SUSTAINABILITY OF INDIAN POSTAL DEPARTMENT WITH INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

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Abstract: In November 2012, the Government of India approved the Department of Posts' IT Modernization Project as a Mission Mode e-Governance Project with an outlay of '4909 crore. The project entails modernizing, computerizing, and networking the nation's 1,55,000 post offices, including 1,30,000 Branch Post Offices managed by Gramin Dak Sevaks in rural areas. India as a whole is going through a digital revolution, and technology is assisting in making their services more efficient. India Post had made significant investments in information systems to keep up with the developments, integrating information technology into every aspect of its operations. The main conclusions concern customers' perceptions of India Post's dependability and efficiency as well as their preferences when it comes to selecting a mail service. This study elaborates how technology will be used in India Post and how ICT will change the facets in Indian Postal department.

Keywords: Information and Communication Technology (ICT), Sustainability, Modernization, Indian Postal Department

INTRODUCTION:

Internet access used to be a privilege for a country. Countries today require Wi-Fi, training, and equipment to grow economically. Despite being a leader in IT, India has a significant digital gap, largely because rural areas lack access to the internet. Farmers and small-business owners in rural India lack access to adequate healthcare, education, and financial inclusion without internet. The Department of Posts (DoP) has served as the communication hub of the nation for more than 150 years and has been essential to its socioeconomic development. Delivering mail, accepting deposits under Small Savings Schemes, offering life insurance coverage under Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI), and offering retail services like bill collection, the sale of forms, among other things, all have an impact on the lives of Indian citizens. One of the government of India's "not equal" departments is the Indian Postal System. The postal department has a better reputation in the public eye than the telecom department, of which it was a part until 1985. (Department of Posts, 2013). It is also one of the government of India's Cinderella departments since it may receive considerably less funding than it deserves when it comes to resource allocation. This is due to the widespread belief that these departmental services are a money-losing operation. The salaries of its 6 lakh employees account for 85% of its total spending. Actually, in the past, the postal system was used as a symbol for do-good socialism. Galbraith called India's socialism "Post office socialism" in the 1960s (India's Post Office socialism, 2011). A central server-based integrated, modular, and scalable solution for all Department of Posts operations, including mail, human resources, banking, insurance, and finance and accounts, is part of the IT modernization project. It also entails building IT infrastructure, such as data centres and disaster recovery centres, setting up wide area networks (WAN), and supplying every branch post offices with solar-powered and portable hand-held computers that are Micro ATM compliant. Data Center Facility (DCF), Network Integrator (NI), Financial Services System Integrator (FSI), Core System Integrator (CSI), Digital Advancement of Rural Post Office for A New India (DARPAN) - Rural

System Integrator (RSI) and Rural Hardware (RH), Mail Operations Hardware (MOH), and Change Management (CM) are the eight segments that make up the Project's implementation.

REVIEW OF LITERATURE:

One of the biggest service sectors in the world is the collection, processing, and delivery of letters and shipments. In order to assess and address decision difficulties imposed by postal administrators in various nations, this study offers a thorough survey of the use of operations research techniques. Forecasting, cost and revenue analysis, postal network design, workforce planning and scheduling, maintenance, and service characteristic measurement are some of the problem areas taken into consideration. A brief summary of the initiatives to train postal managers in the application of operations research in their decision-making roles concludes the presentation (Gupta & Krajewski, 1977).

According to Hall (2000), training centers need quick access to a lot of information in order to adapt to the continuously changing environment. Due to this, training facilities can now offer online training. By simultaneously instructing a larger group, also referred to as "online learning" or "e-learning," one can save time and money. Electronic learning, or e-learning, is a contemporary strategy that incorporates computer-based learning activities.

