# EVALUATION STUDY REPORT OF IT MODERNIZATION PROJECT 2012 OF THE DEPARTMENT OF POSTS


Department of Posts
Ministry of Communications
Government of India

**Submitted to**
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**MINISTRY OF COMMUNICATIONS**
**GOVERNMENT OF INDIA**

**Conducted by**
**Indian Institute of Public Administration**
**New Delhi-110002.**

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# CONTENTS

# LIST OF TABLES

## LIST OF FIGURES

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I hope that the study report would meet all the requirements envisaged in the Terms of Reference (ToR) of the evaluation of the "IT Modernization Project 2012" of the Department of Posts.

The annexes of the report have been reproduced without formal editing and may contain inaccuracies. The views expressed in this report are those of the author and do not necessarily reflect the views of the organization.

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Associate Professor

# 1. EXECUTIVE SUMMARY

1. The Central Sector Scheme of the "IT Modernization Project 2012" of the Department of Posts was approved by the Cabinet Committee on Economic Affairs, Government of India in November 2012 with a total outlay of Rs. 4909 crore. The scheme involves computerization, modernization, and networking of about 1, 55,000 post offices across the country. Under the umbrella of 1, 55, 000 Post Offices, about 1, 30, 000 Branch Post Offices are operationalized by the Gramin Dak Sewaks (GDS). The key objectives of the scheme are to modernize and computerize all non-computerized Post offices in the country including Gramin Dak Sewaks (GDS) Branch Post Offices in rural areas, mail offices, administrative and other offices, to develop scalable integrated and modular software covering all operations of the Department of Posts, to establish required IT infrastructure including Data centre, Wide Area Network (WAN) based networking of the departmental post offices, and to efficiently use DARPAN - RICT (Digital Advancement of Rural Post Offices for a New India-Rural Information Communication Technology (Rural-ICT) infrastructure.

2. The 'IT Modernization Project 2012' of the Department of Posts (DoP) is to provide central server-based integrated, modular, and scalable solutions for various operations of the department including mails, human resource management, banking, insurance, and finance & accounts. The scheme also involves implementation of the project through eight silos viz. (1) Data Centre Facility (DCF), (2) Network Integrator (NI) (3) Financial Services Integrator (FSI), (4) Core System Integrator (CSI), (5) DARPAN Rural Hardware (DARPAN-RH), (6) DARPAN Rural System Integrator (DARPAN-RSI) (7) Mail Operation Hardware (MOH), and (8) Change Management (CM).

3. The Data Centre Facility (DCF) hosts the primary Data centre and builds Disaster Recovery Centre for the DoP. As per the information shared, the Data Facility Centre is operational from 03.04.2013 at Navi Mumbai and has been continued upto 31.03.2021. The Disaster Recovery Centre (DRC) has been powered on at a departmental facility at Mysore since 15.05.2015. The Network Integrator (NI) provides connectivity for each departmental post office location in order to ensure uninterrupted network connectivity through WAN. Approximately 28,000 technically feasible sites out of 29,196 departmental locations have been connected via Wide Area Network (WAN) till date where required infrastructure are available.

4. Financial Services Integrator (FSI) implements solutions for Core Banking and Core Insurance in all Post offices. It provides multiple delivery channels viz. internet banking, mobile banking, ATM and Interactive Voice Response (IVR) and SMS, etc. The core Banking Solution has been rolled out at all technically feasible locations i.e. at 23,466 post offices out of 25,560 locations including the offices of the Director of Accounts (Posts). All 25,560 post offices have migrated under Core Insurance Solution (Postal Life Insurance). The implementation of internet banking has been done from 14.12.2018 and mobile banking from 15.10.2019. **The target of installation of 1000 ATMs have been achieved.** A total of 1000 ATMs have been installed so far. Also, **about 91.73 crore PoSB transactions were completed in FY 2019-20.**

**5.** Core System Integrator (CSI) is responsible for the overall integration of the solution. It pertains to the implementation of the solutions for Mail Operation, Retail, Logistic Post, Philately, Finance and Accounts & Human Resources and integration with other System Integrator (SIs). T**hrough the Core System Integrator (CSI), the DoP has digitalized all the postal, mails, and counter operations on a single, central server based platform.** It has also digitalized the finance &accounts and human resource management functions of the DoP on the online, Systems, Applications & Products in Data Processing (SAP) based platforms. 513 divisions {(501 Postal, & Railway Mail Service Divisions and 12 independent Head Post offices/ General Post Offices (GPOs)} have been rolled out in CSI as on 31st December, 2020. **As a result, about 110.92 crore PoS transactions were completed in FY 2019-20.**

6. DARPAN Rural Hardware (DARPAN-RH) provides connectivity, hardware, and solar power panels to Branch Post Offices in rural areas. The project is in the operation and maintenance phase. Supply of main computing handheld devices has been completed for all about 1, 29,754 (Pilot, Phase I & Phase II) (out of 1, 30,000 approx.) Branch Post Offices. Out of these, **solar power panels have been supplied to 1, 00, 238 Branch Post Offices.** DARPAN Rural System Integrator (DARPAN-RSI) implements solutions for integrating all FSI/CSI applications to the Branch Post Offices. **The rolling out of the Rural System Integrator Solution (RSI) has been done in about 1, 29, 167 Branch Post Offices across the country. A total of 17.94 crore transactions have successfully been carried out under RSI in 2019-20.**

7. Mail Operation Hardware provides hardware to mail offices and handheld devices to Postmen. The procurement of hardware has been decentralized to circles as reported. **A total of 44,893 devices (Smart Phones/handheld devices- 38,477, 3,417 printers, 861 Computers, etc.) have been supplied based on the assessed requirement as per the Request for Proposal (RFP).** The Change Management prepares the workforce for the complete change in department's working after implementation of the IT project. Under this, **vendor activities have been completed in total 120 change management workshops in 4 cycles with a total attendance of 3,523 participants. About 12.31 lakh man-hours of training for FSI module and about 8.11 lakh man-hours of training for CSI module has been provided.** Overall, the rolling out of the IT modernization project has provided key benefits to the customers, viz. improved customer satisfaction due to faster and more reliable services in mails, banking, insurance and money remittance/transfer operations, transparency in financial services by introduction of Core Banking and Core Insurance Solutions, multiple channels of access the customers through Post Office counters, internet, mobiles, call centres and ATMs, etc. **It has also ensured effective and transparent delivery of the social security and employment guarantee schemes of the Government.**

8. The scheme of the 'IT Modernization Project 2012' of the Department of Posts (DoP) is implemented across the country. The scheme has been implemented in 23 Postal Circles including 54 Postal Regions, 443 Postal Divisions, 68 Rail Mail Service Divisions, 12 General Post Offices, 810 Head Post Offices, 24,599 Sub-Post Offices, and 131312 Branch Post Offices with little variation in the size of silos.

9. It has been found that the scheme of the 'IT Modernization Project 2012' of the Department of Posts (DoP) is aligned with the objectives of the 2030 Agenda for Sustainable Development Goals. **The SDG goal number 8.2** (achieve higher level of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high value-added and labor-intensive sectors), **SDG goal number 8.10** (strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance, and financial services for all), and **SDG Goal number 6.6** (develop effective, accountable and transparent institutions at all levels). Financial inclusion has a multiplier effect in boosting overall economic output, reducing poverty and income inequality, and in promoting gender equality and women empowerment. The office Memorandum issued by the Ministry of Finance, Department of Expenditure vide letter dated 15.07.2016 and 26.02.2016 mention that all the Direct Benefit Transfer (DBT) should be

routed through the National Payment Corporation of India. This requires the rollout of hardware, software, connectivity, and technical resources for the effective implementation of DBT across all the levels of hierarchy. Hence, the IT modernization project 2012 of the Department of Posts may be considered as one of the enablers of the National Developmental Plan.

10. To evaluate the scheme of the 'IT Modernization Project 2012' of the Department of Posts, the set objectives are: (i) to assess the status of achievement of IT Modernization Project 2012 of Department of Posts vis-a-vis key objective envisaged to be achieved, (ii) to qualitatively and quantitatively map the intended and actual contribution of IT Modernization Project 2012 of the Department of Posts, (iii) to analyze the role of the department in the planning, implementation, and monitoring of the various silos of the IT Modernization Project 2012 of the Department of Posts vis-a-vis Project Approval Document and suggest the changes for the next phase of the IT Project to ensure compliance of timelines for IT Modernization Project 2.0, (iv) to evaluate the efficiency, robustness, and overall quality of the IT Modernization infrastructure created under the Project with specifics to output and outcome, and (v) to study the levels of customer satisfaction and workforce motivation in their experiences, expectations, and concerns. Aligned with the objectives and laid down outcomes indicators, the scheme was assessed on: (a) Quality of services and increase in productivity on account of improved IT system, (b) Customer's access to the Post Office through web portal, mobile and call centres, (c) Increase in the transactions in Postal banking, insurance, and retail activities, (d) Reduction in paperwork, particularly in administration and account offices, (e) Improvement in the monitoring and management of Post offices for improved decision making, and (f) Speedy and transparent access of information to the customers.

11. To evaluate the above-expected outcomes vis-à-vis study objectives, a positivist approach with multiple methods were adopted to arrive at the objective findings. The approach for the study took cognizance of the objectives, processes, and outcomes of the scheme. The evaluation strategy made use of both primary and secondary data for the assessment of the scheme's goals, processes, and outcomes. Secondary information in the form of Scheme Budget, particularly the actual budget from the Department of Posts was obtained. The Annual Reports of the Department of Posts from 2013-14 to 2020-21 have extensively been used to get the precise financial details. The reports also provided us the handy information on the products and services offered by the Department of Posts. One of

the instruments for obtaining primary data was questionnaire. They were made available to the respondents (Divisional heads, Post office heads, counter staff, and customers) of the scheme to understand the effectiveness and gauge the overall success.

12. Since the scheme has been implemented across the country (23 Postal circles), based on the maximum silos covered, sample selection was done. The sample selection has largely followed the NSSO classified zones. However, etic and emic approaches have been applied to arrive at conclusive findings. The study has covered 6 States and 18 districts from all the six NSSO classified zones. From each of the states, 3 Districts (which generally represent a revenue district) have been selected. From each District, one HO, two SOs, and two BOs have been selected. The selection of SOs has been done in such a way that one of them falls under rural areas. Single-headed SOs have been given priority in the selection process. The states selected under the study are: (1) Himachal Pradesh, (2) Odisha, (3) Maharashtra, (4) Assam, (5) Madhya Pradesh, and (6) Tamil Nadu.

13. From the northeast region, Assam was selected. From Assam, three districts, namely Guwahati, Tezpur, and Dibrugarh were sampled. From the north region, Himachal Pradesh was selected. From Himachal Pradesh, three districts, viz. Shimla, Mandi, and Dharamshala were sampled. From the central region, Madhya Pradesh was selected. From Madhya Pradesh, three districts, eg. Bhopal, Hoshangabad, and Indore were sampled. From the east region, Odisha was selected. From Odisha, three districts - Bhubaneswar, Mayurbhanj, and Cuttack were sampled. From the west region, Maharashtra was selected. From Maharashtra, three districts, namely Ahmednagar, Mumbai, and Amaravati were sampled. From the south region, Tamil Nadu was selected. From Tamil Nadu, three districts, like Madurai, Erode, and Chennai were sampled. Hence, the study constituted six states, 18 districts, 15 Divisional Offices (DOs), 18 HOs, 36 SOs, and 36 BOs. **A total of 1953 customers, 111 Postmasters, 263 counter staff, and 15 DO heads were covered under the study. As such, the study has covered a total of 2342 samples from different layers of stakeholders involved both as service providers and service recipients of postal operations.**

14. The study has followed a random sample selection procedure. Out of the total customers available transacting Postal services constituted the larger pool of our respondents. The randomly selected counter staff (in certain cases available counter staff) were requested to provide their feedback on the identified indicators. **387 respondents from the east zone, 319 samples from the northeast zone, 374 responses from the north zone, 397 views**

**from the western zone, and 504 feedback from the southern zone were received. Thus, a total of 2342 samples were studied from different layers under the evaluation study.**

15. To study the heads of DOs, HOs, SOs, and BOs, in-depth interviews, questionnaires, and observation were applied. For the counter staff of HOs, SOs, and BOs, research tools like questionnaire and observation were applied. For the customers of HOs, SOs, and BOs, questionnaires, observation, and Focus Group Discussion (FGD) were used. For DoP officials, in-depth discussion and observation were applied to document their feedback.

16. The financial analysis of the scheme reveals that □ 91.92 crore in 2011-12, □ 26.13 crore in 2012-13, □ 253.95 crore in 2013-14, □ 88.84 crore in 2014-15, □ 307.19 crore in 2015-16, □ 188.42 crore in 2016-17, □ 415.63 crore in 2017-18, □ 375.32 crore in 2018-19, □ 367.39 crore in 2019-20 and □ 802.02 crore in 2020-21 have been incurred as actual expenditures. The maximum expenditure has been found in the year 2020-21, followed by 2017-18, 2018-19, 2019-20, 2015-16, 2013-14, 2014-15, 2011-2, and 2012-13. The trend in the expenditure incurred against the final grant has been found to be 41.60% in 2011-12, followed by 21.93% in 2012-13, 7.47% in 2013-14, 7.41% in 2019-20, 4.47% in 2017-18, 3.73% in 2016-17, 0.98% in 2015-16, 0.76% in 2014-15, 0.72% in 2018-19 and 0.13% in 2020-21. It shows fund utilizations has grown. However, it largely reveals that the decreasing trend in expenditure is actually in the gap between expenditure and final grant released. **The average budgeted expenditure has been calculated as □428.56 crore against the average actual expenditure of Rs. □ 291.68 crore for the year 2011-12 to 2020-21.**

**17.** Compound Annual Growth Rate (CAGR) is the rate of return required for an investment to grow from its beginning balance to its ending balance, assuming the profits were reinvested at the end of each year of the investment's lifespan. The CAGR has scored 13.46% in 2011-12, 15.99% in 2012-13, 15.51% in 2013-14, 13.70% in 2014-15, 13.20% in 2015-16, 7.5% in 2016-17, 9.13% in 2017-18, 8.61% in 2018-19 and 7.69% in 2019-20. If we compare the revenue generated from the year **2010-11 to 2019-20,** the implementation of IT Modernization Project 2012 of the Department of Posts has achieved **an astounding Compound Annual Growth Rate (CAGR) of 7.69%.**

18. The operational costs are inclusive of the salary of employees. However, the pension liabilities have been excluded while calculating the operational costs. After clubbing both operational and silos costs, the total costs have been derived. The net cash flow has been calculated based on subtracting the total costs from the total revenue generated on yearly

basis through the postal operations. The operational and silos costs have been considered as the crucial items providing buoyancy to the net cash flow. As such, **the Internal Rate of Return (IRR) has scored 6.33%. Overall, an average growth of 6.82% has been realized across the 10 FYs.** This shows a positive sign that the postal operations are effectively aligned to reach improved productivity.

19. The postal operations have generated revenue effectively despite the reduced working staff strength. A total of 475454 staff (including 206344 Departmental Staff and 269120 GDS) were engaged with the DOP as of 31.3.2010. The number went down to 170932 for Departmental staff and 245141 for GDS. Hence, a 20.72% reduction in the Departmental staff strength and 9.78% in GDS have been identified. On the contrary, the revenue generated through postal operations was Rs. 6962.3 crore in 2010-11 that went to Rs. 13558.2 crore in 2019-20. **As such, 48.65% growth in revenue through postal services has been recognized despite a 14.27% reduction in working staff strength.**

20. The Year over Year (YoY) growth has scored 13.46% in 2011-12, 18.57% in 2012-13, 14.56% in 2013-14, 8.44% in 2014-15, 11.21% in 2015-16, -11.04% in 2016-17, 11.48% in 2017-18, 5.06% in 2018-19, and 0.56% in 2019-20. It shows that IT Modernization Project 2012 of the Department of Posts has enabled the Post offices to deliver services more efficiently.

