNCTIONS OF THE FULLFILLMENT CENTER:

The main functions of a fulfillment center are to receive, store, process, and ship products to customers on behalf of a business. Here are the some of the functions that a fulfillment center typically performs:

**Warehousing:** The fulfillment center receives shipments of products from the manufacturer or supplier, either by truck or other modes of transportation and keep them at the warehouse.



**Inventory Management & Control:** The fulfillment center manages inventory levels to ensure that there is always enough stock to fulfill orders, while also minimizing excess inventory and managing costs.

**Order Processing:** When a customer places an order, the fulfillment center uses technology and automation to process the order. This includes picking the right product, packing it properly, and generating a shipping label.

**Shipping:** Once an order is processed, the fulfillment center ships the product to the customer using a variety of shipping methods such as USPS, UPS, FedEx, and DHL.

**Returns Management:** Some fulfillment centers also handle returns and exchanges for customers. They process the returns, inspect the items, and determine if the products can be restocked or must be disposed of.

### API based Platform service for other ecommerce:

An API-based platform service for other ecommerce by a fulfillment center refers to a system that allows third-party ecommerce businesses to integrate their systems with the fulfillment center's system through APIs (Application Programming Interfaces). This platform service could include various features such as order management, shipping, tracking, and more.

By offering APIs, the fulfillment center allows other ecommerce businesses to easily integrate their sales channels with the fulfillment center's system, making it easy to manage their orders and track their shipments. This can be beneficial for both the fulfillment center and the third-party ecommerce businesses, as it allows for greater efficiency, accuracy, and speed in the fulfillment process.

For example, an API-based platform service for ecommerce by a fulfillment center could provide an API for order management, which allows third-party ecommerce businesses to easily submit orders to the fulfillment center's system for processing and shipping. This could include real-time updates on order status, automated order processing, and more. By providing this functionality through an API, the fulfillment center enables third-party ecommerce businesses to focus on their core competencies, such as sales and marketing, while relying on the fulfillment center for order fulfillment and shipping.

Overall, an API-based platform service for ecommerce by a fulfillment center can be a valuable tool for ecommerce businesses looking to streamline their fulfillment processes and improve their overall customer experience. By providing easy integration with the fulfillment center's system through APIs, ecommerce businesses can benefit from the expertise and resources of the fulfillment center, while maintaining control over their sales channels and customer interactions.

### Packaging and finishing:

Packaging and finishing by a fulfillment center refers to the process of preparing products for shipment to customers. This includes packaging the products, applying any necessary labeling or branding, and ensuring that the products are properly protected during shipment.

Many fulfillment centers offer packaging and finishing services as part of their fulfillment process, as it can help to ensure that products arrive at their destination in good condition and that the customer experience is positive.

### Some common packaging and finishing services offered by fulfillment centers include:

Customized packaging: Many fulfillment centers offer customized packaging options, such as branded boxes or packaging materials that are tailored to a particular product or brand.

Product labeling: Fulfillment centers may also provide labeling services, including applying product labels, barcodes, and other necessary information to products.

Quality control: Fulfillment centers may perform quality control checks on products to ensure that they are in good condition and meet any necessary specifications.

Gift wrapping: Some fulfillment centers offer gift wrapping services for products, which can be a valuable option for ecommerce businesses during the holiday season or for special occasions.

Product assembly: In some cases, fulfillment centers may also offer product assembly services, such as assembling products that require some level of assembly before shipping.

Overall, packaging and finishing by a fulfillment center can be a valuable service for ecommerce businesses, as it can help to ensure that products are properly prepared for shipment and that the customer experience is positive. By outsourcing these tasks to a fulfillment center, ecommerce businesses can focus on other aspects of their business, such as marketing and customer acquisition

Overall, the main objective of a fulfillment center is to efficiently manage the logistics of product storage, processing, and shipping so that a business can focus on other aspects of their operations such as marketing, sales, and customer service.

### 4.3 COSTS ESTIMATES:

Table 15: Estimated Cost for Project Implementation (in lakh taka)

SI.N o.	Particulars	Unit	Unit Cost	Unit	Total amount
1	Training and Capacity building and Recruitment	Year	69.48	5.00	347.40
2	Equipment	No.	1,147.0 0	1.00	1,147.00
3	Vehicles (5 Ton)	Per pc	110.00	64	7,040.00
4	Vehicles (1 Ton)	Per pc	50.00	64	3,200.00
5	Vehicle Maintenance Cost	Per pc	16.00	128	2,048.00
6	Fuel Cost	per litter	0.0011	1,920,000. 00	2,092.80
7	Packaging Cost	Year	1,124.1 0	5.00	5,620.51
8	Insurance Cost	Year	60.00	5.00	300.00
9	Promotional and Marketing	Year	100.00	5.00	500.00
10	PIU	Year	2,229.5 7	1.00	2,229.57
	Total Project Cost				24,525.28

Table 16: Year-wise Estimated Cost of after project Implementation (in lakh taka)