Mahesh Potadar, et al. (2015) highlighted the difficulties the Indian Post Office has in providing services related to letters, mail, and packages due to private courier, banking, and financial institution organisations to research the steps taken by the postal service to assist customers in improving their IT-based technology. These obstacles to post offices' operations have been eliminated by e-post. The best way to evaluate employees' and customers' performances is to gather feedback from both groups. (Potadar, Mehta, & Potdar, 2015)

Before the term "financial inclusion" became a catchphrase, the Indian postal sector, which offers simple financial services to people across the nation, acted as a banker to the majority of Indians in rural areas. India Post Payments Bank (IPPB)

has been created as a public sector corporation under the Department of Post with 100% Government of India stock in order to further the cause of financial inclusion by offering essential banking, remittance, and payments services to clients. The target group is expected to receive specific financial services from IPPB at a reasonable cost. The purpose of this essay is to examine how Indian post offices contribute to financial inclusion. Additionally, an effort was made to assess India Post Payments Bank's potential in the future. (SULTANA, 2020)

Mala, M., Dr.Vasanthi, G. (2016) "PROBLEMS AND CHALLENGES OF INDIAN POST IN FINANCIAL INCLUSION". The goal of the study is to examine the function of post offices in financial inclusion as well as the issues and difficulties faced by Indian post in this regard. According to the study's findings, post offices and their capabilities could serve as an alternative to traditional banking for the betterment of financial inclusion. Consequently, using post office networks can be a new strategy for increasing financial inclusion. (Mala & Dr. Vasanthi, 2016)

Anand, M.B., Dr. Srinivas, D.L., Dr. Ramesh, H.H. (2013) in their paper titled "PERFORMANCES OF INDIAN POSTAL SERVICES" explained that the study's goal is to examine the development, effectiveness, and potential of India's postal system. According to the study, India Post's growth and performance over the years have not been particularly impressive. India Post should work to meet the challenge of processing large numbers of money orders and should offer convenient, affordable bank accounts to all Indian citizens, especially those who are financially excluded. (Anand, Dr. Srinivas, & Dr. Ramesh, 2013)

Dr. Meena Kumari, K., (2017) "INDIA POST PAYMENTS BANK- PROBLEMS AND PROSPECT" explained the study's goal is to analyses the function and goals of payments banks, namely the India Post Payments Bank, their importance in achieving the goal of financial inclusion, potential hurdles and issues, and solutions to those issues. According to the study's findings, the Department of Posts' Payments Bank might become the nation's most user-friendly banking system. The postal delivery system along

with digital platforms like mobile, internet banking, prepaid items, debit cards, ATMs, etc. will enable Payments Bank to transform post offices and play a significant role in the Government of India's initiative for financial inclusion. Payments Bank will also serve as the face of this initiative. (Dr. Meena Kumari, 2017)

In this study, a methodology for dividing the benchmarking process into its two basic components, performance evaluation and continuous improvement, is established. A combination of qualitative and quantitative parameters have been considered. The first stage is to assess the performance of the company being benchmarked and its rivals. On the basis of the first phase, the second phase seeks to select the best practice from a list of improvement choices. The suggested approach can assess how the case company performs in comparison to its rivals. Additionally, it can assist the business in deciding which improvement option will improve its performance on the weakest metrics. The benchmarking technique suggested in this paper can assist the case company in determining its areas for improvement before choosing the most effective one to raise its performance in comparison to the market leader. Although the postal sector is used as an example to show how the proposed framework works, it can also be used in other industries with some minor adjustments (Chan & Lau 2006).

The book "Future of India Post" by Bruhaspati Samal advanced the idea that post should take the necessary precautions to ensure his survival due to the widespread use of electronic media, more demanding customers, the presence of organized and unorganized couriers for mail service, financial institutions like banks and insurance companies, and above all the challenges of globalization, corporatization, and liberalization. He emphasized a number of points that were covered by the India Post.

Information technology can be used as a significant enabler to manage the postal sector operations, according to Mr. Sanjay Mirchandani's article, "Role of Technology for Postal Systems and Challenges for India." The four pillars of strategic change and development for a postal system are: empowering customers, partners, and employees through excellent services and solutions; expanding the use of the post office and making it a gateway for value-added services; measuring operational costs, productivity, and customer value; and enhancing employee and service delivery productivity. All four of these pillars are supported by information technology.

IT MODERNIZATION IN POSTAL DEPARTMENT:

The Department of Posts' IT modernization project aims to build a solid digital foundation for the largest postal network in the world. The Department started this project with the following goals in mind:

I. All of the nation's non-digitized post offices, including Gramin Dak Sevak (GDS) Branch Post Offices in rural areas, postal offices, administrative offices, and other offices, should be modernized and computerized.