21. The POSB facilities are provided through a network of about 1.57 lakh post offices across the country. Under the POSB facilities, the schemes are: Post Office Savings Bank Account, National Savings Recurring Deposits Account (RD), National Savings Time Deposits Account (TD), National Savings Monthly Income Account (MIS), Senior Citizens Savings Scheme Account (SCSS), Public Provident Fund Account (PPF), Sukanya Samridhi Account (SSA), National Savings Certificates (NSC), Kishan Vikas Patra (KVP), Jan Suraksha Schemes, and National Pension Systems (all Citizens Model). The IT-led modernization has enabled the DoP to provide Core Banking Solutions, Automated Teller Machines (ATMs), e-Banking, Mobile Banking, the extension of Savings schemes, and Simplification of forms and procedures. After implementation of the 'IT Modernization Project 2012' of the Department of Posts, it has been found that the aforesaid facilities have impacted the postal productivity considerably. The POSB component has been found to be generating revenue of Rs. 6670.03 crore in 2014-15, Rs. 7783.87 crore in 2015-16, Rs. 7173.13 crore in 2016-17, Rs. 8112.64 crore in 2017-18, Rs. 8272.11 crore in 2018-19 and

Rs. 8660.77 crore in 2019-20. In other words, the POSB has major share of 57.3% in the total revenue for 2014-15, 60.2% in 2015-16, 62.3% in 2016-17, 63.2% in 2017-18, and 63.9% in 2019-20.

22. The Speed Post is a flagship product of the Department of Posts which provides time-bound and express delivery of letters and parcels. The delivery norms of Speed Post are fixed considering the fastest available transport mode between the booking points and delivery destinations. The 'IT modernization Project 2012' of the Department of Posts has enabled real-time delivery updation using 13 digits Speed Post article number on the India Post website. Its tracking can also be done through the Android-based mobile app 'Post Info'. As a result of the implementation of 'IT Modernization Project 2012' of the Department of Posts, the Speed Post service has been found to be generating revenue of Rs. 1495.21 crore in 2014-15, Rs. 1605.25 crore in 2015-16, 1783.0 crore in 2016-17, Rs. 1829 crore in 2017-18, Rs. 1922.51 crore in 2018-19 and Rs. 1764.09 crore in 2019-20. In other words, the Speed Post has owned a share of 12.8% in 2014-15. The same became 12.4% in 2015-16, 15.5% in 2016-17, 14.3% in 2017-18, 13.9 % in 2018-19 and 13.0% in 2019-20.

23. To support increasing commercial activities in our country, the DoP offers Premium Services. Under this component, the services (other than Speed Post) connected with Business Post, Bill Mail Service, Media Post, Direct Post, ePost, ePayment, and Retail Post have been covered for the evaluation. It has been found that the revenue generated through the premium services amounted to Rs. 1185.88 crore in 2014-15, Rs. 952.46 crore in 2015-16, Rs. 938.81 crore in 2016-17, Rs. 948.88 crore in 2017-18, Rs. 407.54 crore in 2018-19 and Rs. 231.68 crore in 2019-20. The premium services owned 10.2% in 2014-15, 7.4% in 2015-16, 8.2% in 2016-17, 7.4% in 2017-18, 2.9% in 2018-19 and 1.7% in 2019-20 of the total revenue generated in the respective years.

24. The Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI) are offered by the DoP. After the IT Modernization Project 2012, the PLI and RPLI premium can be paid online at the customer portal through debit/credit card, net banking BHIM/UPI, wallet, and Rupay card. This has facilitated to use of customer-portal where-in anytime, and from anywhere the premium payment may be made and accessed the status. It has been found that the PLI and RPLI service brought revenue of Rs. 664.38 crore in 2016-17, Rs. 716.00 in 2017-18, Rs. 755.50 crore in 2018-19, and Rs. 729.72 crore in 2019-20.

25. After calculating correlation coefficients of the POSB facilities, Speed Post, Premium Services (other than Speed Post), and PLI & RPLI services with regard to the total revenue generated, the study has revealed that PLI and RPLI have been found to be significantly correlated to the total revenue generated with a correlation coefficient of +0.98 i.e. close to one. Almost a similar correlation coefficient has been calculated for POSB facilities (+91). The Speed Post component is tending towards significance (+0.56). However, the Premium Services (other than Speed Post) are correlated significantly negative with the total revenue generated (-0.81).

26. The study has also analyzed the impact of revenue generation through POSB, Speed Post, Premium Services (Other than Speed Post), and PLI & RPLI on the total revenue received using a regression model. After processing the information by individual component, 0.01 as p score for POSB, 0.25 for Speed Post, 0.04 for Premium Services (other than Speed Post), 0.90 for PLI and RPLI have been found. The p-value of more than 0.05 is considered to be insignificant and avoidable. Hence, the impact of two components, namely POSB and Premium Services (other than Speed Post) have been analyzed on the total revenue generated. As a result of the 'IT Modernization Project 2012' of the Department of Posts, the analysis has revealed that **1% change in the revenue generated through POSB is expected to bring about 1.196% of change in the total revenue received. As such, the 'IT Modernization Project 2012' of the Department of Posts has impacted positively on the POSB operations with regard to the total revenue generated.** However, it has been found that a 1% change in the revenue generated through Premium services (other than Speed Post) is expected to bring about -2.11% of the change in the total revenue generated.

27. The quality of services accessed by customers has been assessed using the Likert Scale (1-5) where one stands for the poor whereas, 5 for the best. The components considered under the quality of services are (1) banking facilities at post offices, (2) behavior of postal staff while accessing services, (3) reliable, transparent and speedy postal services, (4) Postal Department's track and trace system, and (5) overall postal services of post offices. The responses received on the Likert Scale have been processed through the Cronbach's alpha reliability test (0.881). **Banking facility of post offices has scored 3.63, the behavior of postal staff with regard to postal services has received 4.08, reliability, transparency and speed of the postal services have got 3.88, the track and trace system of the postal department has attained 3.89, with overall services as 3.99.** On the Likert scale, the acceptable score is considered to be 2.5 in the range of 1 to 5. The overall services of post

offices have been rated high in Tamil Nadu (4.45), followed by Odisha (4.11), 4.05 each for Maharashtra & Madhya Pradesh, and Assam (2.94). Hence, the overall score on the above components of the quality services stands above the average and acceptable on the Likert Scale.

28. The data collected on access to postal services through web portal has revealed that **56.8% of the sampled customers have accessed portal services through web portals and Apps.** However, 43.2% of customers sampled have not used the web-based or App-enabled services of postal operations. In the affirmative responses, the highest customers' feedback has been received from Maharashtra (75.0%), followed by Madhya Pradesh (63.0%), Tamil Nadu (61.5%), Himachal Pradesh (60.7%), Odisha (60.3%), and Assam (11.8%) across the HOs, SOs, and BOs in the sampled states. The customers ousting postal operations through web-based services have recorded the maximum in Assam (88.2%), followed by Odisha (39.7%), Himachal Pradesh (39.3%), Tamil Nadu (38.5%), Madhya Pradesh (37.0%), and Maharashtra (25.0%). Overall, approximately 60% of customers have assented to the use of postal operations through web portals and Apps.

29. The experience of customers accessing web-portals and Mobile apps were received on the Likert Scale (1-5) where one being poor and 5, the best. The average score of 2.5 is considered to be acceptable. The intensity on the Likert scale has been received from the customers who accessed the service (N=1109). However, the call centres services and public grievance redressal have been responded by a total of 1953 customers surveyed across the Post Offices. **Overall, the average score of 3.32 has been responded by affirming customers that they accessed web portals and mobile apps.** The above score on experience with accessing web-portals and mobile Apps are better (3.32>2.5) on the Likert Scale. The highest rating has been received from Tamil Nadu (3.64), followed by Madhya Pradesh (3.58), Maharashtra (3.52), Odisha (3.25), Himachal Pradesh (3.24), and Assam (2.52). The Department of Posts may take steps to promote use of internet banking and mobile banking. For this purpose, more products and services should be offered through internet/mobile banking.

30. A well-laid-out system for handling grievances for the postal operations is in place. A monitoring mechanism to ensure the quality of services and prompt redressal of public grievances are considered to be a citizen-centric initiative that enables the Postal Department to deliver quality services to its customers in a hassle-free manner. It helps identify areas of

concern where correctional measures are required. In this context**, the call centre services and Public Grievance Redressal system have scored 3.64 on the Likert Scale.** The above score is better off (3.64>2.5). The highest score on the indicator has been scored in Maharashtra (3.93), followed by Tamil Nadu (3.84), Odisha (3.74), Himachal Pradesh (3.50), Madhya Pradesh (3.44), and Assam (3.28).

31. The qualitative feedback of counter staff has been obtained on change in postal banking transactions, insurance, and retail activities. The feedback of the counter staff has been received on the Likert Scale (1to 5) where one being poor and 5, the best. The findings have been processed through Cronbach's alpha test to assess the reliability of the responses. The acceptable value for the reliability of the responses on **Cronbach's alpha** is considered to be acceptable for being greater than 0.7. In this case, **the test score is 0.904 (0.904>0.7)**. On average, the **postal banking in post offices after the IT up-gradation has scored 4.06 (4.06>2.5)**. The status of **PLI subscription in the post offices has reached 4.11 (4.11>2.5). The IT enablement in ease of doing business has got 4.0 (4.0>2.5). The satisfaction with the network has scored 3.72 (3.72>2.5). The operation and maintenance of computer hardware, network hardware, and updation of IT software have squared off with 3.63 (3.63>2.5).**

32. The before and after implementation of the 'IT Modernization Project 2012' of the Department of Posts in terms of footfall and work efficiency in post offices have been processed through F-test so as to estimate the brought-in-change. The footfalls indicate the number of additional customers got added up to access postal services. The work efficiency connotes the intensity of speed in the service delivery by the postal staff. Both footfalls and work efficiency have been processed through the f-test. **An F-test is used to measure if the variances of two variables are equal.** This test can be a two-tailed test or a one-tailed test. The two-tailed version tests against the alternative that the variances are not equal. The one-tailed version only tests in one direction that is the variance from the first population is either greater than or less than (but not both) the second population variance. In this case, the choice is determined by the footfalls and work efficiency. **With regard to the two-sample variance of the f-test, the change in the footfall and work efficiency has been measured. It has been found that the f-value for the footfall is 0.66 which is higher than the F critical one tail value of 0.16. Similarly, the f-value for the work efficiency is 0.25 which is higher than the F critical one tail value of 0.16.** However, the p-value of 0.35 and 0.11>0.05 shows the test is moderately significant. Over and above, the null hypothesis for both before

and after implementation of the IT Modernization Project 2012 of the Department of Posts fails to be accepted, as both have unequal variances in the case of footfall and work efficiency. As such, there are recognized changes due to the implementation of IT Modernization Project 2012 of the Department of Posts in both footfall and work efficiency. The number of footfall and work efficiency have changed. But the change has not been recognized to a great extent.

33. In the statement of implementation schedule of the 'IT modernization Project 2012' of the Department of Posts under Appendix-1, para 8 of main note on point number v, one of the outcomes mentioned is the reduction in paperwork, particularly in administrative and account offices. **The paperless work aims at speeding up the work, at the same time Department would help sequester carbon footprints.** It has also implications for the green ecosystem of working. The information on the component was received from a total of 110 Postmasters out of surveyed 111 across HOs, SOs, and BOs. The responses were registered on the Likert Scale of 1 to 5. One stands for excessive use of paperwork whereas 5 for tapering off. The average response of 2.5 is considered to be acceptable. **The responses received on the component were an overall average of 3.12 (3.12>2.5).** The maximum responses for paperless work in administrative and account offices have been reported from Madhya Pradesh (3.82), followed by Maharashtra (3.55), Tamil Nadu (3.08), Himachal Pradesh (2.77), Odisha (2.73), and Assam (2.53).

34. Improvement in the monitoring and management of Post offices for improved decision-making is one of the critical concerns that the study has covered. The responses regarding whether computerization is fully or moderately helping postal administration. It has been found that **7.2% of the postmasters (N=8) have expressed that computerization was fully helping postal administration across the six NSSO classified zones.** However, in the affirmative responses received, the maximum positive responses in favor of computerization helping fully postal administration were recorded from Madhya Pradesh (17.6%), followed by Himachal Pradesh (13.3%), Odisha (12.5%), and Maharashtra (4.5%). Side by side, **computerization moderately helping postal administration has been responded by the maximum number of Postmasters (N=103). The maximum responses on the above component have been received from the Postmasters of Tamil Nadu & Assam (100%), followed by Maharashtra (95.5%), Odisha (87.5%), Odisha (87.5%), Himachal Pradesh (86.7%), and Madhya Pradesh (82.4%).** Hence, computerization has gradually become effective in the administration of postal operations.

35. IT enablement and improvement in decision-making are some of the outcome indicators laid down in the IT Modernization Project 2012 of the Department of Posts. It has led to improvement in the decision-making of Postal Departments. The study reveals that **the 'IT Modernization Project 2012' of the Department of Posts has leveraged improvement in decision-making.** Also, moderate improvement in decision-making has been responded by most of the postmasters surveyed (N=102). Most of such responses have been received from Assam (100%), followed by Odisha (93.8%), Tamil Nadu (92.3%), Maharashtra (90.9%), Madhya Pradesh (88.2%), and Himachal Pradesh (86.7%). Hence, 91.9% of postmasters (N=102) surveyed informed that IT enablement moderately provided the impetus for improvement in decision making. It is worth mentioning that outcome of the project is gradually surfacing with promising footprints. To be equipped with the know-how to work with IT has enabled the postmasters to take improved decisions. However, implementation of the computerization in Post Offices, Mail offices, administrative and other offices, the establishment of required IT infrastructure, development of required software applications are yet to be raised to improve easy accessibility. 8.1% of Postmasters have affirmed that IT enablement has led to improvement in decision making. Out of the total fully affirmed responses (N=9), the maximum superlative assents have been received from Himachal Pradesh (13.3%), followed by Madhya Pradesh (11.8%), Maharashtra (9.1%), Tamil Nadu (7.7%), and Odisha (6.3%).

36. **As a result of the 'IT Modernization Project 2012' of the Department of Posts, most of the counter staff were found using scanners, printers, and other peripherals in the sampled post offices.** Out of the total responses received from counter staff (N=260), it was found that the maximum counter staff in the age group of upto 30 used the scanners, printers, and peripherals (92.3%), followed by an age group of 30 and less than 40 (91.4%), 50 and above (91.2%) and 40 and above (83.8%). The non-users of such items have fallen in the age group of 40 and less than 50 (16.2%), followed by 50 and above (8.8%), 30 and less than 40 (8.6%), and Upto 30 (7.7%). Overall, 90.4% of the counter staff expressed that they used the scanners, printers, and other peripherals.