SI.N o.	Particulars	Year-1	Year-2	Year-3	Year-4	Year-5	Total
1	Training and Capacity building and Recruitment	69.48	69.48	69.48	69.48	69.48	347.40
2	Equipment	1,147.00					1,147.00
3	Vehicles (5 Ton)	3,520.00	3,520.00				7,040.00
4	Vehicles ( 1 Ton)	1,600.00	1,600.00				3,200.00
5	Vehicle Management Cost	409.60	409.60	409.60	409.60	409.60	2,048.00
6	Fuel Cost	418.56	418.56	418.56	418.56	418.56	2,092.80
7	Packaging Cost	1,124.10	1,124.10	1,124.10	1,124.10	1,124.10	5,620.51
8	Insurance Cost	60.00	60.00	60.00	60.00	60.00	300.00
9	Promotional and Marketing	100.00	100.00	100.00	100.00	100.00	500.00
10	PIU	445.91	445.91	445.91	445.91	445.91	2,229.57
	Total	8,894.66	7,747.66	2,627.66	2,627.66	2,627.66	24,525.28

Table 17: Breakdown of Training and Capacity Building (Sl.no.1) Cost (in Lakh taka)

SI.N o	Particulars	Stakeholder	Participa nts	Per Batch	Number of Batch	Cost per Batch	Total Amount
1	TOT	PIU	150	30	5	9	45.00
2	Goods Handling Practice	Agent, Staffs, Others	112	30	4	8	32.40
3	Business Model Taining	Agent, PIU, Others	278	30	10	9	90.00
4	E-commcer Platform Handling Training- Agent and PIU	Agent, PIU, Others	278	30	10	9	90.00
5	Promotion and Marketing training	Agent, PIU, Others	278	30	10	9	90.00
	Total training cost						347.40

Table 18: Breakdown of Promotional and Marketing Activities (Sl.no.9) with cost (in Lakh Taka)

SI. No.	Particular	Specification	Unit	Total Amount
1	Advertisements	Local media; television, radios and online using paid web ads or social media ads like those of Facebook, and Instagram.	LS	
2	Brand Ambassador	Appointing Influential/ Popular person for Publicity	LS	500.00
3	Business branding	Branding through a eye catching logo	LS	
4	Exhibitions	Participating in Trade Fairs	LS	
5	Free Sampling	Free Delivery and products at minimum price	LS	
	Total Cost			500.00

Table 19: Estimated Breakdown of Equipment cost for Print to mail Service (Sl. NO. 2) (in Lakh Taka)

Sl.No.	Particulars Unit name Unit Unit cost		Unit cost	Total	
1	Offset printing machine	per pc	20	50.00	1,000
2	paper cutting machine	per pc	20	0.35	7
3	Computer system	per pc	20	1.00	20
4	laser jet printer	per pc	20	5.00	100
5	Editing software	per pc	20	1.00	20
	Total				1,147

### 4.4 PROJECT IMPLEMENTATION TIMELINE (MAIL & PARCEL)

The blow chart is the tentative timeline for the proposed business model project. It is proposed to follow the following timelines for the implementation of the mail and parcel Business model, which is subject to change during the course of the project.

Figure 27: Project Implementation Timeline in Gantt Chart (Mail & Parcel)

SI.		Yea	ar-1	Year-2		Year-3		Year-4		Year-5	
No	Activity	H-	H-	H-	H-	H-	H-	H-	H-	H-	H-
NO		1	2	1	2	1	2	1	2	1	2
1	Tender for Vendor										
2	E-commerce Site Development										
	Partnership with Government,										
3	Ecommerce's sites and SMEs										
4	Appointment of Agents										
5	Infrastructure Development										
6	Logistics Procurement										
7	Delivery of Mail and Parcels										
7	Conduct Market Research to update Plan										
8	E-commerce site management										
9	Training of the existing staffs										
10	Yearly Performance Report Preparation										

### 4.5 ARCHITECTURE

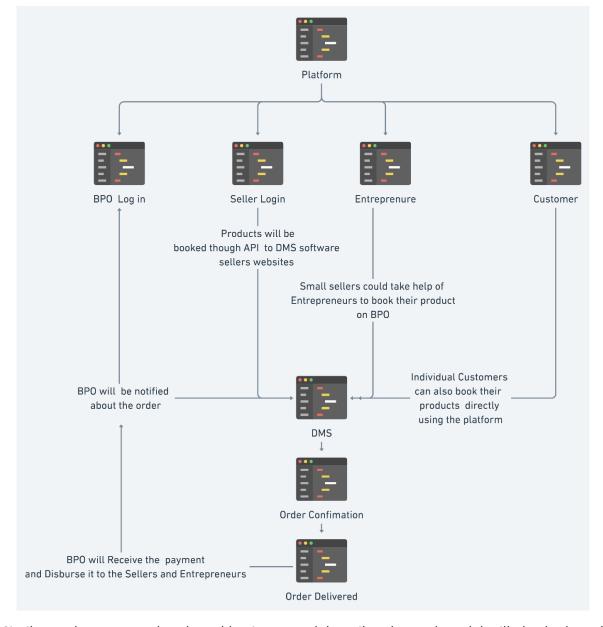


Figure 28: Information Architecture of Mail & Parcel business model

Similar to the Agro product-based business model, mail and parcel model will also be based on DMS integrated platform. For website-based ecommerce platforms, this platform will be integrated using API. Thus, while placing an order in the E-commerce website (like Daraz), Product will automatically book in the DMS, and BPO will be notified for receiving and delivering the product.

Small companies like f-commerce and SMEs, can take help of BPO-entrepreneurs/ agents to Book their products and deliver to their customers.

This platform will also have portal for individual customers, they can book their products from their home, Entrepreneur will receive it from the door step, send it to the RMS and Deliver to the receivers.

Once the product is delivered and payment is received, payment will be disbursed to entrepreneur and farmers automatically.