II. Creation of scalable, integrated, and modular software to support all Department of Posts operations.

III. Construction of the necessary IT infrastructure, such as data centres and WAN-based networking for departmental post offices.

IV. Building an infrastructure for rural information and communication technology (rural ICT).

CURRENT STATUS OF IT MODERNIZATION:

I. The Department has switched from independent local server-based operations to a centralised server-based system that is used consistently. The main data Centre is open as of April 3, 2013, in Navi Mumbai. On May 15, 2015, the Disaster Recovery Center in Mysore was activated.

II. As of December 31, 2021, 26,708 Departmental sites had Wide Area Network (WAN) access, allowing these offices to serve the public through centralised apps that communicate with the main Data Center.

III. Customers of the Post Office Savings Bank (POSB) have access to Core Banking Services (CBS) through 25,046 Post Offices as of December 31, 2021. At least one ATM has been built in each

District Headquarters, totaling 1000. These ATMs can communicate with those from different banks. Customers of POSB can now access internet banking services (often known as "e-banking") as of 14.12.2018. Sukanya Samriddhi Yojana (SSY) and Post Office Public Provident Fund (PPF) account deposits can be made online from POSB savings accounts through the e-banking facility. Beginning on October 15, 2019, the POSB customers can also use mobile banking.

IV. Through the Core Insurance Solution (CIS), which has been implemented in 25,581 Post offices as of December 31, 2021, postal life insurance (PLI) services are offered.

V. The Enterprise Resource Planning (ERP) system has been implemented by the Core System Integrator (CSI) segment. Through CSI, the Department has centralised all of the server-based offices' counter, postal, and mail functions online. On the online, SAP-based platform, it has also digitalized the Department's finance & accounting and human resource management activities. As of December 31, 2021, CSI had 505 Postal & RMS Divisions (out of a total of 511 Divisions) and 12 independent Head Post Offices/GPOs.

VI. Branch Post Offices have received solar-powered, micro ATM compliant, SIM-based hand-held devices as part of the Digital Advancement of Rural Post Offices for a New India (DARPAN) initiative. As of December 31, 2021, these devices have been distributed to 1,29,380 branch post offices, and client applications for the various products and services offered by the Rural System Integrator (RSI) have been implemented there.

VII. Under the Mail Operation Hardware Project, the Department has provided smart phones to the workers of Post Offices as well as computers, hardware, and peripherals. All of the Departmental Post Offices have been computerized as part of the Project.

VIII. The need for assistance in helping the staff, particularly Gramin Dak Sewaks (GDS), adjust to the dramatic change in the Department's operations was felt. Numerous trainings and workshops were performed as part of the project's "Change Management" section to help all Department employees—including GDS—get ready to work efficiently in an IT environment. The Project is now finished. After March 2022, the Department plans to move forward with the DoP IT Modernization 2.0 Project to maintain, upgrade, and modernize the IT infrastructure.

IT TRANSFORMATION OF DEPARTMENT OF INDIA POST:

The Department of Post is working on the next stage of IT modernisation in order to expand its reach and customer service fueled by tech-competence. The company has already started the appointment of a consultant as part of this exercise. PricewaterhouseCoopers Pvt Ltd is said to have been hired as a consultant to investigate the organization's progress in acquiring IT capabilities and present a report with the organization's future expansion in mind, according to official sources. The department, known as India Post, has undergone a thorough change as a result of the reengineering of business processes in a number of different functional areas. (Radhakrishna, 2022)

On January 19, 2022, the Cabinet gave its blessing to the IT Modernization Project 2.0 for the following eight years. During the initial phase of big-bang IT induction from 2012 to 2022, India Post was successful in computerizing and networking Post offices. The Department will have the flexibility needed to adapt to changes in citizen and government expectations with the New Age Digital Transformation under IT 2.0. In this modernization, DoP has insisted upon three criteria:

- Solution Architecture
- New email Solution
- Cyber Security Initiative

I. SOLUTION ARCHITECTURE IN DoP:

The Department had authorized the solution design utilizing the service mesh architecture in accordance with the Cabinet's directives to prevent the dual IT Infrastructure. For the first time, it will make it possible for the Post Office and citizens to use a single, easy, secure interface. Additionally, employing One MI and One AI, it will enable cost-

effective reporting and accounting interface. This adaptability will allow for the "on-the-fly" addition of numerous service providers, including the India Post Payment Bank, CSCs, and commercial organisations. By utilizing its strong banking regulatory standards for IT safety and security, India Post Payment Bank will introduce an IT structure for banking, insurance, and other financial services. Alongside, the Department will have the chance to implement new technologies in the postal segment using cutting-edge technology like artificial intelligence and machine learning as well as scalable cloud infrastructure. Utilizing the best of both IT types, this combination will break the link between the bottlenecks in the financial and postal IT requirements.
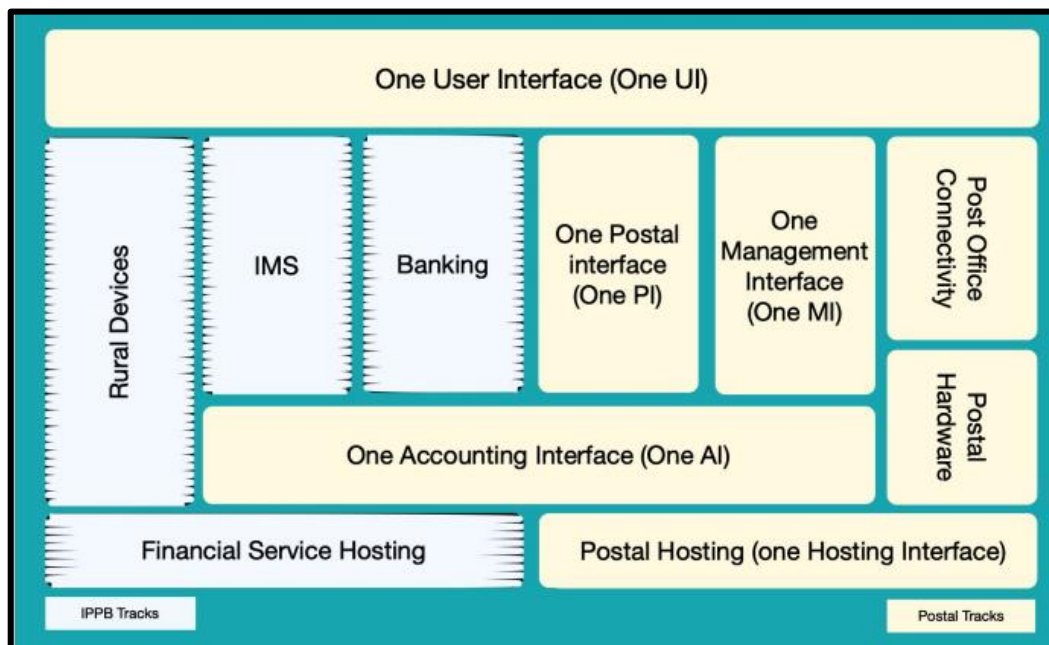

Figure 1. Solution Architecture

II. NEW EMAIL SOLUTION: - SAVING POSTAL OFFICIALS FROM PHISHING:

A victim of a phishing assault receives a message that appears to have been delivered by a familiar person or company. Either a malicious file attachment containing phishing software or links leading to malicious websites are used to carry out the attack. In either scenario, the goal is to mislead the victim into disclosing personal and financial information, such as passwords, account IDs, or credit card numbers, by tricking them into visiting a malicious website or installing malware on their computer. Phishing tactics sometimes revolve around important occasions like holidays and anniversaries or make use of breaking news topics, both real and made-up. Recently, phishing for lottery systems was widespread in the DoP, and our security team at CEPT was able to take down the majority of the websites. By pretending to be the official India Post website, the attacker tried to deceive visitors into giving up personal information such mobile numbers.