37. One of the overarching outcomes of the scheme is to benefit customers and stakeholders through more reliable, speedy operations and transparent availability of information. To ensure faster delivery, speedy and transparent access of the information to the customers, the DoP has taken strategic initiatives through the IT Modernization Project 2012 of the Department of Posts. **The track and trace system in operation has enabled the customers**

**to know the real-time status of their deliverables accessed through web portals and mobile apps. The identified reasons for customers' association with Post offices are: faster delivery of services, friendliness of the staff, availability of cheaper services, postal services close to habitation, trust in the postal institutions,** and others. A total of seven reasons, namely faster delivery of services, friendliness of the staff, availability of cheaper services, postal services close to habitation, trust in the postal institutions, and others were received. After garnering the responses, the feedback has been presented in the table above. A total of 1066 responses (54.6%) were received for faster delivery of services. Out of the total responses received on the indicator, the maximum customers showed agreement in Odisha (71.4%), followed by Assam (69.7%), Maharashtra (60.7%), Himachal Pradesh (54.8%), Tamil Nadu (51.6%), and Madhya Pradesh (20.1%). The component of the friendliness of the staff (N=329) has scored the maximum in Assam (20.7%), followed by Madhya Pradesh (19.5%), Maharashtra (18.9%), Tamil Nadu (16.4%), Himachal Pradesh (14.6%) and Odisha (12.0%). Availability of cheaper services has scored 10.8% (N=210). The maximum responses on the component have been received in Himachal Pradesh (15.5%), followed by Madhya Pradesh (14.5%), Tamil Nadu (12.7%), Maharashtra (8.5%), Odisha (7.4%), and Assam (4.8%). Proximity with habitation has scored 3.8% of the total customers surveyed. It has been found that the maximum responses have been received on the component in Madhya Pradesh (9.6%), followed by Tamil Nadu (5.0%), Himachal Pradesh (3.7%), Assam (3.0%), and Odisha (1.5%). There is no response documented from Maharashtra. Trust in the institutions has scored 10.2% as per the responses received from the customers surveyed. It has been found that the maximum response on the component has been received in Madhya Pradesh (20.8%), followed by Tamil Nadu (12.9%), Maharashtra (11.9%), Himachal Pradesh (9.9%), Odisha (2.8%), and Assam (1.8%). The 'other reasons' have scored 3.8% of the total responses received. On the component, the maximum responses have been received in Madhya Pradesh (15.5%), followed by Odisha (4.9%), and Himachal Pradesh & Tamil Nadu (1.5%). No response has been received on the component from Maharashtra. Overall, the highest score has been received on faster delivery of services (54.6%), followed by the friendliness of the staff (16.8%), availability of cheaper services (10.8%), trust in the institution (10.2%), and close to habitation & others (3.8%). Hence, out of the total components responded, faster delivery of services, friendliness of the staff, availability of cheaper services, and trust in the institution have majorly been reposed.

38. **Reliability and transparency of postal services are the instrumental outcomes that the IT Modernization Project 2012 of the Department of Posts envisages.** The quality component of reliability and transparency of postal services have been assessed using the Likert Scale. The range of the Likert scale is 1 to 5. The scale ascends from poor to the best. The average score of 2.5 is considered to be good. The data collected on the component reveals an average score of 3.89 (3.89>2.5). The highest response on the scale has attained in Tamil Nadu (4.32), followed by Odisha (4.04), Maharashtra (3.97), Himachal Pradesh (3.88), Madhya Pradesh (3.61), and Assam (3.28). **As such, the reliability and transparency of postal services have scored 3.89 (3.89>2.5) that indicates improvement, trust, and increased efficacy of postal services.** However, the postmasters surveyed under the study suggested eight-fold measures to be taken to improve the outcome of postal operations. **The suggestions include (1) improvement in physical infrastructure, (2) upgradation of digital infrastructure, (3) inclusion of additional human resources, (4) need for training, (5) efficient sales services, (6) creation of more customer-friendly work ecosystem, (7) minimization of frequent deputation, and (8) complete paperless work. Indeed, the suggestions need to be embedded in Post Offices so as to improve productivity and speedy service delivery.** This may also help attract more footfall in the Post Offices.

**39.** The components like **mail service, postal banking, PLI/RPLI, central Govt. related services, others, Mail services &Postal banking, Mail Services, Postal banking & PLI/RPLI, and all the aforesaid indicators together with were processed through Chi-square test to assess the degree of their association with BOs, HOs, and SOs**. Based on 49.34 as calculated Chi-square and 23.685 as Chi-square tabulated at the degree of freedom, the **Chi-square calculated is greater than chi-square tabulated** (49.34>23.685), as such we fail to accept the null hypothesis and conclude that the **postal instruments are greatly significant for post offices viz. HOs, SOs, and BOs.**

40. The study reveals that the maximum women representation in the pool of sampled beneficiaries has been found in Tamil Nadu (50.0%), followed by Assam (39.1%), Maharashtra (38.4%), Himachal Pradesh (35.6%), Odisha (28.6%), and Madhya Pradesh (19.0%). **Overall, 36% women representation has been calculated amongst the total respondents surveyed. Besides, 45.2% of the respondents were found from rural areas whereas, 54.8% from urban areas.** Of the rural respondents, the maximum respondents were from Odisha (53.6%), followed by Himachal Pradesh (51.2%), Assam (46.4%), Madhya

Pradesh (42.2%), Tamil Nadu (40.9%), and Maharashtra (38.6%). 54.8% of respondents belonged to urban areas. It has been found that **1.4% of customers belonged to Divyangjan.**

41. The study discloses that five social categories are classified after collating the information collected, namely General, Other Backward Class (OBC), Scheduled Caste, Scheduled Tribes (ST), and minority. **34.5% OBC, 11.9 % SC, 5.1% ST and 0.9% minority category respondents were found in the sample size of the study.** The respondents from the general category have been found approximately 47.7% of the total sample size covered. In the OBC category, the majority of the respondents were found from Maharashtra (48.5%), followed by Assam (47.9%), Tamil Nadu (46.7%), Madhya Pradesh (37.7%), Odisha (17.7%), and Himachal Pradesh (5.7%). Under the Scheduled caste category, the maximum stakeholders surveyed were found from Himachal Pradesh (18.6%), followed by Madhya Pradesh (15.1%), Tamil Nadu (11.2%), Maharashtra (11.1%), Odisha (10.4%), and Assam (4.1%). Under the Scheduled Tribe category, the maximum respondents were found in Assam (6.6%), followed by Odisha (6.3%), Himachal Pradesh (4.9%), Tamil Nadu (2.6%), and Maharashtra (1.8%). Under the minority category, the maximum responses were received from Assam & Odisha (1.6%), followed by Madhya Pradesh (1.1%), Maharashtra (0.8%), and Tamil Nadu (0.6%). The trend shows the postal services being socially inclusive.

42. The postal service was declared as one of the essential services during the period of lockdown since March 24, 2020. The Department of Posts leveraged its vast network of more than 1.57 lakh post offices and 416083 postal employees on the ground to provide delivery of essential services to the citizens at their doorsteps even in the remotely located area across the country. The Department undertook transmission and delivery of essential items, viz. medicines, medical equipment, PPE kits, temperature-sensitive Covid-19 testing kits, masks, etc. to the remotest corners of our country. Around 37,000 tonnes of essential items in 7.5 lakh bags were transported during the lockdown period through the postal network. Special arrangements were made with the Indian Drug Manufacturers Association. To facilitate door delivery of essential services, "Post Info" mobile application was developed to receive service requests from customers who could not come to post offices. The App was successfully used to enable people to avail postal and banking services at their doorsteps. More than 55,000 requests were received for door delivery of services which were fulfilled by post offices of the area concerned. During the Covid pandemic, more than 40.84 crore transactions worth more than ₹ 4,71,484 crores were made through Post Offices Saving

Bank (POSB) Accounts and around 93.17 lakh ATM transactions worth more than  3144 crores were withdrawn from Post Office ATMs. Disbursement of pension payments and other social scheme benefits of both the central and state governments, at the doorsteps of citizens through the Aadhaar Enabled Payment System (AePS) was another focus area of operation during the lockdown. The India Post Payments Banks (IPPB) played a stellar role in this area.

43. The Department of Posts, with its network of 1, 56,721 Post Offices, is the largest postal network in the world. The Department of Posts has led to the last mile reach through 15703 urban post offices and 141018 rural Post offices. Through 25409 Departmental Post offices, 131312 Branch Post Offices with 245141 GDSs, the Department is catering to individuals and communities. On average, a Post Office serves 8605 individuals. At the same time, on average 6301 persons are served by rural post offices whereas, 29299 average persons per urban post offices.

44. The study findings suggest that with the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the postal services' penetration to rural population has comparatively grown over the years. Based on the quantitative results, the postal services are accessed across the social categories. The direct benefit transfers have been availed by a number of MGNREGS beneficiaries. **A total of 190981218 savings bank account holders, 116874371 recurring account deposit holders, 14951294 monthly income scheme subscribers, 2178943 senior citizen scheme beneficiaries, 23067983-time deposit customers, 2697852 PPF holders, 16770858 Sukanya Samriddhi Account subscribers have been identified with the postal services as of 31.03.2020.**

45. The parcel products have been designed through a network consisting of 190 parcel hubs, including 57 Level 1 (L1) and 133 Level 2 (L2) hubs for handling of parcels have been operationalized. Integrated parcels processing centres have been operationalized in 12 cities i.e. Delhi, Mumbai, Bhubaneswar, Vijayawada, Jaipur, Ahmedabad, Kolkata, Lucknow, Ludhiana, Coimbatore, Guwahati, and Hyderabad. The 24X7 track and trace services have enabled customers to access the status of their postal instruments.

46. The qualitative and quantitative contributions made by the IT Modernization Project 2012 of the Department of Posts has been found to be effective. Qualitatively, the faster delivery of services has been found as one of the major reasons that the customers surveyed felt attracted with Since December 2018, a total of 2.34 crore articles of Order Aadhaar Reprint Letter (OARL), Aadhaar Verification Letter (AVL), and Polyvinyl Chloride (PVC)

Aadhaar have been delivered. It has been reported that around 7 lakh unregistered mail bags are being tracked per month. 235 Speed Post-processing hubs, 319 Computerized Registration Centres (CRCs), 320Unregistered Mail offices, 227 Business processing Centres (BPCs), 33 Book Now Pay Later (BNPLs) Centres and 242 Transit Mail Offices (TMOs) are performing operations online in the CSI solutions. Consequent upon the suspension of train & flight services across the country from 25th March, 2020 due to the COVID-19 pandemic, the entire mail transmission network of the Department of Posts was severely impacted. During the period of lockdown, the Mail Motor service played a stellar role in ensuring the regular movement of essential goods i.e. medicines, medical equipment, ventilators, COVID testing kits, etc. and other postal articles booked/posted by the general public and private, hospital, and various public and private sector laboratories.

47. **The postal operations were found to be efficiently working with digital platforms, as examined through the t-test.** The financial output has increased over the years due to the IT Modernization Project 2012 of the Department of Posts. The maximum number of people have accessed financial, mail, and social security services. Though the footfall has increased insignificantly, the increased volume of transactions and revenue generated through the services inform the effectiveness of postal digitalization. One of the outcomes that the digitalized postal operations have undertaken is initiatives taken during the lockdown period due to Covid-19 Pandemic.

48. The level of customer satisfaction was documented through questionnaires, and focus group discussions. **The customers were found to be largely satisfied with the postal staff. The technical glitch due to network connectivity made some of the customers disappointed. The elderly people standing in the waiting line expressed their disappointments. The reason assigned to this concern was the shortage of counter staff.** The counter staff, particularly from the eastern zone expressed to avoid frequent deputations. Overall, if the silos are strengthened, some human resources are additionally deployed, and the infrastructure of the Postal Department is converted into the state-of-the-art, the Post offices would convert into a magnetic place to ensure higher market share.

**RECOMMENDATION FOR SCHEME WITH REASONS**

After the implementation of "IT Modernization Project 2012" of the Department of Posts, the coefficient for revenue generated from POSB facilities (63.9%) has been found as 1.96 with regard to the total revenue generated as an intercept coefficient of 3410.352. It indicates that

after the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the POSB facilities (63.9% share in revenue generation) are strongly linked postal operations have reached an incredible productivity score. The business facilities of Post Offices, the behavior of Postal Staff with customers, reliability of postal services, track and trace system, transparency of postal services, and overall services of Post offices have scored 3.63, 4.08, 3.88, 3.89,3.89 and 3.99, respectively (scores>2.5) on the Likert Scale (1-5) after processing through extremely significant score on the Cronbach's alpha reliability test. It shows that after the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the services provided by Post offices have become satisfactory with increased bandwidth. The service instruments provided by post offices have also been processed through Chi-square test. The test reveals that the calculated Chi-square is 49.34 against the tabulated Chi-square of 23.685 (Chi-square calculated > Chi-square tabulated). It indicates a robust relationship of IT-driven postal instruments with Head Post offices, Sub-Post Offices, and Branch Post offices. 36 % of women representation, 46% of rural coverage, 1.4% of Divyanjans, 11.9% of SC, 5.1% of ST, and 0.9% of the minority have been found in the respondents' pool that shows the social inclusiveness of the postal operations. Hence, the benefits accrued to customers through IT-led Postal operations are significant. Considering the postal productivity on account of improved IT system, satisfactory services received through web-portal, mobile, and call centres, increased number of postal transactions in postal banking, insurance, and retail activities, web and mobile-enabled track and trace, centralized database creating moderately improved decision making, reliable, speedy and transparent postal operations, **the study recommends for continuation of the 'IT-Modernization Project 2012' of the Department of Posts upto March 31, 2027.** The DoP is expected to ensure improved reliability, reach, relevance and resilience through its services. To improve the effectiveness of the IT-Modernization Project 2.0 to be rolled out, the findings based recommendations are as under:

1. To increase the productivity driven by the multiplier effect, the DoP may like to invest in Business Intelligence (BI) and Management Information System (MIS) in the next phase of the scheme to help administration take more responsive and efficacious decisions.
2. Smaller micro-services are required to be brought in, plugging in the critical gaps in the integration with various software. The uncovered areas need to be covered under the IT Modernization Project 2.0.

3. A micro component in the new rollout may focus on the development of flexible software which can easily integrate with the application of different vendors and external users.

4. The screen, tabs, and RAM of the DARPAN device need to be enlarged. The existing RAM of 8 GB is insufficient, as half of RAM is used by the operating system (OS). It may be scaled up to 64GB.

5. The Network connectivity requires to be improved, as the postal operations are factored in network connectivity. Further, the existing 2 G and 3G enabled DARPAN devices need to be migrated to 4G and above.

6. To extend the financial inclusion and mitigate the challenges therein, Aadhaar Enabled Payment System (AEPS) needs to be operationalized and augmented.

7. The services like Senior Citizen Scheme, PPF, Monthly Income Scheme, KVP, and NSC need to be integrated with DARPAN (BOs). For the closure of the account, the beneficiary has to go to SOs from BOs. The facility may be extended at the BO level, developing improved brand equity of post offices in delivering doorstep products and services.

8. Except for Media Post covered under Premium Services (other than Speed Post), the services like Retail Post, ePost, ePayment, Business Post, Bill Mail Services, and Direct Post may be dovetailed, even if they fall under the category of inelastic services.

9. The Department of Posts may take steps to promote use of internet banking and mobile banking. For this purpose, more products and services should be offered through internet/mobile banking.

10. To ensure improved financial inclusion, the DOP may start lending on a pilot basis with its staff. Based on the feedback, the same may be expanded in a phased manner.

11. A strong and dedicated implementation team with the required flexibility may be delegated the task of implementation of different segments of new projects.

12. To ensure the smooth and speedy processing of change requests, a committee may be constituted to take decisions on Change Requests within a fixed time frame. The committee should have the support of a technically equipped team as well.

13. In the next phase of the project, the additional required human resources may be inducted, proper Training Need Analysis (TNA) based customized training be imparted, efficiency in sales services be increased, and a paperless work environment be promoted.

14. The postal staff may be requested to chip in smart suggestions to reboot the financial health and strategic operations of BOs so that the postal operations can be aligned with market trends and compete with emerging competitions. If the suggestion/s received was

worth considering, some incentivization may be linked in, irrespective of his/her position in the administrative hierarchy.

15. The "Annual Financial Expenditure and Revenue" may be shared with all postal staff using digital platforms to invite their suggestions for further improvement and appraise the financial status of the Postal Department so that every single staff of DoP can contribute to Postal Service Development. The rule-based operations may be converted into role-based.

16. The DoP may come up with an integrated system of in-house silos operations in a phased manner through out-of-the-box thinking, the inclusion of innovative products, and accrual accounting to improve upon the revenue generated with regard to expenditure incurred are also recommended.