# 5. SECTION 5: ENVIRONMENTAL SUSTAINABILITY, CLIMATE RESILIENCE AND DISASTER RISK ANALYSIS

This component is based on a business model, this business model does not have such environmental risk. But this have some market risk which has been discussed in the section 9.

### 6. SECTION 6: COST-BENEFIT ANALYSIS

### 6.1 FINANCIAL ANALYSIS

- C. Financial Analysis for AMPC and Mail and Parcel Business Model:
- D. Calculation of the Revenue from the Business Model:

Values in crore Taka

Particulars	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year- 10
Total Market Size	30.11	34.62	39.82	45.79	52.66	60.56	69.64	80.09	92.10	105.92
BPO Market share	10%	7%	7%	8%	9%	10%	15%	20%	25%	30%
BPO Market Size (Mail and Parcel)	3.01	2.25	2.59	3.66	4.74	6.06	10.45	16.02	23.03	31.77
% Of Letter	90%	85%	80%	75%	70%	65%	50%	45%	35%	30%
% Of Parcel	10%	15%	20%	25%	30%	35%	50%	55%	65%	70%
BPO Market Size (Mail)	2.71	1.91	2.07	2.75	3.32	3.94	5.22	7.21	8.06	9.53
BPO Market Size (Parcel)	0.30	0.34	0.52	0.92	1.42	2.12	5.22	8.81	14.97	22.24
Average Mail Delivery price (in Taka)/ per mail	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40	9.40
Average Parcel Delivery price (in Taka)/ per parcel	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8	166.8
Revenue from Mail (in Taka)	25	18	19	26	31	37	49	68	76	90
Revenue from Parcel (in Taka)	50	56	86	153	237	353	871	1,469	2,496	3,709
Total Revenue	76	74	106	179	268	390	920	1,537	2,572	3,799

### E. Calculation of the Cost from the Business Model:

Values in crore Taka

Particulars	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year- 10
1. Establishment of 10 MPC with Sorting Machine										
1.1. Machineries Cost	37.50	-	-	-	-	-	-	-	-	-
1.2. Training Cost	-	-	0.26	0.26	0.26	-	-	-	-	-
1.3. Manpower (Technical) Cost	-	-	1.91	1.91	1.91	-	-	-	-	-
1.4. Project Implementation Unit Cost	0.88	0.88	0.88	0.88	0.88	-	-	-	-	-
2. Infrastructure development of Post offices	131.80	131.80	131.80	131.80	131.80	-	-	-	-	-
3. Consultancy Cost for AMPC Detail Design	-	-	-	-	4.45	-	-	-	-	-
4.Establishment of 20 MPC with Sorting Machine	-	-	-	-	-	-	-	-	-	-
4.1. Civil construction and Machineries cost	-	-	-	-	-	11.25	140.76	140.76	140.76	56.30
4.2. Training Cost	-	-	-	-	-	0.31	0.31	0.31	0.31	0.31
4.3. Manpower (Technical) Cost	-	-	-	-	-	3.82	3.82	3.82	3.82	3.82

4.4. Project Implementation Unit Cost	-	-	-	-	-	10.21	10.21	10.21	10.21	10.21
6.Establishment of AMPC	-	-	-	-	-	-	-	-	-	-
6.1. Civil construction and Machineries cost	-	-	-	-	-	100.00	-	-	-	-
6.2. Training Cost	-	-	-	-	-	0.03	0.03	0.03	0.03	0.03
6.3. Manpower (Technical) Cost	-	-	-	-	-	0.38	0.38	0.38	0.38	0.38
2.4. Project Implementation Unit Cost	-	-	-	-	-	2.04	2.04	2.04	2.04	2.04
7. Cost from Component- 3	-	-	-	-	-	-	-	-	-	-
7.1 Training and Capacity building and Recruitment	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
7.2 Equipment	11.47	-	-	-	-	-	-	-	-	-
7.3 Vehicles (5 Ton)	35.20	35.20	-	-	-	-	-	-	-	-
7.4 Vehicles ( 1 Ton)	16.00	16.00	-	-	-	-	-	-	-	-
Vehicle Management Cost	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10
Fuel Cost	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
Packaging Cost	11.24	11.24	11.24	11.24	11.24	11.24	11.24	11.24	11.24	11.24
Insurance Cost	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Promotional and Marketing	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PIU	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
Total Cost	259.13	210.16	161.13	161.13	165.58	154.33	183.84	183.84	183.84	99.38

### F. Net Cashflow:

Values in crore Taka

	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Net Cashflow	(183)	(136)	(55)	17	103	236	736	1,353	2,388	3,699

### G. Key Assumptions:

• Discounting Rate: 12%

• Project Implementation Year: 10 Years

### H. Calculation of Financial Analysis:

### **Calculation of the Net Present Value (NPV):**

Formula: 
$$NPV = \frac{P}{(1+i)^t}$$

Where NPV= Net Present Value

P= Present value of the Net Cash flow

i= Discount rate

t= time

# **Result of the NPV = BDT 2,809 crore (Positive)**

# **Calculation of the Internal Rate of Return (IRR):**

Formula:
$$NPV = \sum \frac{P}{(1+irr)^t}$$

Where NPV= Net Present Value

P= Present value of the Net Cash flow

irr= Internal rate of return

t= time

Result of Internal Rate of Return (IRR): 56% (Positive)

# **Calculation of the Benefit-Cost Ratio (BCR):**

Result of the Benefit- Cost Ratio:

• BCR: 
$$\frac{PV \ of \ Benefit \ Expected \ from \ the \ Project}{PV \ of \ the \ Cost \ of \ the \ Project} = \frac{3,853}{1,044} = 3.69 > 1$$

The financial model for the Bangladesh Post Office with an NPV of BDT 2,809 crore, an IRR of 56%, and a benefit-cost ratio of 3.69 indicates that the project is financially viable and profitable. The financial model includes estimating the initial investment cost, calculating the expected cash inflows and outflows, and determining the net present value, internal rate of return, and benefit-cost ratio.