III. CYBER SECURITY INITIATIVE: IT GOVERNANCE

On March 22, 2022, the Steering Committee for IT 2.0 was established, and it has the authority to approve all projects under the DoP IT 2.0, including the entire cost of the contract. Steering Committee then gave its approval to the comprehensive Governance and Solution Delivery structure for the DoP IT deployment. To oversee and disburse all payments, a Project Evaluation Committee (PEC) led by Secretary Posts was established on June 9, 2022. Eminent people-filled Technical Advisory Groups (TAG) have been established to provide technical guidance on technology selection. The functional divisions of the Directorate, Circle, Region, Divisions, CEPT, India Post Payment Bank (IPPB), and National Informatics Center have constituted Project Management Committees (PMCs) (NIC). The requirements, development, and delivery of the deployed solution will be entirely under the responsibility of this committee.
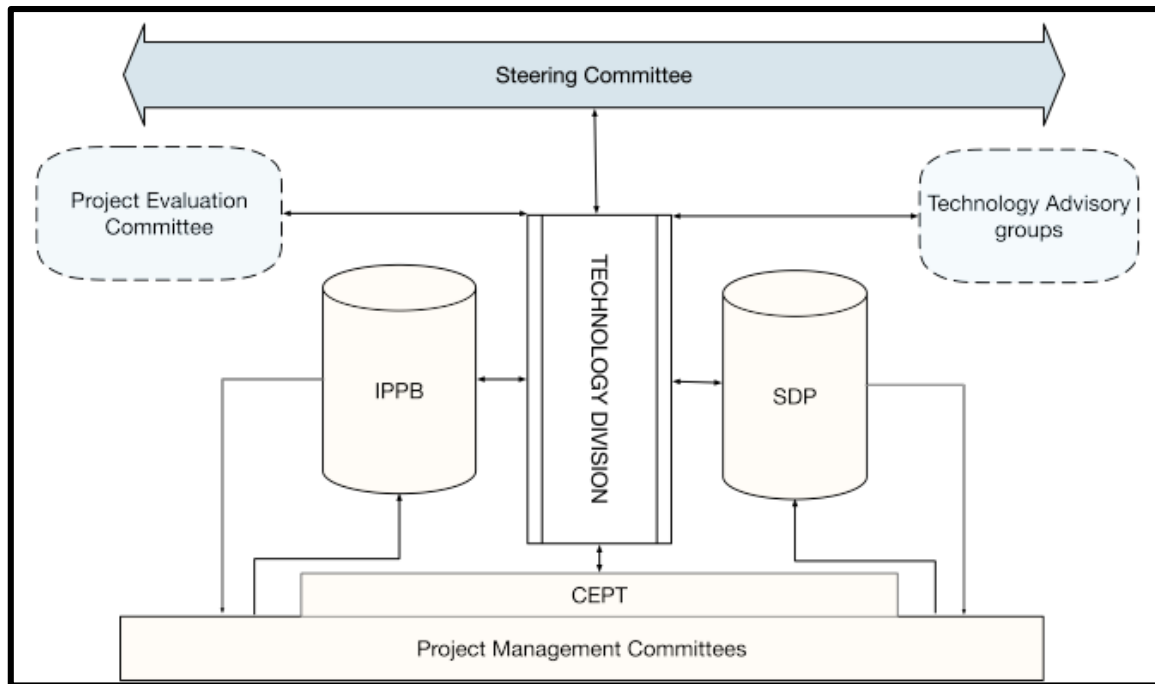
Figure 2. IT Governance, Centre for Excellence in Postal Technology

The IT 2.0 will have two implementation teams working under the control of the aforementioned governance structure: 1. Software Development Agencies / Technology resources for Postal Tracks (to be brought in by Technology Division); and 2. India Post Payment Bank as Technology Service Provider for Financial Tracks. The Centre for Excellence in Postal Technology will be crucial in supporting Management Committees on a functional level. Additionally, CEPT will oversee the management of the Program's technical resources and software development firms.

CONCLUSION:

This in-depth investigation on the mail service was conducted to examine different facets of the postal service. This investigation demonstrates that customers frequent the post office because they believe it to be trustworthy. The significant investment in information technology is justified by the need to expand the scope of its services and enhance the delivery front. While the majority of post offices across the world have already adopted information technology, Australian Post is tailoring its mailing services by utilizing augmented reality. The study therefore shows that there is much room for improvement in the postal service, but given India's enormous population and the country's post offices' emphasis on rural residents, the way things are now are reasonable.

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