## 2. OVERVIEW OF THE SCHEME

The Central Sector Scheme of the "IT Modernization Project 2012" of the Department of Posts was approved by the Cabinet Committee on Economic Affairs, Government of India in November 2012 with a total outlay of Rs. 4909 crore. The scheme involves computerization, modernization, and networking of about 1, 55,000 post offices across the country. Under the umbrella of 1, 55, 000 Post Offices, 1, 30, 000 Branch Post Offices are operationalized by the Gramin Dak Sewaks (GDS). However, the Department of Posts, with its network of 1, 56,721 Post Offices, is the largest postal network in the world. Of which, 15703 Post Offices (10.02%) are located in urban areas and 141018 (89.98%) in rural areas. There are 25409 Departmental Post Offices and 131312 Branch Post offices. On average, a post office serves 8,605 people in the country; 6301 people in the rural areas and 22, 299 people in the urban areas. The average area served by a post office is 20.98 square kilometers.

One of the overarching objectives of the scheme-'IT Modernization Project 2012' of the Department of Posts (DoP) is to provide central server-based integrated, modular, and scalable solutions for various operations of the department including mails, human resource management, banking, insurance, and finance & accounts. The scheme involves the creation of Information Technology (IT) infrastructure, like Data Centre Facility, Disaster Recovery Centre, setting up of Wide Area Network (WAN), and providing solar-powered and portable handheld computing devices {Micro (Automated Teller Machine) ATM compliant} to all the branch post offices. Categorically, the scheme caters to (i) modernize and computerize all the non-computerized Post offices in the country including Gramin Dak Sewak (GDS) Branch Post offices in rural areas, mail offices, administrative and other offices; (ii) develop scalable, integrated, and modular software covering all operations of the Department of Posts; (iii) establish required IT infrastructure including Data Centre Facility, Wide Area Network (WAN) based networking of the departmental post offices; and (iv) efficiently use DARPAN-RICT (Digital Advancement of Rural Post Offices for a New India-Rural Information Communication Technology) (Rural ICT) infrastructure.

The scheme is being implemented by the Department of Posts through 8 different segments, namely (1) Data Centre Facility (DCF), (2) Network Integrator (NI) (3) Financial Services Integrator (FSI), (4) Core System Integrator (CSI), (5) DARPAN Rural Hardware (DARPAN-RH), (6) DARPAN Rural System Integrator (DARPAN-RSI) (7) Mail Operation Hardware (MOH), and (8) Change Management (CM). The implementation of these segments vary in their size and coverage across the country. The Data Centre Facility (DCF)

is operational from 03.04.2013 at Navi Mumbai and has been continued with the present vendor upto 31.03. 2021. The Disaster Recovery Centre (DRC) has been powered on at a departmental facility in Mysore on May 15, 2015. The Network Integrator (NI) has been implemented in approximately 28,000 technically feasible locations out of 29,196 departmental locations connected via Wide Area Network (WAN). As of now, the competent authority has extended the contract of Network Integrator for 1 year i.e. from 28.09.2019 to 27.09.2020. Further, the Project Steering Committee approved the proposal for the extension of the agreement with the existing vendor (s) from 28.09.2020 to 31.03.2022. The Financial Services Integrator (FSI) has enabled the migration of 23,466 Post Offices (out of 25,650) under Core Banking Solution (CBS) and 25,560 Post Offices for Core Insurance Solution (CIS). ATM services have been installed at 1000 locations as of now. Internet banking has been operational w.e.f. 14.12.2018 and Mobile Banking from 15.10.2019. Also, about 91.73 crore PoSB transactions have reportedly been completed by FY 2019-20. Through the Core System Integrator (CSI), the DoP has digitalized all the postal, mails, and counter operations on a single, central server based platform. It has also digitalized the finance &accounts and human resource management functions of the DoP on the online, Systems, Applications & Products in Data Processing (SAP) based platforms. 513 divisions {(501 Postal, & Railway Mail Service Divisions and 12 independent Head Post offices/ General Post Offices (GPOs)} have been rolled out in CSI as on 31$^{st}$ December, 2020. As a result, about 110.92 crore PoS transactions have been completed in FY 2019-20. Under the Rural Hardware (RH) segment, supply of main computing handheld devices has been completed for all about 1,29,754 (Pilot, Phase I & Phase II) (out of 1,30,000 approx.) Branch Post Offices. Out of these, solar power panels have been supplied to 1, 00, 238 Branch Post Offices. The rolling out of the Rural System Integrator Solution (RSI) has been done in about 1, 29, 167 Branch Post Offices across the country. A total of 17.94 crore transactions have successfully been carried out under RSI in 2019-20. The application development and integration incorporating MGNREGS application, client applications are completed. Under DARPAN-RSI the components like training, helpdesk, supply, deployment of hardware equipment including project management services for RICT project rollout is also completed. The procurement of Mail office hardware has been decentralized to Postal Circles. A total of 44,893 devices (Smart Phones/handheld devices- 38,477, 3,417 printers, 861 Computers, etc.) have been supplied based on the assessed requirement.

The Change Management pertaining to vendor activities has been completed in a total 120 change management workshops in 4 cycles with a total attendance of 3,523 participants.

About 12.31 lakh man-hours of training for FSI module and about 8.11 lakh man-hours of training for CSI module has been provided. Overall, the rolling out of the IT modernization project is expected to provide key benefits to the customers, viz. improved customer satisfaction due to faster and more reliable services in mails, banking, insurance and money remittance/transfer operations, transparency in financial services by introduction of Core Banking and Core Insurance Solutions, multiple channels of access to the customers through Post Office counters, internet, mobiles, call centres and ATMs, etc. Moreover, the scheme envisages better financial inclusion for the common man in the rural and semi-urban locations through mobile remittances, mobile banking, mobile, insurance, etc. It also ensures effective and transparent delivery of the social security and employment guarantee schemes of the Government. As such, the scheme of the 'IT Modernization Project 2012' of the Department of Posts is intended to serve two-fold purposes, first to provide the customer with ease of doing business, and second to ensure improved productivity of Post offices across the country.

### 2.1 Background of the Scheme

The Central Sector Scheme of the "IT Modernization Project 2012" of the Department of Posts was conceptualized to improve the service quality of Post Offices through computerization and networking development of integrated modular software and establishment of IT infrastructure. It was also envisaged that through IT modernization, all post offices will be able to improve with transparency vis-a-vis public service delivery. As a result of IT-enabled Post Offices, enhanced productivity and incentivized return on the investments are anticipated. It was also envisioned that postal services access through web-portals, mobile-based operations, and call centres would lead to the furtherance of the productivity of post offices. With the help of IT enablement, the outreach of the Post offices was also to be expanded at the grassroots through the length and breadth of the country. It was also expected that the computerization of all post offices with central data architecture would create an enabling environment for mail track and trace and other web-based services, paving the way for pan-India public service delivery of other Government Departments. Paperwork reduction, particularly in administrative and accounts offices, would make the working of the Post offices speedy and ecologically sensitive. Management of Post offices and monitoring can be made more effective through paperless and e-driven operations. Hence, it was also expected that the accessibility of information from a centralized database would enable improved decision-making and responsive administration. Management of post offices and monitoring can be made more efficacious and outcome-oriented through the IT

systems. Overall, the benefits through the IT modernization project would be delivered to the customers and other user departments and stakeholders through more reliable, speedy operations and transparent availability of information. This is the broad context within which the scheme of the IT Modernization Project 2012 of the Department of Posts articulates its meaning and deserves importance.

## a) Brief write up on the scheme including Objectives, Implementation Mechanism, Scheme Architecture and Design

The scheme of the "IT Modernization Project 2012" of the Department of Posts (DoP) was approved in November 2012 with a total outlay of Rs. 4909 crore. The scheme is implemented through eight silos, namely Data Centre Facility (DCF), Network Integrator (NI), Financial Services Integrator (FSI), Core System Integrator (CSI), DARPAN Rural Hardware (DARPAN-RH), DARPAN Rural System Integrator (DARPAN-RSI), Mail Operation Hardware (MOH), and Change Management (CM).

The key objectives of the scheme are to modernize and computerize all non-computerized Post offices in the country including Gramin Dak Sewaks (GDS) Branch Post Offices in rural areas, mail offices, administrative and other offices; to develop scalable integrated and modular software covering all operations of the Department of Posts; to establish required IT infrastructure including Data Facility Centre, Wide Area Network (WAN) based networking of the departmental post offices; and to efficiently use DARPAN-RICT (Digital Advancement of Rural Post Offices for a New India-Rural Information Communication Technology (Rural-ICT) infrastructure.

The scheme of the 'IT Modernization Project 2012' of the Department of Posts (DoP) is being implemented through the segments, like (1) Data Centre Facility (DCF), (2) Network Integrator (NI), (3) Financial Services System Integrator (FSI), (4) Core System Integrator (CSI), (5) Digital advancement of Rural Post Office for A New India- Rural System Integrator (DARPAN-RSI), (6) DARPAN Rural Hardware (DARPAN-RH), (7) Mail Operations Hardware (MOH), and (8) Change Management (CM).

The Data Centre Facility (DCF) hosts the primary Data centre and builds Disaster Recovery Centre for the DoP. As per the information shared, the Data Facility Centre is operational from 03.04.2013 at Navi Mumbai and has been continued upto 31.03.2021. The Disaster Recovery Centre (DRC) has been powered on at a departmental facility at Mysore since 15.05.2015. The Network Integrator (NI) provides connectivity for each departmental post office location in order to ensure uninterrupted network connectivity through WAN.

Approximately 28,000 technically feasible sites out of 29,196 departmental locations have been connected via Wide Area Network (WAN) till date where required infrastructure are available.

Financial Services Integrator (FSI) implements solutions for Core Banking and Core Insurance in all Post offices. It provides multiple delivery channels viz. internet banking, mobile banking, ATM and Interactive Voice Response (IVR) and SMS, etc. The core Banking Solution has been rolled out on all technically feasible locations i.e.at 23,466 post offices out of 25,560 locations including the offices of the Director of Accounts (Posts). All 25,560 post offices have been migrated under Core Insurance Solution (Postal Life Insurance). The implementation of internet banking has been done from 14.12.2018 and mobile banking from 15.10.2019. *The target of installation of 1000 ATMs have been achieved*. A total of 1000 ATMs have been installed so far. Also, about 91.73 crore PoSB transactions were completed in FY 2019-20.

Core System Integrator (CSI) is responsible for the overall integration of the solution. It pertains to the implementation of the solutions for Mail Operation, Retail, Logistic Post, Philately, Finance and Accounts & Human Resources and integration with other System Integrator (SIs). Through the Core System Integrator (CSI), the DoP has digitalized all the postal, mails, and counter operations on a single, central server based platform. It has also digitalized the finance &accounts and human resource management functions of the DoP on the online, Systems, Applications & Products in Data Processing (SAP) based platforms. 513 divisions {(501 Postal, & Railway Mail Service Divisions and 12 independent Head Post offices/ General Post Offices (GPOs)} have been rolled out in CSI as on 31$^{st}$ December, 2020. As such, aligned with CSI about 110.92 crore PoS transactions were completed in FY 2019-20.

DARPAN Rural Hardware (DARPAN-RH) provides connectivity, hardware, and solar power panels to Branch Post Offices in rural areas. The project is in the operation and maintenance phase. Supply of main computing handheld devices has been completed for all about 1, 29,754 (Pilot, Phase I & Phase II) (out of 1, 30,000 approx.) Branch Post Offices. Out of these, solar power panels have been supplied to 1, 00, 238 Branch Post Offices.

DARPAN Rural System Integrator (DARPAN-RSI) implements solutions for integrating all FSI/CSI applications to the Branch Post Offices. The rolling out of the Rural System Integrator Solution (RSI) has been done in about 1, 29, 167 Branch Post Offices across the country. A total of 17.94 crore transactions have successfully been carried out under RSI in 2019-20. The application development and integration incorporating MGNREGS application,

client applications are completed. Under DARPAN-RSI the components like training, helpdesk, supply, and deployment of hardware equipment including project management services for RICT project rollout is also completed.

Mail Operation Hardware provides hardware to mail offices and handheld devices to Postmen. The procurement of hardware has been decentralized to circles as reported. A total of 44,893 devices (Smart Phones/handheld devices- 38,477, 3,417 printers, 861 Computers, etc.) have been supplied based on the assessed requirement as per the 'Request for Proposal' (RFP).

The Change Management prepares the workforce for the complete change in department's working after implementation of the IT project. Under this, vendor activities have been completed in total 120 change management workshops in 4 cycles with a total attendance of 3,523 participants. About 12.31 lakh man-hours of training for FSI module and about 8.11 lakh man-hours of training for CSI module has been provided. As of now, the project pertaining to Change Management has been completed, as per the information shared.

## b) Name of Sub-Schemes/Components

There are eight components under the scheme of the "IT Modernization Project 2012" of the Department of Posts. These components are:

(1) **Data Centre Facility (DCF)**: The facility deals with hosting a primary data centre and building disaster recovery centre for the DOP. As per the reported information, data centre is operational from April 3rd, 2013 at Navi Mumbai and has been continued upto 31.03.2021. The Disaster Recovery Centre (DRC) has been powered on at a departmental facility at Mysore since 15.05.2015.

(2) **Network Integrator (NI):** The component helps provide connectivity for each departmental post office location in order to ensure uninterrupted network connectivity through WAN. The network integrator has been rolled out in 28,000 technically feasible sites out of 29196 departmental locations via Wide Area Network (WAN).

(3) **Financial Services Integrator (FSI):** It implements solutions for Core Banking and Core Insurance in all Post offices. It provides multiple delivery channels viz. internet banking, mobile banking, ATM and Interactive Voice Response (IVR) and SMS, etc. A total of 23,466 post offices (out of 25,560, including DAPs) have been migrated under the Core Banking Solution. All 25,560 post offices have been migrated under Core Insurance Solutions (Postal Life Insurance). The implementation of internet banking has been done from 14.12.2018 and

mobile banking from 15.10.2019. All the targeted 1000 ATMs have been installed so far. Also, about 91.73 crore PoSB transactions were completed in FY 2019-20.

(4) **Core System Integrator (CSI):** The segment is responsible for the overall integration of the solution. It pertains to the implementation of the solutions for Mail Operation, Retail, Logistic Post, Philately, Finance and Accounts & Human Resources and integration with other System Integrator (SIs). Through the Core System Integrator (CSI), the DoP has digitalized all the postal, mails, and counter operations on a single, central server based platform. It has also digitalized the finance &accounts and human resource management functions of the DoP on the online, Systems, Applications & Products in Data Processing (SAP) based platforms. 513 divisions {(501 Postal, & Railway Mail Service Divisions and 12 independent Head Post offices/ General Post Offices (GPOs)} have been rolled out in CSI as on 31st December, 2020. As a result, about 110.92 crore CSI enabled PoS transactions were completed in FY 2019-20.

(5) **DARPAN Rural Hardware (DARPAN-RH):** It provides connectivity, hardware, and solar power panels to Branch Post Offices in rural areas. The project is in the operation and maintenance phase. Supply of main computing handheld devices has been completed for all about 1, 29,754 (Pilot, Phase I & Phase II) (out of 1, 30,000 approx.) Branch Post Offices. Out of these, solar power panels have been supplied to 1, 00, 238 Branch Post Offices.

(6) **DARPAN Rural System Integrator (DARPAN-RSI):** The component implements solutions for integrating all FSI/CSI applications to the Branch Post Offices. The rolling out of the Rural System Integrator Solutions (RSI) has been done in about 1, 29, 167 Branch Post Offices across the country. A total of 17.94 crore transactions have successfully been carried out under RSI in 2019-20. The application development and integration incorporating MGNREGS applications, client applications are completed. Under DARPAN-RSI the components like training, helpdesk, supply, and deployment of hardware equipment including project management services for RICT project rollout is also completed.

(7) **Mail Operation Hardware (MOH):** It provides hardware to mail offices and handheld devices to Postmen. The procurement of hardware has been decentralized to circles as reported. A total of 44,893 devices (Smart Phones/handheld devices-38,477, 3,417 printers, 861 Computers, etc.) have been supplied based on the assessed requirement as per the RFP.