To calculate the NPV, IRR, and benefit-cost ratio, the following steps can be taken:

- Determine the initial investment cost, including the cost of equipment, infrastructure, and other capital expenditures.
- Estimate the expected cash inflows from the project over its lifetime, including revenue from increased efficiency, reduced operating costs, and other benefits.
- Estimate the expected cash outflows over the project's lifetime, including operating expenses, maintenance costs, and other expenses.
- Calculate the net present value (NPV) of the project by discounting the expected cash inflows and outflows at the project's required rate of return or cost of capital.
- Calculate the internal rate of return (IRR) of the project, which represents the discount rate that makes the net present value of the project equal to zero.
- Calculate the benefit-cost ratio, which is the ratio of the present value of expected benefits to the present value of expected costs.

Based on these calculations, a financial model has been developed that outlines the project's financial viability and profitability. The NPV of BDT 2,809 crore indicates that the project is expected to generate a positive net present value, while the IRR of 56% indicates that the project is expected to generate a high rate of return. The benefit-cost ratio of 3.69 indicates that the project's benefits are expected to outweigh its costs by a factor of 3.69.

#### 1.1 ECONOMIC ANALYSIS

This business model will have a few indirect benefits which the economy and the people of Bangladesh will enjoy. However, these benefits are not directly measurable but have their own value.

The Business model will open new employment opportunities for the citizens of Bangladesh, and consumers are expected to get additional values than the current market structure, which also has an economic value.

Below the Yearly additional economic values are calculated using the current market values.

# 1.1.1.1 Calculation of Economic Benefits from AMPC and Mail and Parcel Business Model:

Table 20: Economic and Financial Benefits From The Business Model

Values in Crore taka

Particulars	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Income Generation	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Consumer Benefit	15.1	14.9	21.2	35.7	53.7	78.1	184.0	307.4	514.3	759.7
Total Benefits	16.4	16.1	22.4	37.0	54.9	79.4	185.3	308.6	515.6	761.0
Total Financial Benefit	75.7	74.3	105.8	178.5	268.3	390.4	920.1	1,536.8	2,571.5	3,798.7
Total Benefits (Economic and Financial)	92.1	90.4	128.2	215.5	323.2	469.8	1,105.4	1,845.5	3,087.1	4,559.7

# 1.1.1.2 Net Economic Cashflow from AMPC and Mail and Parcel Business Model

Values in Crore taka

Particulars	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10
Net Cashflow	(167)	(120)	(33)	54	158	315	922	1,662	2,903	4,460

# 1.1.1.3 Key Assumptions:

Discounting Rate: 12%

• Project Implementation Year: 10 Year

# 1.1.1.4 Calculation of Economic Analysis:

# (A) CALCULATION OF THE NET PRESENT VALUE (NPV):

Formula:
$$ENPV = \frac{P}{(1+i)^t}$$

Where

ENPV= Economic Net Present Value

P= Present value of the Net Economic Cash flow

i= Discount rate

t= time

Result of the NPV = BDT 3,587 crore (Positive)

# (B) CALCULATION OF THE INTERNAL RATE OF RETURN (IRR):

Formula:
$$NPV = \sum \frac{P}{(1+irr)^t}$$

Where NPV= Net Present Value

P= Present value of the Net Cash flow

irr= Internal rate of return

t= time

Result of Internal Rate of Return (IRR): 66% (Positive)

# (C) CALCULATION OF THE BENEFIT-COST RATIO (BCR):

Result of the Benefit- Cost Ratio:

• BCR: 
$$\frac{PV \text{ of Benefit Expected from the Project}}{PV \text{ of the Cost of the Project}} = \frac{4,631}{1,044} = 4.44 > 1$$

All the three criteria ensure that project could be accepted.

The Economic model of the AMPC and Mail and Parcel Business Model for the Bangladesh Post Office with an NPV of BDT 3587 crore, an IRR of 66%, and a benefit-cost ratio of 4.46

indicates that the project is both financial and economically viable and profitable. Besides the financial model, the economic model includes estimating the initial investment cost, calculating the expected economic cash inflows and outflows, and determining the net economic present value, economic internal rate of return, and economic benefit-cost ratio.

Based on these calculations, an Economic model has been developed that outlines the project's economic viability and profitability.

This business model is both economically and financially viable.

# 2. SECTION 7: HUMAN RESOURCES AND ADMINISTRATIVE SUPPORT ANALYSIS

#### 2.1 HUMAN RESOURCE FOR MAIL AND PARCEL BUSINESS MODEL

To implement Mail and Parcel-business model, the project needs dedicated key drivers. The project required dedicated vehicles for this business model.

Even After successful completion of the project, drivers have to be retained as the service will be continued.

Table: Human Resource Retained after the Project Implementation

SI.	Team member	Office	Total number			
1	Drivers	District wise	128			

# Capacity building of the existing HR

BPO will need Sorters, Loaders/ Unloaders for delivering the mail and parcels. Sorter and Loader/ Un-loader must train in and know ecommerce mail and parcel handling. Otherwise, products will be damaged, and orders will be affected. Bangladesh Post office will train their existing manpower to serve this purpose.

#### 3. SECTION 8: INSTITUTIONAL AND LEGAL ANALYSIS

To run this business model, BPO would not face any Institutional and legal challenges. Though a few reforms are required, which can be formalize by Director general/respective ministry.

# 4. SECTION 9: RISK (UNCERTAINTY) AND SENSITIVITY ANALYSIS

#### 4.1 INEFFICIENT INVENTORY MANAGEMENT:

Inefficient Inventory management could cause delay in product delivery; thus, one of the model's values propositions (fast delivery) will fail. The whole business model could fail if inventories are not efficiently managed. To mitigate this risk, Automated/ Digitalized inventory management has to be installed.

# 4.2 PRICING OF THE SERVICES:

Pricing of the services has to be re-calculated. Currently, BPO Service fees are subsidized. Other businesses will take this advantage. They will send the product at a low rate, and the burden on the government will increase; thus, project financing could be in danger. Thus, market competitive pricing with a better value proposition has to be offered. To mitigate this

risk, an AI-based pricing tool must be installed, which will revise the service fees frequently.

#### 4.3 EMPLOYEE BEHAVIOR TOWARDS THE WORK:

BPO employees must change their behavior; they need to be more customer-friendly rather than too professional. They have to give proper attention to the customers, other-wise customer dissatisfaction will become the reason for the downfall. To mitigate, Lots of Training and motivational Training needs to be conducted at each level of Employee.

# 4.4 TOOLS AND EQUIPMENT:

Without proper and up to date tools, even a motivated employee will lose motivation; thus, proper and advanced tools and equipment are required.

#### 4.5 DATA SECURITY AND HACKING:

If the customer data are unsecured and someone hacks the platform or accounts, that will critically damage the image of BPO, and They will never be able to acquire these or any new customers anymore. Thus a well-protected security system needs to be appointed.

#### 4.6 RISK OF THEFTS:

Delivery persons/ drivers or other in-house or out persons can steal the products. to avoid any stealing case, a proper monitoring and tracking system is required.

#### 4.7 VEHICLE ACCIDENT:

In case of accidents, all the products of the customers might be destroyed. In that case, compensation to customers are must, and this compensation has to be settled down quickly. To mitigate this risk, all vehicles are required to be insured from good insurance companies.

#### 4.8 GOVERNMENT INSTITUTE

Being a government entity Bangladesh Post Office has some risk. Government offices are slow in decision making due to its bureaucratic nature. Also, government offices are not technological very advanced. To compete with this technologically advanced market, BPO must act dynamically and systematically.

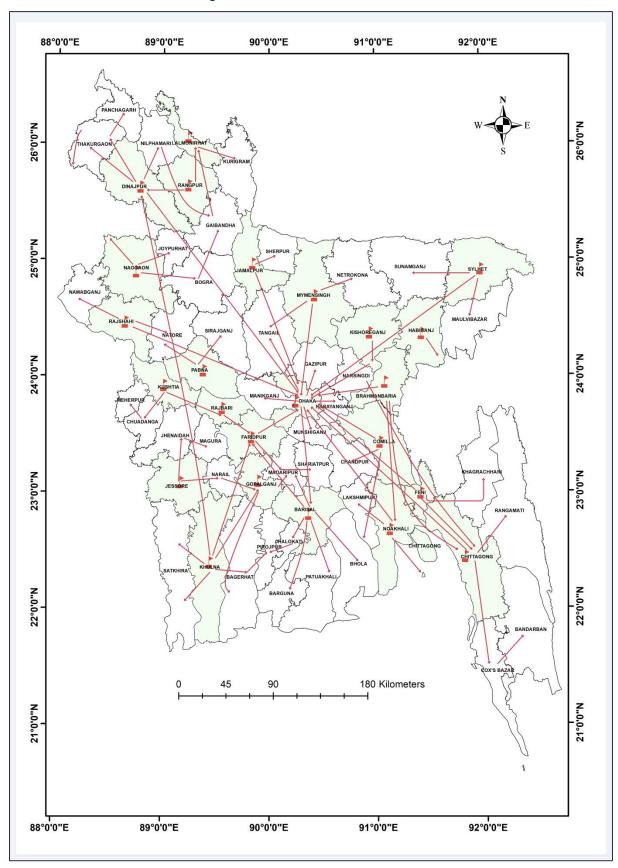
# 5. SECTION 10: ALTERNATIVE/OPTIONS ANALYSIS

# 5.1 REORGANIZE THE MAIL PROCESSING CENTER AND MAIL ROUTE

Present scenario of Mail Processing Center:

At present 26 Mail Processing Centers (MPC) are working for mail processing and sorting. After analysis the MPC's, it was found that the MPC located in Dhaka is in the center point and the mail route following a start topology. That means, most of the case, all the district mail coming to Dhaka and send again to another district. The MPC's coverage area, which is treated as internal mail route. The following figure describes the present mail processing center and mail route.

Figure 29: Present MPC and Mail Route



# Proposed Mail Processing Center and Mail Route:

Hon'ble Prime Minister has given her kind instruction in the Executive Committee of the National Economic Council (ECNEC) meeting held on 29 May, 2018 to establish MPC in 64 districts gradually. The technical feasibility study team also find that for better mail processing and faster delivery of mail and parcel have to be setup 64 MPC in District level. In the proposed system Mail processing will be only in the District MPC. Any district will make 63 article bags for other districts. Each district will have the internal mail sorting and delivery system separately. The following figure show the 64 districts of Bangladesh.