(8) **Change Management (CM):** It prepares the workforce for the complete change in department's working after implementation of the IT project. Under this, vendor activities have been completed in a total of 120 change management workshops through 4 cycles with a total attendance of 3,523 participants. About 12.31 lakh man-hours of training for FSI

module and about 8.11 lakh man-hours of training for CSI module has been provided. As of now, the project pertaining to Change Management has reportedly been completed.

## c) Year of commencement of the Scheme

The scheme of the "IT Modernization Project 2012" of the Department of Posts (DoP) was commenced in November 2012. In the meeting of Expenditure Finance Committee (EFC) to consider the Department of Posts' proposal for IT Modernization Project Phase-II at the cost of Rs. 4909 crore was approved. Based on the discovery of the prices quoted in the 7 silos and the estimated cost of the Mail Office Hardware RFP, the requirement of the Department of Posts was projected as Rs. 1604 crore for the implementation phase and Rs. 3305 crore for the operation phase. Hence, a total of Rs. 4909 crore was approved under the scheme to enable the implementation of the project.

## d) Present Status and the Coverage of the Scheme

The scheme of the "IT Modernization Project 2012" of the Department of Posts (DoP) is implemented across the country. Moreover, the postal network in our country is divided into 23 Postal Circles for administrative convenience. The circles are generally co-terminus with a State with a few exceptions. Each circle is headed by a Chief Postmaster General. The Circles are further divided into regions comprising groups of field units, called Divisions (Postal/Railway Mail Services). Each region is headed by a Postmaster General. In the circles and regions, there are functional and supporting units like Stamp Depots, Store Depots, and Mail Motor Service. The Post Offices in our country are categorized into Head Post Office, Sub-Post Office, and Branch Post Offices. Most of the Branch Post Offices are located in rural areas and are manned by Gramin Dak Sewaks (GDS). The Sub-Post Offices are Departmental Offices located in both rural and urban areas. Head Post Offices are located in important towns and cities mostly at district levels. As such, in addition to other offices, the Postal Department is bestowed with 23 Postal Circles, 54 Postal Regions, 443 Postal Divisions, 68 Rail Mail Service Divisions, 12 General Post Offices, 810 Head Post Offices, 24,599 Sub-Post Offices, and 131312 Branch Post Offices.

The variations in the number of silos across the country, as mentioned under the scheme, are operational. The scheme is operational in the postal circles of (1) Andhra Pradesh, (2) Assam, (3) Bihar, (4) Chhattisgarh, (5) Delhi (6) Gujarat (7) Haryana (8) Himachal Pradesh (9) Jammu and Kashmir (10) Jharkhand (11) Karnataka (12) Kerala (13) Madhya Pradesh (14) Maharashtra (15) North East (16) Odisha (17) Punjab (18) Rajasthan (19) Tamil Nadu (20) Telangana (21) Uttarakhand (22) Uttar Pradesh and (23) West Bengal.

The above postal divisions consist of 27 States and 10 UTs. As such, the scheme is operational in the states of: (1) Arunachal Pradesh, (2) Assam, (3) Bihar (4) Chhattisgarh, (5) Goa, (6) Gujarat, (7) Haryana, (8) Himachal Pradesh, (9) Jharkhand, (10) Karnataka, (11) Kerala, (12) Madhya Pradesh, (13) Maharashtra, (14) Manipur, (15) Meghalaya, (16)Mizoram, (17)Nagaland, (18) Odisha, (19) Punjab, (20) Rajasthan, (21) Sikkim, (22) Tamil Nadu, (23) Telangana, (24) Tripura, (25) Uttar Pradesh, (26) Uttarakhand, and (27) West Bengal. The scheme is also operational in UTs, like (1) Andaman and Nicobar, (2) Chandigarh, (3) Daman and Diu, (4) Dadar and Nagar Haveli, (7) Delhi, (8) Jammu and Kashmir (8) Ladakh, (9) Lakshadweep, and (10) Puducherry. As such, the coverage of the scheme has been found in 27 states and 10 UTs across the country.

## e) Sustainable Development Goals (SDG) Served

The Scheme of the "IT Modernization Project 2012" of the Department of Posts (DoP) is aligned with the objectives of the 2030 Agenda for Sustainable Development Goals. The SDG goal number 8.2 (achieve higher level of economic productivity through diversification, technological upgrading, and innovation, including through a focus on high value-added and labor-intensive sectors), SDG goal number 8.10 (strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance, and financial services for all) and SDG Goal number 6.6 (develop effective, accountable and transparent institutions at all levels) are closely associated with the 'IT Modernization Project 2012' of the Department of Posts. The SDG goal number 8.2 is partly addressed by the scheme in context with its silos, like Data Centre Facility, Network Integrator, DARPAN hardware, and DARPAN- rural system integrator, economic productivity would get bolstered through technological upgradation and innovation. The Department of Posts delivers services like Mails & Parcels, Post Office Savings Bank, Postal Life Insurance (PLI)/Rural Postal Life Insurance (RPL), etc. which strengthen the capability and capacity of the post office to exist as instrumental financial institutions. The services delivered by DoP help encourage and expand access to communication services, banking, insurance, and social security services to all. Through the implementation of 8 silos, the postal operations have developed with effectiveness, accountability, and transparency. With computerization and networking of all post offices, the development of integrated modular Software and the establishment of IT infrastructure would boost the quality of public service delivery coupled with transparency. Hence, the scheme is factored in increasing transactions in posts, banking, insurance, and

retail activities ensuring financial inclusion that broadly affirms the three aforementioned SDG goals.

## f) National Development Plan Served

The Government of India has designated financial inclusion as one of the growth enablers. A large part of India's population resides in rural areas. The challenges in the rural areas include creating jobs so that some agricultural workers could shift to non-farm sectors, skill development, accessing education and health facilities, infrastructure, local governance, drinking water and sanitation, and financial inclusion. To achieve possible avenues in this area, the strengthening of the financial institutions are required. Rural financial inclusion can be realized through empowering the rural population. The channels of empowering rural people could be road and digital connectivity, access to clean energy, financial inclusion, and housing for all. The Department of Posts (DoP) with the help of the 'IT Modernization Project 2012' empowers people to access postal services through digital connectivity (PLI, RPLI, eMO, etc.). The outreach to the rural area through DARPAN -Rural Hardware and DARPAN-Rural System Integrator are crucial enablers in this regard. The implementation of the IT Modernization Project 2012 of the Department of Posts across 23 divisions, 27 States, and 10 UTs pitch in financial inclusion and accessibility of cheaper, deeper, and faster services rendered by the Department of Posts. Financial inclusion has a multiplier effect in boosting overall economic output, reducing poverty and income inequality, and in promoting gender equality and women empowerment. The financial inclusion can be bolstered by (i) following a target-based approach, (ii) strengthening the requisite infrastructure of payment mechanisms, (iii) strong regulatory framework, (iv) focus on last-mile delivery and financial literacy, (v) use of innovation and technology, and (vi) periodic monitoring and evaluation of progress made in financial inclusion. Further, the bank-led model of financial inclusion adopted by the RBI through the issuance of differentiated banking licenses (Small Finance Banks and Payments Banks) and the launch of Indian Post Payments Bank in September 2018 has helped bridge the gap in the last-mile connectivity. The benchmark fixed for financial inclusion are: (a) providing banking access to every village (or hamlet of 500 households in hilly areas) within five km. radius, (b) strengthening digital financial services to create infrastructure to move towards a cashless society by March 2022, and (c) ensuring that every adult has access to a financial service provider through a mobile device by March 2024. The key parameters to include financial inclusion are: (i) measure access, such as the number of bank branches or ATMs for a specified population, (ii) measure usage, such as

percentage of adults with a saving account, insurance or pension policy, and (iii) measure quality of services, such as grievance redressal (through the number of complaints received and addressed). The postal services are in compliance with the aforesaid parameters. The office Memorandum issued by the Ministry of Finance, Department of Expenditure vide letter dated 15.07.2016 and 26.02.2016 mention that all the Direct Benefit Transfer (DBT) should be routed through the National Payment Corporation of India. This requires the rollout of hardware, software, connectivity, and technical resources for the effective implementation of DBT across all the levels of hierarchy.

### 2.2 Budgetary allocation and expenditure pattern of the scheme

The information shared by the Department of Posts, Ministry of Communications with regard to the budgetary allocation and expenditure pattern pertaining to the scheme of the "IT Modernization Project 2012" of the Department of Posts are as under:

**Table 2.1: Budget allocation and expenditure pattern of the Scheme (in Rs. crore)**

| Financial Year | Expected expenditure as per EFC | Budget Allocation | Revised Allocation | Final Grant | Expenditure made by PMU |
|---|---|---|---|---|---|
| 2011-12 | 318.52 | 536.59 | 142.36 | 157.39 | 91.92 |
| 2012-13 | | 516.00 | 109.36 | 33.47 | 26.13 |
| 2013-14 | 1215 | 532.21 | 295.74 | 274.44 | 253.95 |
| 2014-15 | 685.28 | 506.39 | 86.8 | 89.52 | 88.84 |
| 2015-16 | 676.28 | 276.4 | 331.1 | 310.23 | 307.19 |
| 2016-17 | 672.39 | 176.61 | 188.37 | 195.73 | 188.42 |
| 2017-18 | 651.26 | 249.6 | 435.08 | 435.08 | 415.63 |
| 2018-19 | 480.22 | 300 | 357.13 | 378.03 | 375.32 |
| 2019-20 | 49.18 | 452.4 | 396.81 | 396.81 | 367.39 |
| 2020-21 | 2.19 | 739.43 | 803.94 | 803.08 | 802.02 |
| **Total** | **4750.3** | **4285.6** | **3146.7** | **3073.8** | **2916.8** |

The table above shows the budgetary allocation and expenditure pattern of the scheme in the last 10 years. It indicates that , □ 91.92 crore in 2011-12, □ 26.13 crore in 2012-13, □ 253.95 crore in 2013-14, □ 88.84 crore in 2014-15, □ 307.19 crore in 2015-16, □ 188.42 crore in 2016-17, □ 415.63 crore in 2017-18, □ 375.32 crore in 2018-19, □ 367.39 crore in 2019-20 and □ 802.02 crore in 2020-21 have been incurred as actual expenditures. The expenditure was made by the Project Management Unit of the Department of Posts. Moreover, the actual expenditure with little down-surge is following the ascending trend over the years. The fluctuation in the actual expenditure is linked with the actual achievement scored by the 'IT Modernization Project 2012' of the Department of Posts. The average budgeted expenditure has been calculated as □428.56 crore against the average actual expenditure of Rs. □291.68

crore for the year 2011-12 to 2020-21. As such, an average of 31.94% drop has been recorded in actual expenditure in sharp contrast with the budgeted expenditure. Side by side, on average 26.56% drop is evident in the budgeted allocation and revised allocation for the said years. The same may also be shown through the bar diagram drawn below:

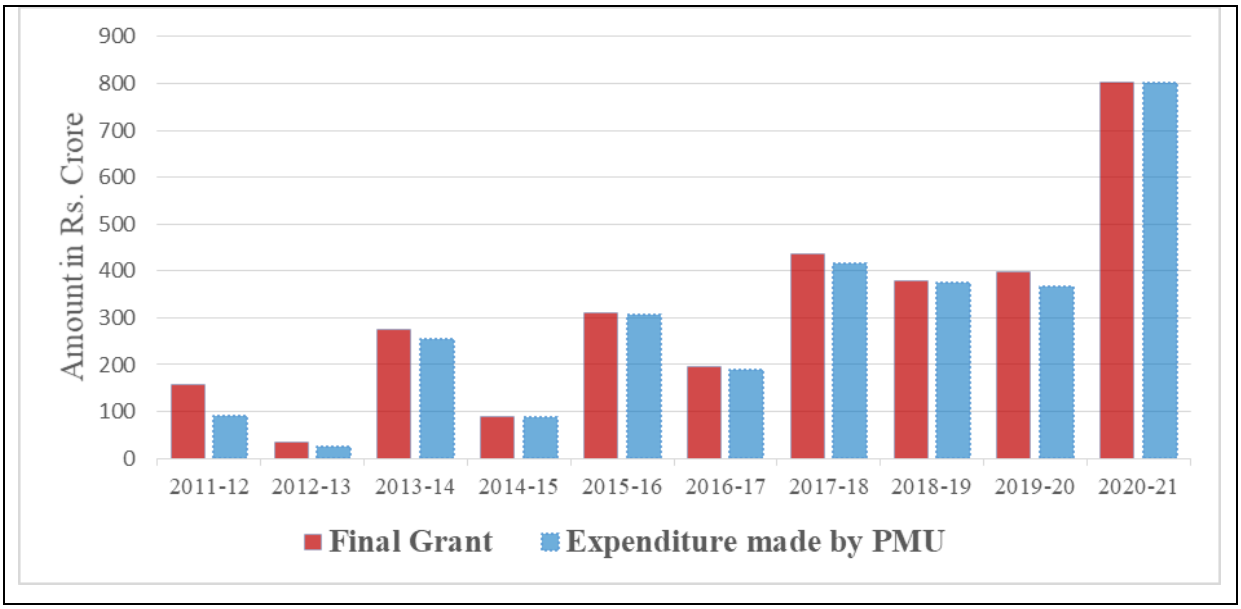



**Figure2.1: Budgetary allocation and expenditure pattern of the Scheme**

The bar diagram drawn above shows the first bar stands for the final grant, and the second, actual expenditure made by PMU. The maximum expenditure is evident in the year 2020-21, followed by 2017-18, 2018-19, 2019-20, 2015-16, 2013-14, 2014-15, 2011-2 and 2012-13. The maximum expenditure has been found in the year 2020-21, followed by 2017-18, 2018-19, 2019-20, 2015-16, 2013-14, 2014-15, 2011-2, and 2012-13. The trend in the expenditure incurred against the final grant has been found to be 41.60% in 2011-12, followed by 21.93% in 2012-13, 7.47% in 2013-14, 7.41% in 2019-20, 4.47% in 2017-18, 3.73% in 2016-17, 0.98% in 2015-16, 0.76% in 2014-15, 0.72% in 2018-19 and 0.13% in 2020-21. It largely reveals that the decreasing trend in expenditure is actually in the gap between expenditure and final grant released. The expenditure-related information presents that the scheme has faced fluctuations with regard to its implementation-led coverage. Based on the budgetary information, the exponential smoothing has also been drawn which is under:

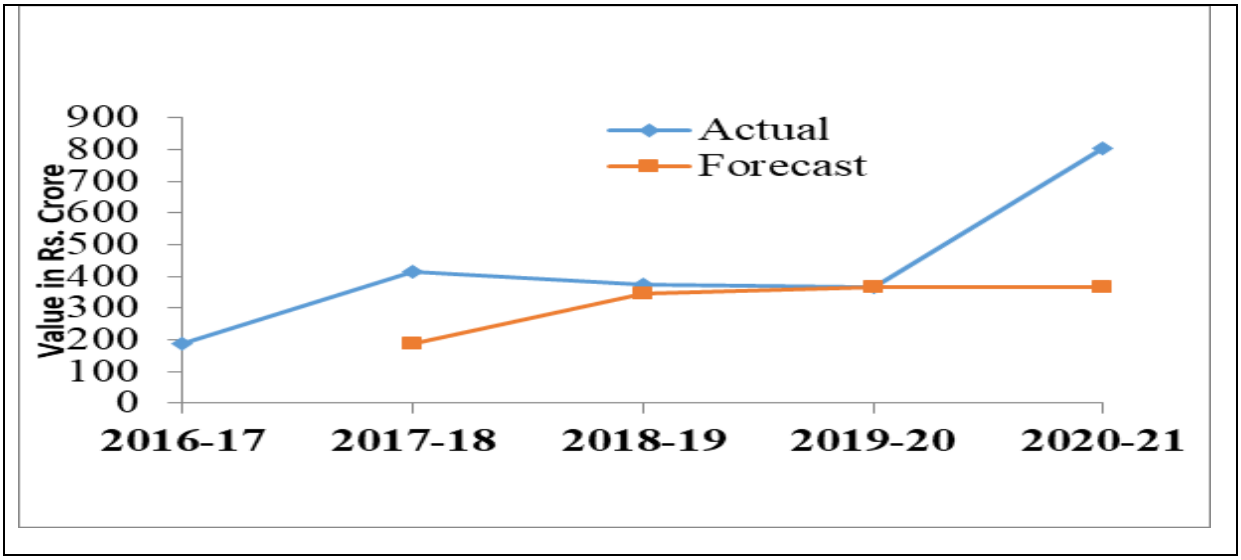



**Figure2.2: Line graph for the exponential smoothing of the actual expenditure**

The graph above shows the actual expenditure and forecasted expenditure for the FYs. The line graphs have been drawn for 2016-17 upto 2020-21. The expenditure pattern shows an accurate trend of expenditure in the last five years. More expenditure is vivid in the year 2017-18 and 2020-21, as compared to the expenditure forecasted. Overall, the actual expenditure line is aligned with the forecasted expenditure line. The actual expenditure line graph indicates the size and volume within which the 'IT Modernization Project 2012' of the Department of Posts was implemented.