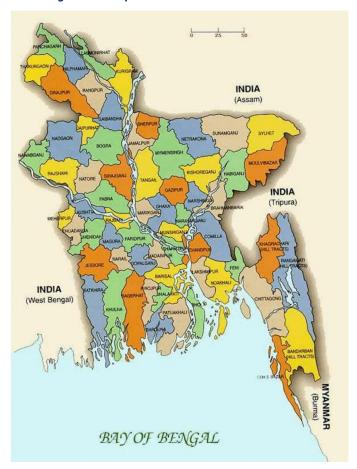


Figure 30: Proposed MPC location in 64 districts

The Mail Route will be divided into two parts. One is internal mail route and other is highway mail route. Internal mail route will be delivered within the district. The highway mail route will be organized such a way with Railway, Roads and Waterway connections where shortest path and minimum cost will be considered. In the highway, there will be several hubs to exchange the mail bag between the transports. The highway mail route will follow the mess tropology to transport the mail bag. The following figure shows an example of mess tropology.

Sample figure shows 6 districts but it will be 64 districts.

Dhaka

Dhaka

Cox's Bazar

Mesh Topology

Any one district mail traffic will travel to other districts.

Figure 31: Mesh Topology shows how article will move to each other

The above figure shows that, the mesh topology where mail article moves with each other points. An effective logistic plan can make this topology success for faster article delivery.

# The dynamic logistic plan:

To make mail and parcel delivery process faster, effective and sustainable, a dynamic logistic plan is essential. To do this, Roads and Highway, Waterway, Railway and Airway have to be considered. Note that, Hon'ble Prime Minister also suggested to make a comprehensive route plan considering above mentioned transportation ways in the ECNEC meeting held on 29 May, 2018. The Bangladesh transportation network in the map as follows:

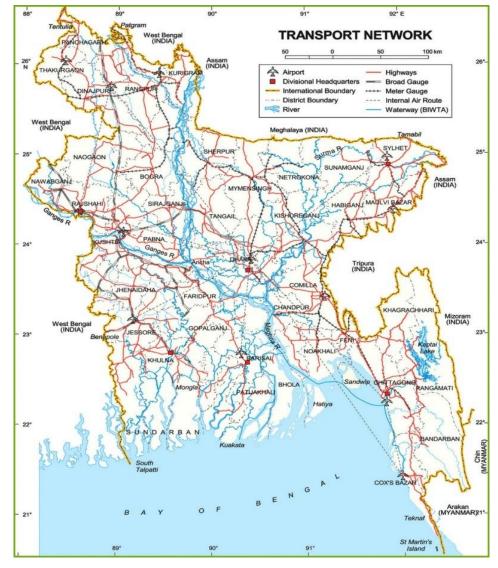


Figure 32: Bangladesh Transportation Network

The above figure show that, the Bangladesh Transportation Network including Roads Highway, Waterway, Railway and Air. BPO can effectively utilized all the network for a dynamic Mail Article Delivery System.

Considering that, Postal Departments has 64 Mail Processing Center (Sorting Center) in districts level and no other places has sorting activities. The Logistic plan will be considered in two level, one is highway route and other one is local route. The highway route will be district to district MPC centric and local route will be a single district internal route mainly district-to-upazila centric. The highway routes will have some hub which is a secured place for transit where the mail bag will transfer between logistic vehicle. The highway route logistic will be considered as BPO own covered van, BRTC inter district bus, Railway intercity train services, waterway service like launch service, and domestic Airway services for low-cost transportation. The different kinds of transportation links such a way where the delivery will be faster and transportation cost will be minimum. The dynamic logistic plan diagram for better understanding as follows:

**HIGHWAY ROUTE LOCAL ROUTE** District District 'X' 'X' Highway Highway Route: Within 64 Districts Local Route: Within a District District District Sorting Centers: Will be at 64 DISTRICTS 杨昌昌县本 TRANSPORTATION Hub= Where the mail bags will be transferred. Highway (BPO Van, Bus) Railway District 'X' Symbol of 64 districts Waterway (Launch) **Airway** 

Figure 33: The highway route and local route of Logistic Plan

#### 6. SECTION 11: RECOMMENDATION AND CONCLUSION

# 6.1 RECOMMENDATION

Recommendation for Mail and Parcel

# **6.1.1.1 Upgradation of DMS Software**

The DMS Software is essential for the proposed mail and parcel business model. Making the software more user-friendly and available to the customer is essential. The Consultant suggests developing a mobile and web-based application of the DMS software so that any customer can book any parcel anywhere in the country. All the customers (E-commerce, F-commerce, and SMEs) can book their products using the software. This will reduce the burden on the booking counters and make the process quicker.

### 6.1.1.2 Introducing Agent for Mail and Parcel Service

Currently, the booking and delivery of mail and parcel time are limited; thus, customers are discouraged from using postal services. Introducing the agent service and making this facility 24/7 will become a game-changer for Bangladesh Post Office.

# 6.1.1.3 Pickup and Drop Service

Currently, customers choose convenience over money. Thus mail and parcel doorstep pickup and Drop Service is very crucial. Appointed agents could facilitate this service. But the Bangladesh Post Office Must introduce this service.