**Table2.2: Forecasting accuracy calculation through 'Mean Absolute Percentage Error' (MAPE)**

| Financial Year | Expenditure made by PMU | Predicted | Absolute Percentage Error |
|---|---|---|---|
| 2016-17 | 188.42 | 188.42 | 0.00 |
| 2017-18 | 415.63 | 347.47 | 16.40 |
| 2018-19 | 375.32 | 366.96 | 2.23 |
| 2019-20 | 367.39 | 367.26 | 0.03 |
| 2020-21 | 802.02 | 671.59 | 16.26 |
| MAPE | | | 6.98 |

One of the most common measures used to calculate the forecasting accuracy is mean absolute percentage error (MAPE) that has been used in exponential smoothing. The formula to calculate MAPE is as follows:

$$MAPE = (1/n) * \Sigma(|actual - forecast| / |actual|) * 100$$

The MAPE value calculated is 6.98% which shows the mean percentage error between the actual expenditure and forecasted expenditure. However, the lower the value for MAPE, the

better a model can forecast values with the existing forecast and actual expenditure. The difference is considered acceptable when it gets recorded at about 10%. As such, the forecasted line graph accurately predicts the expenditure pattern, considering the expenditure pattern of the IT project based on the last 5 years (2016-17 to 2020-21).

Compound Annual Growth Rate (CAGR) is the **rate of return required for an investment to grow from its beginning balance to its ending balance**, assuming the profits were reinvested at the end of each year of the investment's lifespan. The compound annual growth rate isn't a true return rate, but rather a representational figure. It is essentially a number that describes the rate at which the project would have grown if it had grown the same rate every year and the profits were reinvested at the end of each year. The instrument is the geometric progression ratio that provides the rate of return over the period.

**Table 2.3: Compound Annual Growth Rate (CAGR) across the years**

| Financial Years | Revenue Generated through Postal Operations (in Crore) | CAGR |
|---|---|---|
| 2010-11 | 6962.3 | NA |
| 2011-12 | 7899.3 | 13.46% |
| 2012-13 | 9366.4 | 15.99% |
| 2013-14 | 10730.4 | 15.51% |
| 2014-15 | 11635.9 | 13.70% |
| 2015-16 | 12939.79 | 13.20% |
| 2016-17 | 11511 | 7.45% |
| 2017-18 | 12832.76 | 9.13% |
| 2018-19 | 13482.56 | 8.61% |
| 2019-20 | 13558.2 | 7.69% |

Formula and Calculation of CAGR

$$CAGR = \left(\frac{EV}{BV}\right)^{\frac{1}{n}} - 1$$

**where:**

$EV$ = Ending value

$BV$ = Beginning value

$n$ = Number of years

The table above presents that CAGR for 2010-21 based on revenue generated through postal operations. The CAGR has scored 13.46% in 2011-12, 15.99% in 2012-13, 15.51% in 2013-14, 13.70% in 2014-15, 13.20% in 2015-16, 7.5% in 2016-17, 9.13% in 2017-18, 8.61% in 2018-19 and 7.69% in 2019-20.

Based on secondary information shared on the revenue generated through Postal Operations, the Compound Annual Growth Rate (CAGR) has been calculated, for the 'IT Modernization Project 2012' of the Department of Posts (DoP). In the diagram given below, the bars show

the amount of revenue generated through the postal operations. The line graph passing through the bars depicts the different CAGR in the years. The CAGR has performed astounding for the year 2012-13, as compared to other financial years. The final CAGR has got squared off at 7.69% in 2019-20.

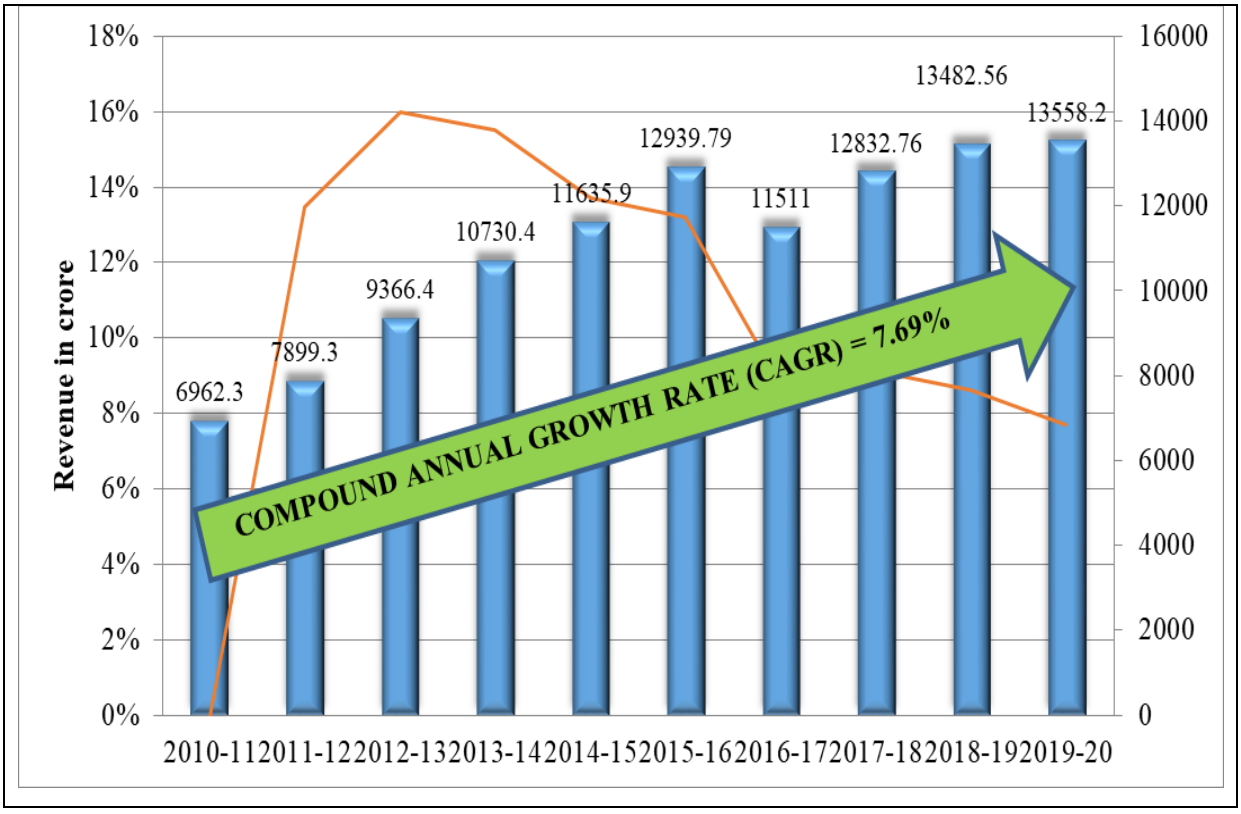



**Figure 2.3: Line graph of Compound Annual Growth Rate ( CAGR) achieved through the IT Modernization Project 2012**

If we compare the revenue generated from the year 2010-11 to 2019-20, the implementation of 'IT Modernization Project 2012' of the Department of Posts has received the Compound Annual Growth Rate (CAGR) of 7.69%. The calculation is based on the revenue generated at beginning of the project implementation to its latest financial basket size in 2019-20. Overall, the CAGR of 7.69 % shows consolidation in the revenue generated by the postal operations.

**Table 2.4: IRR calculation based on operational and silos costs (in Rs. crore)**

| Financial Years | Total Revenue | Operational Costs | Costs on Silos | Total Cost | Net Cash flow | IRR |
|---|---|---|---|---|---|---|
| 2010-11 | 6962.3 | 8878.98 | 151.84 | 9030.82 | -2068.52 | |
| 2011-12 | 7899.3 | 8792.19 | 91.92 | 8884.11 | -984.81 | |
| 2012-13 | 9366.4 | 9555.44 | 26.13 | 9581.57 | -215.17 | |
| 2013-14 | 10730.4 | 10242.51 | 253.95 | 10496.46 | 233.94 | |
| 2014-15 | 11635.9 | 11191.01 | 88.84 | 11279.85 | 356.05 | |
| 2015-16 | 12939.79 | 11895.89 | 307.19 | 12203.08 | 736.71 | |
| 2016-17 | 11511 | 13923.52 | 188.42 | 14111.94 | -2600.94 | |

| Financial Years | Total Revenue | Operational Costs | Costs on Silos | Total Cost | Net Cash flow | IRR |
|---|---|---|---|---|---|---|
| 2017-18 | 12832.76 | 0 | 415.63 | 415.63 | 12417.13 | |
| 2018-19 | 13482.56 | 16802.33 | 375.32 | 17177.65 | -3695.09 | |
| 2019-20 | 13558.2 | 16403.5 | 367.39 | 16770.89 | -3212.69 | **6.33%** |

The table above has captured the information for total revenue generated and incurred operational and silos costs. The operational costs are inclusive of the salary of employees. However, the pension liabilities have been excluded. After clubbing both operational and silos costs, the total costs have been calculated. The same has been subtracted from the total revenue generated on yearly basis through the postal operations, the net cash flow has been calculated. The pension liabilities have not been considered in the costs calculations. The operational and silos costs have been considered as the crucial items providing buoyancy to the net cash flow. As such, the 6.33% of Internal Rate of Return (IRR) has been calculated after the implementation of the 'IT modernization Project of 2012' of the Department of Posts. Considering the parameter, the average growth and Year over Year (YoY) in the revenue have also been calculated. The information placed in the tabular form is as under:

**Table 2.5: Percentage of annual, average and Year over Year (YoY) growth of the Scheme**

| Years | Total Revenue (in crore) | Percentage Growth in revenue | YoY % Increase |
|---|---|---|---|
| 2010-11 | 6962.3 | N/A | N/A |
| 2011-12 | 7899.3 | 11.86 | 13.46% |
| 2012-13 | 9366.4 | 15.66 | 18.57 |
| 2013-14 | 10730.4 | 12.71 | 14.56 |
| 2014-15 | 11635.9 | 7.78 | 8.44 |
| 2015-16 | 12939.79 | 10.08 | 11.21 |
| 2016-17 | 11511 | -12.41 | -11.04 |
| 2017-18 | 12832.76 | 10.3 | 11.48 |
| 2018-19 | 13482.56 | 4.82 | 5.06 |
| 2019-20 | 13558.2 | 0.56 | 0.56 |
| **Average Growth** | | **6.82** | |

The table above presents the annual growth, average growth, and Year over Year (YoY) growth in the revenue generated from the year 2010-11 to 2019-20. The growth percentage based on revenue generated has performed 11.86% in 2011-12, 15.66% in 2012-13, 12.71% in 2013-14, 7.78% in 2014-15, 10.08% in 2015-16, -12.41% in 2016-17, 10.30% in 2017-18, 4.82% in 2018-19 and 0.56% in 2019-20. The highest percentage of revenue-based growth has been found in the year 2012-13 and the lowest in 2019-20. The reason assigned to the

lowest growth percentage in the year 2019-20 is the issue related to the Covid pandemic. The reason assigned to the negative growth rate in the year 2016-17 is the contraction of the money supply showing the sign of a possible recession or depression. Overall, an average growth of 6.82% has been realized across the 10 FYs. This shows a good sign that the postal operations are effectively aligned to reach the expected productivity.

The postal operations have generated revenue effectively despite the reduced working staff strength. A total of 475454 staff (including 206344 Departmental Staff and 269120 GDS) were engaged with the DOP as of 31.3.2010. The number went down to 170932 for Departmental staff and 245141 for GDS. Hence, a 20.72% reduction in the Departmental staff strength and 9.78% in GDS have been identified. On the contrary, the revenue generated through postal operations was Rs. 6962.3 crore in 2010-11 that went to Rs. 13558.2 crore in 2019-20. As such, 48.65% growth in revenue through postal services has been recognized despite a 14.27% reduction in staff strength. It shows that 'IT Modernization Project 2012' of the Department of Posts has enabled the Post offices to deliver services efficiently.

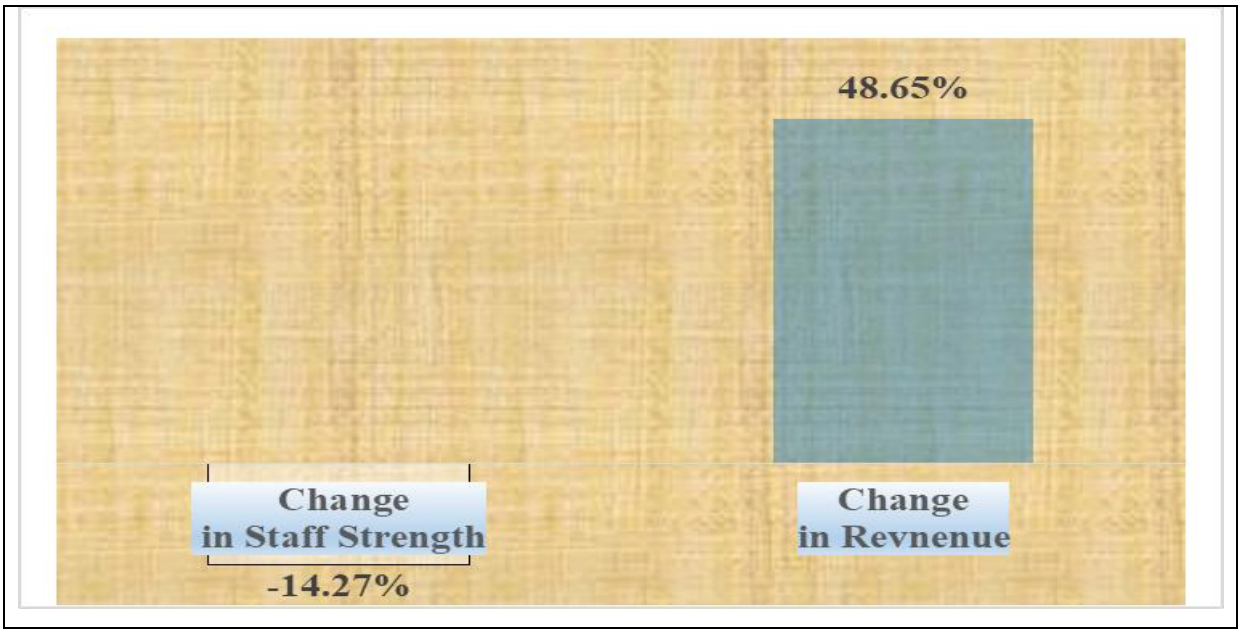



**Figure 2.4: Bar diagram showing change percentage in staff strength and revenue**

The diagram above shows that despite a 14.27% reduction in working staff strength, the postal operations have brought increased revenue to the tune of 48.65% due to 'IT Modernization Project 2012' of the Department of Posts. It further indicates that the computerization, IT enablement, etc. implemented through the silos under the 'IT Modernization Project 2012' of the Department of Posts have led to the ease of doing business on the one hand, and better access to the revenue on the other.