# **6.1.1.4 Introducing Print-to-Mail Service**

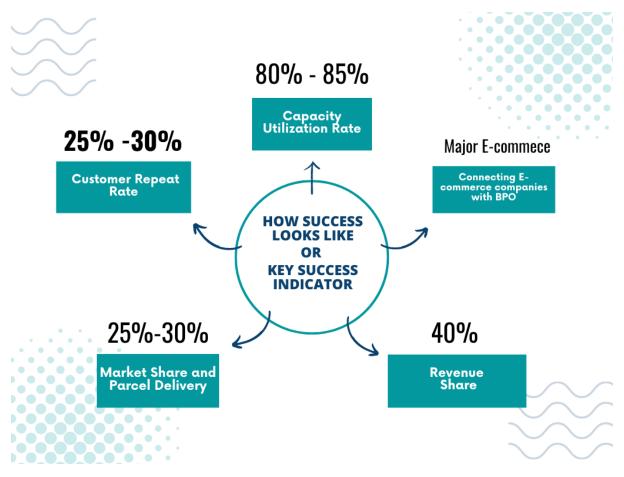
Worldwide, print-to-mail service is widespread and reduces a significant amount of costs for the customer. Thus, customers would love to adopt this service. Therefore, the Bangladesh Post office needs to introduce this service to scale its revenue.

# 6.1.1.5 Introducing the Fulfillment Center

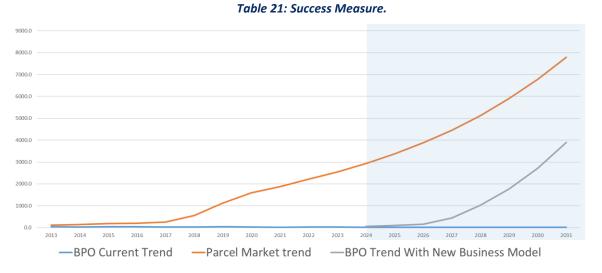
The concept of a fulfillment center is unique. It helps small and marginal businesses to scale. This concept of the Bangladesh Post office not only maintains the delivery process of the vendors but also their legal issues like TAX, VAT, Invoicing, Inventory Management, etc. The Consultant also suggests BPO introduce a fulfillment center to scale their services.

# 6.2 CONCLUSION:

How success looks like/ Key Success Indicator



As per the current context BPO mail and parcel delivery service is declining. After implementing the business model, the volume of mail and parcel services will be increase



The more the blue line (BPO Mail and Parcel) will move towards the orange line the more successful will be the business model.

After successful implementation of the business model;

- ✓ This business model will increase and create new business avenue for Bangladesh post office
- ✓ This will help Bangladesh Post office to increase their parcel and mail volume capacity by multiple times, which is currently having a decreasing trend
- ✓ This Business model will increase employment and also help to generate more income.
- ✓ This will also reduce the transportation cost of mail and parcel delivery
- ✓ This business model will help BPO to properly utilize its new and existing infrastructures and it will open a new branch of services as well as revenue for Bangladesh post office

#### Next Step

# **6.2.1.1** Organizational Reform Requirement

Organization reform required to simplify the service process and scale up the services

- Introduce Postal ID;
- Introduce Agent service;
- ♣ Postcode regenerate for (4+3+3) 10 digits;
- Establish Mail Processing Center in the 64 districts offices and rationalize mail routes;
- Establish a Bangladesh Postal Bank Limited.

# 7. SECTION 12: ANNEXES

#### 7.1 PRIME MINISTER'S INSTRUCTION ABOUT MPC

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার ডাক, টেলিযোগাযোগ ও তথ্যপ্রযুক্তি মন্ত্রণালয় ডাক ও টেলিযোগাযোগ বিভাগ মাননীয় মন্ত্রীর দপ্তর বাংলাদেশ সচিবালয়, ঢাকা ।

বিষয় ঃ মেইল প্রসেসিং ও লজিস্টিক সার্ভিস সেন্টার স্থাপন এবং ভাক পরিবহণ প্রসক্ষা।

উপর্যুক্ত বিষয়ে জানানো যাচেছ যে, জাতীয় অর্থনৈতিক পরিষদের নির্বাহী কমিটির (একনেক) গত ২৯-৫-২০১৮ তারিখে অনুষ্ঠিত সভায় "মেইল প্রসেসিং ও লজিটিক সার্ভিস দেন্টার নির্মাণ" সংক্রান্তে আলোচনা হর। উক্ত সভায় মাননীয় প্রধানমন্ত্রী নির্দেশনা প্রদান করেন যে, ১৪টি মেইল প্রসেসিং সেন্টারে যে সকল আধুনিক যন্ত্রপাতিসমূহ স্থাপন করা হবে সেওলা পরিচালনার জন্য সংখ্রিষ্ট ব্যক্তিদের প্রশিক্ষণের ব্যবস্থা গ্রহণ করতে হবে। তিনি পর্যায়ক্তমে ৬৪টি জেলায় মেইন পোন্টা অফিসসমূহে মেইল প্রসেসিং সেন্টার স্থাপনসহ উপজেলা ও ইউনিয়ন পর্যায়ে বিদামান পোন্টা অফিসসমূহ আরও উন্নয়নের উপর ওরুত্বারোপ করেন। রেলপথ, সভ্কপথ, নদীপথ এবং বিমানপথে ভাক পরিবহণের জন্য একটি সামন্ত্রিক পরিকল্পনা গ্রহণের লক্ষো তিনি নির্দেশনা প্রসান করেন।