### 2.3 Summary of the Past Evaluation since Inception

1. Year of evaluation: 2018
2. The agency hired for Evaluation: IIM Lucknow
3. Recommendations made and accepted are as under:

(i) Develop Services and partnership by harnessing the IT capability,

(ii) Develop Services and APIs to expose the internal system, and

(iii) Invest in business intelligence and knowledge management.

## 3. METHODOLOGY

The positivist approach with multiple methods were employed to arrive at the objective findings. The approach for the study took cognizance of the objectives, processes, and outcomes of the scheme. Parameters were designed to quantitatively and qualitatively assess the objectives of the scheme. The objective-based approach measured if the initially set goals of the scheme were duly met. Apart from the evaluation of the objectives of the scheme, its process, and its outcomes were also studied. Attempts were also made to assess whether the process of the scheme has been instrumental in achieving the desired objectives of the 'IT Modernization Project 2012' of the Department of Posts by taking up the feedback of the Post office head, counter staff, and customers (end-users). Finally, the outcomes of the scheme of 'IT Modernization Project 2012' of the Department of Posts, in addition to the objectives, the impact of the scheme on the customer receiving Postal services have been gauged. The evaluation strategy made use of both primary and secondary data for the assessment of the scheme's goals, processes, and outcomes. Secondary information in the form of Scheme Budget, particularly the actual budget from the Department of Posts was obtained. The evaluation study has made use of the Annual Reports of the Department of Posts from 2013-14 to 2020-21 to garner information about micro-financial details and products& services. One of the instruments for obtaining primary data was questionnaire. They were made available to the direct beneficiaries (Divisional head, Post office head, counter staff, and customers) of the scheme to understand the effectiveness and gauge the overall success of the scheme. The stakeholders were personally met and interacted on the various issues and challenges that they faced during receiving the postal services. Besides, the infrastructure available with the Post offices were also verified. Particularly, the effectiveness of DARPAN-an instrument to penetrate postal services to rural locations was assessed. The usefulness and efficacy of the online services were discussed with respondents, and the outcome was gauged. The grant released from the Department for the infrastructure development in Post

offices of 23 circles was examined on a sample basis. However, the analysis of DoP as whole has been done based on information collected from Annual Reports. Overall, the impact assessment involved a holistic approach to evaluate the benefits of the scheme and collated suggestions and recommendations received in the form of responses obtained from the respondents involved in the scheme.

The selection of samples under any study is crucial in an evaluation strategy. The sample under the study was selected in consultation with the Department of Posts. The silos receiving the maximum amount of expenditure were meticulously examined. However, the selection of the sample was done in such a way that it could be representative of the universe.

Subsequent telephonic follow-ups were conducted with the respondents at several stages of the evaluation study to mitigate concerns of attrition bias- a typical factor that tends to undermine scheme evaluation study. The several interaction rounds proved to be significantly effective in obtaining the feedback in terms of existential challenges faced by the stakeholders of the scheme under the study. In addition, telephonic conversation and video conferencing were commenced with many customers and postal officials to arrive at objective findings. While interacting with the respondents, observation was also applied. As such, the study has used research tools like observations, questionnaires, and in-depth interviews with four identified stakeholders. The collected information was entered into excel sheet and sorted for the objective-based findings. The measure of central tendency has been used to surface the quantitative value of indicators with regard to the findings. We have also assessed the scheme to know the extent to which it has increased the quality of services in providing financial inclusion. The study was also backed with extensive meta-analysis to provide the objective scheme assessment.

### 3.1 Approach (Methodology Adopted), Division of Country into 6 Geographical Regions as classified by NSSO

With the comprehensive methodology, and pragmatic approach, the evaluation of the "IT Modernization Project 2012" of the Department of Posts was conducted. The methodology under the study was designed in such a way that it took the sample size representative of the population (universe). Since the scheme has been implemented across the country (23 Postal circles), based on the maximum silos covered, sample selection was done. The sample selection has largely followed the NSSO classified zones. However, etic and emic approaches have been applied to arrive at conclusive findings. The study has covered 6 States and 18 districts from all the six NSSO classified zones. However, etic and emic approaches have been applied to arrive at conclusive findings to present an evidence-based assessment report

of the 'IT Modernization Project 2012' of the Department of Posts. The states and districts selection under the study are as under:

**Table 3.1: Selection of State and Districts under the study**

| NSSO Zone | State | District 1 | District 2 | District 3 |
|---|---|---|---|---|
| North East | Assam | Guwahati | Tezpur | Dibrugarh |
| North | Himachal Pradesh | Shimla | Mandi | Dharamshala |
| Central | Madhya Pradesh | Bhopal | Hoshangabad | Indore |
| East | Odisha | Bhubaneswar | Mayurbhanj | Cuttack |
| West | Maharashtra | Ahmednagar | Mumbai | Amravati |
| South | Tamil Nadu | Madurai | Erode | Chennai |

The study has covered 6 States and 18 districts. From each of the states, 3 districts have been selected. From each of the states, 3 Districts (which generally represent a revenue district) have been selected. From each District, one HO, two SOs, and two BOs have been selected. The selection of SOs has been done in such a way that one of them falls under rural areas. Single-headed SOs have been given priority in the selection process. The states selected under the study are: (1) Himachal Pradesh, (2) Odisha, (3) Maharashtra, (4) Assam, (5) Madhya Pradesh, and (6) Tamil Nadu.

From the northeast region, Assam was selected. From Assam, three districts, namely Guwahati, Tezpur, and Dibrugarh were sampled. From the north region, Himachal Pradesh was selected. From Himachal Pradesh, three districts, viz. Shimla, Mandi, and Dharamshala were sampled. From the central region, Madhya Pradesh was selected. From Madhya Pradesh, three districts, eg. Bhopal, Hoshangabad, and Indore were sampled. From the east region, Odisha was selected. From Odisha, three districts - Bhubaneswar, Mayurbhanj, and Cuttack were sampled. From the west region, Maharashtra was selected. From Maharashtra, three districts, namely Ahmednagar, Mumbai, and Amaravati were sampled. From the south region, Tamil Nadu was selected. From Tamil Nadu, three districts, like Madurai, Erode, and Chennai were sampled. Hence, the study constituted six states, 18 districts, 15 Divisional Offices (DOs), 18 HOs, 36 SOs, and 36 BOs. The sample size covered under the study is as under:

**Table 3.2: Distribution of sample-size across the NSSO zones**

| NSSO Zone | State | Customers | Post Masters | Counter Staff | DO Heads | Total |
|---|---|---|---|---|---|---|
| North East | Assam | 271 | 15 | 31 | 2 | 319 |
| North | Himachal Pradesh | 323 | 15 | 33 | 3 | 374 |

| NSSO Zone | State | Customers | Post Masters | Counter Staff | DO Heads | Total |
|---|---|---|---|---|---|---|
| Central | Madhya Pradesh | 303 | 17 | 38 | 3 | 361 |
| West | Maharashtra | 328 | 22 | 46 | 1 | 397 |
| East | Odisha | 325 | 16 | 43 | 3 | 387 |
| South | Tamil Nadu | 403 | 26 | 72 | 3 | 504 |
| **Total** | | **1953** | **111** | **263** | **15** | **2342** |

The table above presents the sample size covered under the study. A total of 1953 customers, 111 Post Masters, 263 counter staff, and 15 DO heads were covered under the study. As such, the study has covered a total of 2342 samples from different layers of stakeholders involved both as service providers and service recipients of postal operations. The sample includes 319 from Assam, 374 from Himachal Pradesh, 361 from Chennai, 397 from Maharashtra, 387 from Odisha, and 504 from Tamil Nadu.

**Table3.3: Distribution of sample size by post office type**

| State | Post Office Type | | | | |
|---|---|---|---|---|---|
| | HO | SO | BO | DO | Total |
| Assam | 105 | 139 | 73 | 2 | 319 |
| Himachal Pradesh | 150 | 138 | 83 | 3 | 374 |
| Madhya Pradesh | 109 | 146 | 103 | 3 | 361 |
| Maharashtra | 123 | 175 | 98 | 1 | 397 |
| Odisha | 117 | 164 | 103 | 3 | 387 |
| Tamil Nadu | 165 | 196 | 140 | 3 | 504 |
| **Total** | **769** | **958** | **600** | **15** | **2342** |

The table above explains the number of respondents selected in the study. 769 responses from the head offices, 958 from the Sub-Post offices, 600 from the branch post offices, and 15 from Divisional Office were received. Furthermore, responses from the head post office were received majorly from Tamil Nadu (165), followed by Himachal Pradesh (150), Maharashtra (123), Odisha (117) Madhya Pradesh (109), and Assam (105). From the Sub post offices, the majority of the responses were received from Tamil Nadu (196), followed by Maharashtra (175), Odisha (164), Madhya Pradesh (146), Assam (139), and Himachal Pradesh (138). From Branch Post Offices, the highest number of responses have been received from Tamil Nadu (140), followed by 103 each from Odisha and Madhya Pradesh, Maharashtra (98), Himachal Pradesh (83), and Assam (73). Barring Maharashtra (1) and Assam (2), all the DOs of the three districts provided the information required. As such, the study has included 769 respondents from Head Post offices, 958 from Sub-post offices 600 from Branch Post offices, and 15 from Divisional offices. The responses garnered have been used to assess the

'IT Modernization Project 2012' of the Department of Posts on the designed qualitative and quantitative parameters laid down under the evaluation study aligned with deliverables.

### 3.2 Sample Size and sample selection process, tools used

The study has followed a random sample selection procedure. Out of the total customers available with transacting Postal services constituted the larger pool of our respondents. The randomly selected counter staff (in certain cases available counter staff) were requested to provide their feedback on the identified indicators. 387 respondents from the east zone, 319 samples from the northeast zone, 374 responses from the north zone, 397 views from the western zone, and 504 feedback from the southern zone were received. Thus, a total of 2342 samples were studied from different layers of stakeholders under the evaluation study.

**Table3.4: Research tools used for data collection from the target group**

| | |
|---|---|
| DO heads, HO heads, SO heads, BO heads, | • In-depth interview<br>• Questionnaire<br>• Observation |
| The counter staff of HOs, SOs & BOs, and customers from HOs, SOs, and BOs | • Questionnaire<br>• Observation |
| Customers from HOs, SOs, and BOs | • Questionnaire<br>• Observation<br>• Focus Group Discussion |
| DoP Officers | • In-depth discussion<br>• Observation |

#### a. Questionnaire

A total of 41 questions were designed to be responded by the Divisional Office. The questions mostly included the basic details, number of postal transactions, number of POSB accounts, number of PLI, the premium collected, and revenue generated for 2012-13, 2016-17, 2017-18, 2018-19, 2019-20 and 2020-21. A total of 27 questions were inscribed in the questionnaire for postmasters, 37 for counter staff, and 23 for end-users (customers). Hence, the study has included both supply and demand-side stakeholders to gauge the effectiveness of the IT Modernization Project of Posts for both revenue generation and the degree to which the customers received satisfaction. The questionnaires were finalized after conducting two pilots at SO AGCR building and HO Dak Bhawan. However, based on responses received,

little modification by including the name of the post office has been inserted in the questionnaires for postmasters, counter staff, and counter staff.

Moreover, the responses received from both the stakeholders have enabled the study findings to be unbiased and objective.

**b. In-depth Interview**

The study team individually interacted with Senior Superintendents of Post offices, Postmasters, Counter Staff, and Customers. The in-depth interviews helped elicit responses relating to the overall achievement of the scheme. The instrument provided qualitative information to the study team. The in-depth interview helped the study team to identify implicit bottlenecks that have been placed in the appropriate section of the study.

**c. Observation**

Observation as a tool was used in understanding the issues and challenges of the scheme. It involved three processes, i.e. (i) sensation (ii) attention, and (iii)perception. The sensation was gained through the idea of pre-conceived through secondary information. The attention was paid to the way stakeholders responded. The perception comprises the interpretation of benefits vis-à-vis delivery of doorstep services to the customers. Thus, observation served the purpose of (i) studying collective behavior and complex situations; (ii) following up of individual units composing the situations; (iii) understanding the whole and the parts in their interrelation; (iv) getting the out of the way details of the situation.

**d. Focus Group Discussion**

Focus Group Discussion (FGD) involves gathering people from similar backgrounds or experiences together to discuss a specific topic of interest. It is a form of qualitative research where questions are asked about their perceptions attitudes, beliefs, opinions, or ideas. Focus group discussion was conducted in the southern region (Chennai, Erode, and Madurai) to elicit the qualitative interpretations of the research findings. The FGD included counter staff (GDS in the case of BOs) and the customers. It enabled the research team to have access to the qualitative information about the postal operations and issues and challenges that the stakeholders faced in delivering as well as receiving the postal services. Hence, FGD as a tool for qualitative research penetrated the realities from the appearance to the inner core.

**e. Data Processing & Analysis**

The raw data was transferred into excel sheet. The data cleaning was done as per the mapped framework of the study. The Likert test to measure attitudinal responses, and Cronbach's alpha to test the reliability of data were used to ensure accuracy and precise results. The measure of central tendency, regression, t-test, f-test, etc. have suitably been used to arrive at

the conclusive findings. Apart from micro-economic calculations have also been done to assess the achievement of the scheme against the target laid down. The pie diagram, bar charts, line graphs have been placed to give pictographic findings of the study. The regression-based coefficients derived from different components under the study posit the incentivized impact on the total revenue generated. Several revisions and cross-checks have been done before operationalizing any econometrics or statistical tool. As such, the nebulous concerns have been consolidated in such a way that can be fathomed.

**f. Data Analysis**

To quantify the evidence-based findings, Statistical tools have suitably been used. To give empirical contents to the variables studied, econometrics as a statistical application has been employed. The Compound Annual Growth Rate, Annual Growth Percentage, Average Growth percentage, and Year over Year (YoY) growth percentage have been used. Regression, Correlation, T-test, and F-test have also been used.

Regression Analysis intends to filter out the significant reason for a result and also to predict, the fluctuation in result due to identified significant indicators. In other words, Regression analysis is a reliable method of identifying which variables have an impact on a topic of interest. The process of performing a regression allows us to confidently determine which factors matter the most, which factors can be ignored, and how these factors influence each other. In Regression Analysis, the significant factors are shortlisted based on their p-value being less than 0.05. It is processed through the identification of dependent and independent variables. Hence, the result of regression analysis helps to opt for better policy decisions.

Correlations are useful because if we can find out what relationship variables have, we can make predictions about future operations of products and services. Knowing what the future holds is very important in the projects and schemes. Correlation coefficients are used to measure how strong a relationship is between two variables. The correlation coefficient ranges between +1 and -1 on its scale. A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. Zero means that for every increase, there isn't a positive or negative increase. Similarly, the negative value indicates an inverse linear relationship.

The Chi-square test is a measurement of significance. A chi-square statistic is one way to show a relationship between two categorical variables. In statistics, there are two types of variables: numerical (countable) variables, and non-numerical (categorical) variables. The

chi-squared statistic is a single number that tells us how much difference exists between our observed counts and the counts that we expect if there were no relationship at all in the population. To do so null and alternative hypotheses are designed. The major products and services enabled and facilitated through the 'IT Modernization Project 2012' of the Department of Posts have been processed through the Chi-square test to assess the level of their significant associations.

Exponential smoothing is a time series forecasting method for univariate data. Forecasts produced using exponential smoothing methods are weighted averages of past observations, with the weights decaying exponentially as the observations get older. In other words, the more recent the observation the higher the associated weight. The Exponential smoothing has been conducted to see the difference between actual expenditure and forecasted expenditure. To authenticate its reliability, the forecasted values have been processed through 'Mean Absolute Percentage Error (MAPE)'.

In the study some of the explanations have been shown through bar-graph, line graph, and pie charts. The percentage method and measure of central tendency have been crucial in analysis. Most of the analyses have been done through Microsoft Excel and Stata.