এমতাবস্থায়, মানদীয় প্রধানমন্ত্রীর নির্দেশনা মোতাবেক, ৬৪ টি জেলার মধ্যে প্রাথমিকভাবে ১৪ টি জেলা সদরে মেইল প্রসেসিং ও লজিটিক সার্ভিস সেন্টার স্থাপনের পর অবশিষ্ট ৫০ টি জেলা সদরে মেইল প্রসেসিং ও লজিটিক সার্ভিস সেন্টার স্থাপন" এবং "রেলপথ, সড়কপথ, নদীপথ ও বিমানপথে ভাক পরিবহণের" জন্য একটি সামগ্রিক পরিকল্পনা গ্রহণের প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য নির্দেশক্রমে অনুরোধ করা হলো।

> 28/04/200 (সেবারিন/রেমা) মন্ত্রীর একান্ত সচিব (উপসচিব) ফোন: ৯৫১৪৪০৩ (অ:)

892-16,500,050,050,000,00,86-55

তারিম ঃ ২৪/০৬/২০১৮ খ্রিঃ

প্রাপক ঃ

সচিব

ভাক ও টেলিযোগাযোগ বিভাগ

বাংলাদেশ সচিবালয়, ঢাকা।

তিত্র

ভাক ও টেলিযোগাদোগ বিভাগ

ভাক ও টেলিযোগাদোগ বিভাগ

অভিবিক্ত সচিব (গ্রাশাসন) এর দপ্তর

ভাইন্তি স্ব চিব (গ্রাশাসন) এর দপ্তর

ভাইন্তি স্ব চিব (গ্রাশাসন) এর দপ্তর

ভাইরী নং 2 G 8 তাকিম 2 5 তেওঁ ৪
তাকিম 2

ভারতা না
ভারত বহু প্রতিক্রির প্রতিক্র বিভাগের প্রতিক্রির বিভাগের প্রতিক্রির বিভাগের প্রতিক্রির বিভাগের প্রতিক্রির বিভাগের প্রতিক্রির বিভাগের প্রতিক্রির বিভাগির বিভাগ

१८८ २५५०० अवस्थितः य दिल्लासामान्यास निज्ञान प्राथमान य दिल्लासामान्यास निज्ञान प्राथमान अन्यास विज्ञान स्थान-अन्यास स्थान-अन्यास

অতি জরুরী বিশেষ বাহক মারফত

# গণপ্রজাতন্ত্রী বাংলাদেশ সরকার ডাক, টেলিযোগাযোগ ও তথ্যপ্রযুক্তি মন্ত্রণালয় ডাক ও টেলিযোগাযোগ বিভাগ পরিকল্পনা উইং বাংলাদেশ সচিবালয়, ঢাকা।

সারিক নং-১৪,০০,০০০০,০১৪.১৮.০১৬.১৪-১৬৪

তারিখঃ ২২ ল্যৈর ১৪২৫

বিষয়ঃ ডাক অধিদপ্তর সম্পর্কে মাননীয় প্রধানমন্ত্রী কর্তৃক প্রদত্ত সদয় অনুশাসন সংক্রান্ত।

উপর্যুক্ত বিষয়ে জানানো যাচ্ছে যে, গত ২৯/০৫/২০১৮ তারিখে অনুষ্ঠিত একনেক সভায় ডাক অধিদপ্তর কর্তৃক উপস্থাপিত "মেইল প্রসেসিং ও লজিন্টিক সার্ভিস সেন্টার নির্মাণ" শীর্ষক প্রকল্পের আলোচনায় ডাক অধিদপ্তর সম্পর্কে মাননীয় প্রধানমন্ত্রী কর্তৃক প্রদত্ত সদয় অনুশাসন নিম্নরূপঃ

- ক) "মেইল প্রসেসিং ও লজিস্টিক সার্ভিস সেন্টার নির্মাণ" শীর্ষক প্রকল্পের আওতায় বর্তমানে প্রস্তাবিত ১৯টি স্থানে মেইল প্রসেসিং সেন্টার নির্মাণের স্থলে পর্যায়ক্রমে দেশের ৬৪টি জেলার অবশিষ্ট জেলাগুলোতেও নির্মাণের ব্যবস্থা গ্রহণ করতে হবে।
- খ) ডাক পরিবহণের জন্য সংগৃহিত যানবাহনে Chill Chamber এর সংস্থান রাখতে হবে।
- গ্য ডাক অধিদপ্তরের আওতায় প্রতিটি ডাকঘরে পণ্য পরিবহণ ব্যবস্থায় E-Commerce প্রবর্তন করতে হবে।
- ঘ) রেলের মাধ্যমে পণ্য পরিবহণে ডাক গাড়ীতে (Mail Van) Chill Chamber এর সংস্থান রাখতে হবে।
- ২। এমতাবস্থায়, মাননীয় প্রধানমন্ত্রী কর্তৃক প্রদন্ত উক্ত অনুশাসন অনুযায়ী পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণের জন্য নির্দেশক্রমে অনুরোধ করা হল।

(মোঃ আব্দুল্ মারান)
সিনিয়র সহকারী প্রধান
ফোন-১৫৭৩৫৬৬

মহাগরিচালক ডাক অধিদপ্তর, ঢাকা।

# অনুলিপিঃ

- ১। সচিবের একান্ত সচিব, ডাক ও টেলিযোগাযোগ বিভাগ।
- যুগ্ম-প্রধানের ব্যক্তিগত কর্মকর্তা, ভাক ও টেলিযোগাযোগ বিভাগ।

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