## 4. OBJECTIVES OF THE STUDY

To evaluate the scheme of the IT Modernization Project 2012 of the Department of Posts, the objectives set-up are as under:

1. To assess the status of achievement of IT Modernization Project 2012 of Department of Posts vis-a-vis key objective envisaged to be achieved;
2. To qualitatively and quantitatively map the intended and actual contribution of IT Modernization Project 2012 of the Department of Posts;
3. To analyze the role of the department in the planning, implementation, and monitoring of the various silos of the IT Modernization Project 2012 of the Department of Posts vis-a-vis Project Approval Document and suggest the changes for the next phase of the IT Project to ensure compliance of timelines for IT Modernization Project 2.0;
4. To evaluate the efficiency, robustness, and overall quality of the IT Modernization infrastructure created under the Project with specifics to output and outcome; and
5. To study the levels of customer satisfaction and workforce motivation in their experiences, expectations, and concerns.

### 4.1 Performance of the Scheme based on Output/Outcome Indicators

1. Quality of services and increase in productivity on account of improved IT system,

2. Customer's access to the Post Office through web portal, mobile and call centres,
3. Increase in the transactions in Postal banking, insurance, and retail activities,
4. Reduction in paperwork, particularly in administration and account offices,
5. Improvement in the monitoring and management of Post offices for improved decision making, and
6. Speedy and transparent access of information to the customers.

Based on the above output/outcome indicators of the scheme, the findings are as under:

**1. Quality of services and increase in productivity on account of improved IT system**

To provide greater impetus to the business activities and with focus on the customers' requirements, the Department of Posts has launched products and services to be easily accessed by a wide range of customers. The aforementioned indicator has been assessed considering the revenue generated through different postal products and services. For this purpose, the services and products generating revenue have majorly been classified into four categories. These are: Post Office Savings Bank, Speed Post, Premium Services (other than Speed Post) and Postal Life Insurance (PLI), and Rural Postal Life Insurance (RPLI). Under the umbrella of Premium Services (other than Speed Posts), components like Business Post, Bill Mail Service, Media Post, Direct Post, ePost, ePayment, and Retail Post have been considered, though the DoP offers a host of other services to scale up its productivity and improve outreach. The proportional contributions made by aforesaid components have been shown through the pie chart drawn below:

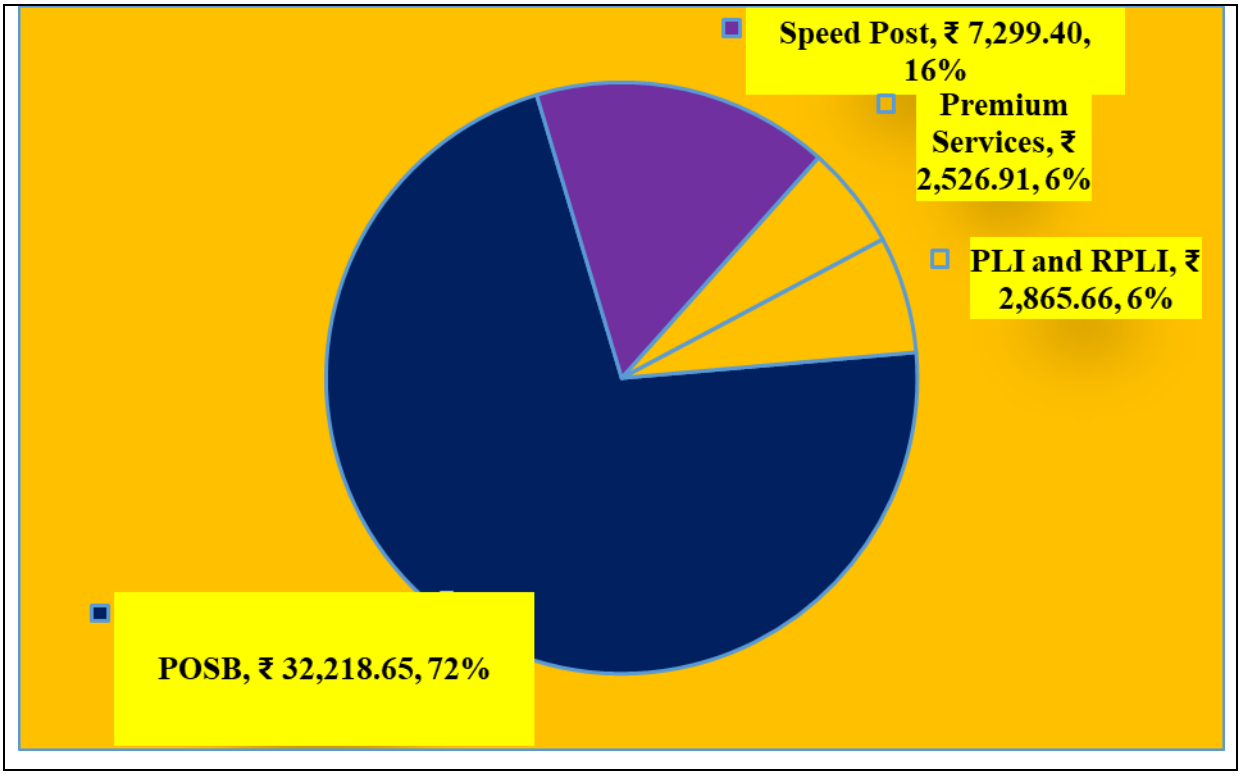



**Figure 4.1: Pie chart showing revenue share of major postal products in the last 4 years (2016-17 to 2019-20)**

The pie chart shows the financial contributions made to revenue generation through different products and services in the last four years (2016-17 to 2019-20). In the last four years, the maximum financial contribution was received through the POSB (Rs. 32218.65 crore), followed by Speed Post (Rs.7299.40 crore), PLI, and RPLI (Rs. 2865.66 crore), and Premium Services other than Speed Post (Rs. 2526.91crore). As such, of the total revenue received, the maximum percentage revenue was received through POSB (72%), followed by Speed Post (16%), PLI and RPLI (6.4%), and Premium Services (other than speed post) (5.6%). Each of the products and services is explained as under:

**i. Assessment of POSB facilities**

The POSB facilities are provided through a network of about 1.57 lakh post offices across the country. Under the POSB facilities, the schemes, such as Post Office Savings Bank Account, National Savings Recurring Deposits Account (RD), National Savings Time Deposits Account (TD), National Savings Monthly Income Account (MIS), Senior Citizens Savings Scheme Account (SCSS), Public Provident Fund Account (PPF), Sukanya Samridhi Account (SSA), National Savings Certificates (NSC), Kishan Vikas Patra (KVP), Jan Suraksha Schemes, and National Pension Systems (all Citizens Model). The IT-led modernization has enabled the DoP to provide Core Banking Solutions, ATMs, e-Banking, Mobile Banking, the extension of Savings scheme, and Simplification of forms and procedures. After

implementation of the 'IT Modernization Project 2012' of the Department of Posts, it has been found that the aforesaid services and products have impacted the postal productivity considerably. The POSB component has been found to be generating revenue of Rs. 6670.03 crore in 2014-15, Rs. 7783.87 crore in 2015-16, Rs. 7173.13 crore in 2016-17, Rs. 8112.64 crore in 2017-18, Rs. 8272.11 crore in 2018-19 and Rs. 8660.77 crore in 2019-20. In other words, the POSB has major share of 57.3% in the total revenue for 2014-15, 60.2% in 2015-16, 62.3% in 2016-17, 63.2% in 2017-18, and 63.9% in 2019-20. However, an imperceptible decrease (59.8%) in the total revenue share has been found in 2018-19. On average, the POSB component has scored a share of 61.1% of the total revenue generated from 2014-15 to 2019-20. The micro details on the component are presented in the diagram below:

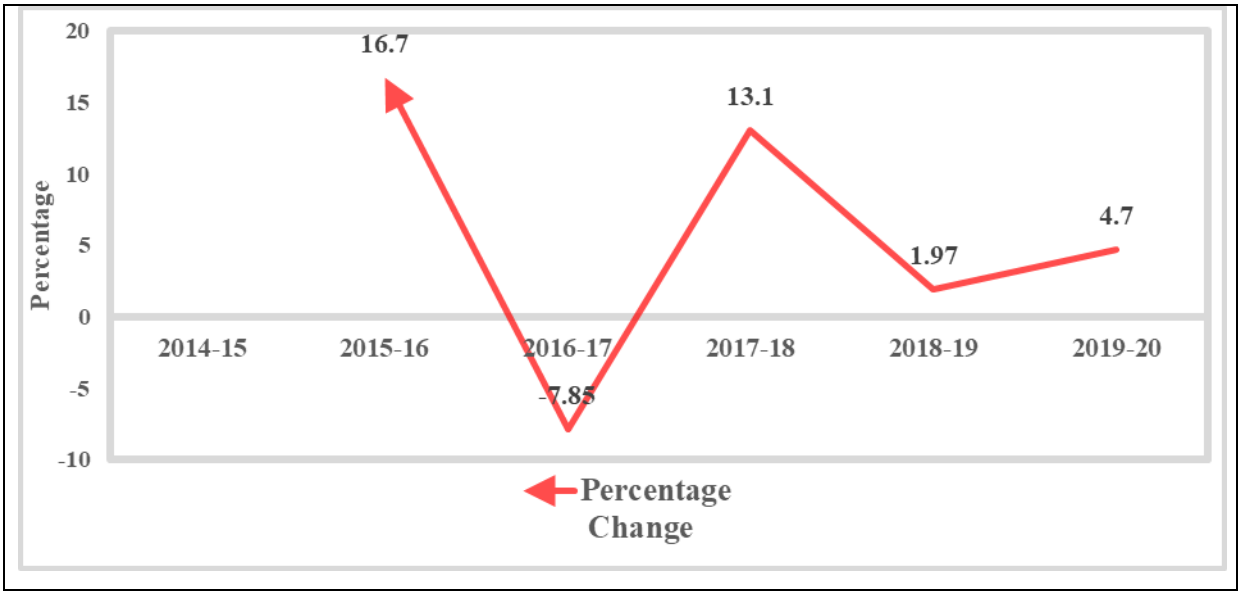



**Figure 4.2: Line graph showing annual percentage change in the revenue share by POSB facilities**

The line graph shows the change in the revenue shared by POSB facilities. It has been found that the maximum increase of 16.7% in revenue generation due to POSB facilities in 2015-16. The change has decreased by 7.85% in 2016-17. An elevation of 13.1% in 2017-18, 1.97% in 2018-19, and 4.7% in 2019-20 have been shown in sharp contrast with the previous years. On average, a growth of 5.72% has been recorded in the revenue generated by POSB facilities across the years.

**ii. Assessment of Speed Post**

The Speed Post is a flagship product of the Department of Posts which provides time-bound and express delivery of letters and parcels. The delivery norms of Speed Post are fixed considering the fastest available transport mode between the booking points and delivery destinations. The 'IT modernization Project 2012' of the Department of Posts has enabled real-time delivery updation using 13 digits Speed Post article number on the India Post

website. Its tracking can also be done through the Android-based mobile app 'Post Info'. Also, electronic clearances of letterboxes, automated mail processing centres, delivery of Aadhaar letters, introduction to barcoded labels for tracking Unregistered Mailbags, Online working of the Railway Mail services (RMS), etc. are done through CSI as a technological offshoot of the 'IT Modernization Project 2012' of the Department of Posts. The Speed Post component has generated almost a uniform revenue across the target years assessed (2014-15 to 2019-20). As a result of the implementation of 'IT Modernization Project 2012' of the Department of Posts, the Speed Post service has been found to be generating revenue of Rs. 1495.21 crore in 2014-15, Rs. 1605.25 crore in 2015-16, 1783.0 crore in 2016-17, Rs. 1829 crore in 2017-18, Rs. 1922.51 crore in 2018-19 and Rs. 1764.09 crore in 2019-20. In other words, the Speed Post has owned a share of 12.8% in 2014-15. The same became 12.4% in 2015-16, 15.5% in 2016-17, 14.3% in 2017-18, 13.9 % in 2018-19 and 13.0% in 2019-20. The breakthrough in the share of the total revenue generation has been found in 2016-17. However, the share in the total revenue generated through the component has been found within the range of 12.4% to 15.5% in the last six years. On average, the Speed Post service has owned 13.7% of the share in the total revenue generated from 2014-15 to 2019-20. The micro-details are presented through the line graph drawn below:

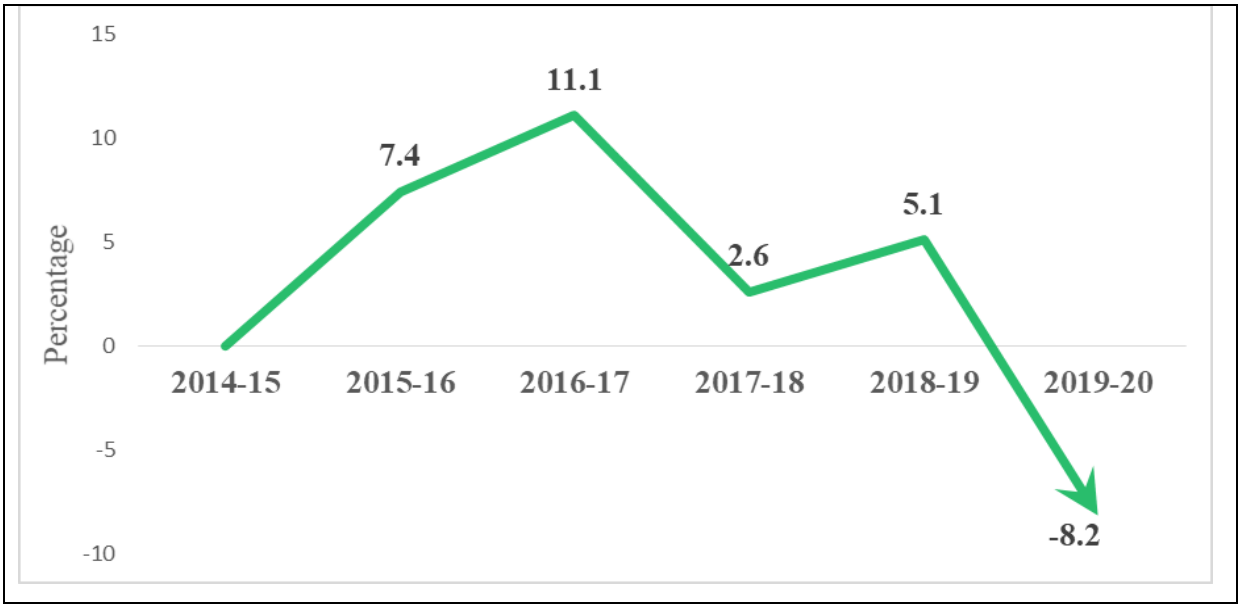



**Figure 4.3: Line graph showing annual percentage change in the revenue share by Speed Post**

The line graph shows the change in the revenue shared by the Speed Post service with the total revenue generated. It has been found that the maximum increase of 11.1% in revenue generation due to the Speed Post services in 2016-17, followed by 7.4% in 2015-16, 5.1% in 2018-19, and 2.6% in 2017-18 with regard to their previous years. The change has decreased

by 8.2% in 2019-20. On average, a growth of 3.6% has been recorded in the revenue generated by Speed Post service across the years.

### iii. Assessment of Premium Services (other than Speed Post)

To support increasing commercial activities in our country, the DoP offers Premium Services. Under this component, the services (other than Speed Post) connected with Business Post, Bill Mail Service, Media Post, Direct Post, ePost, ePayment, and Retail Post have been covered for the evaluation. It has been found that the revenue generated through the premium services (other than Speed Post) amounted to Rs. 1185.88 crore in 2014-15, Rs. 952.46 crore in 2015-16, Rs. 938.81 crore in 2016-17, Rs. 948.88 crore in 2017-18, Rs. 407.54 crore in 2018-19 and Rs. 231.68 crore in 2019-20. The premium services (other than Speed Post) owned 10.2% in 2014-15, 7.4% in 2015-16, 8.2% in 2016-17, 7.4% in 2017-18, 2.9% in 2018-19 and 1.7% in 2019-20 of the total revenue generated in the respective years. The micro-details are presented through the line graph drawn below:

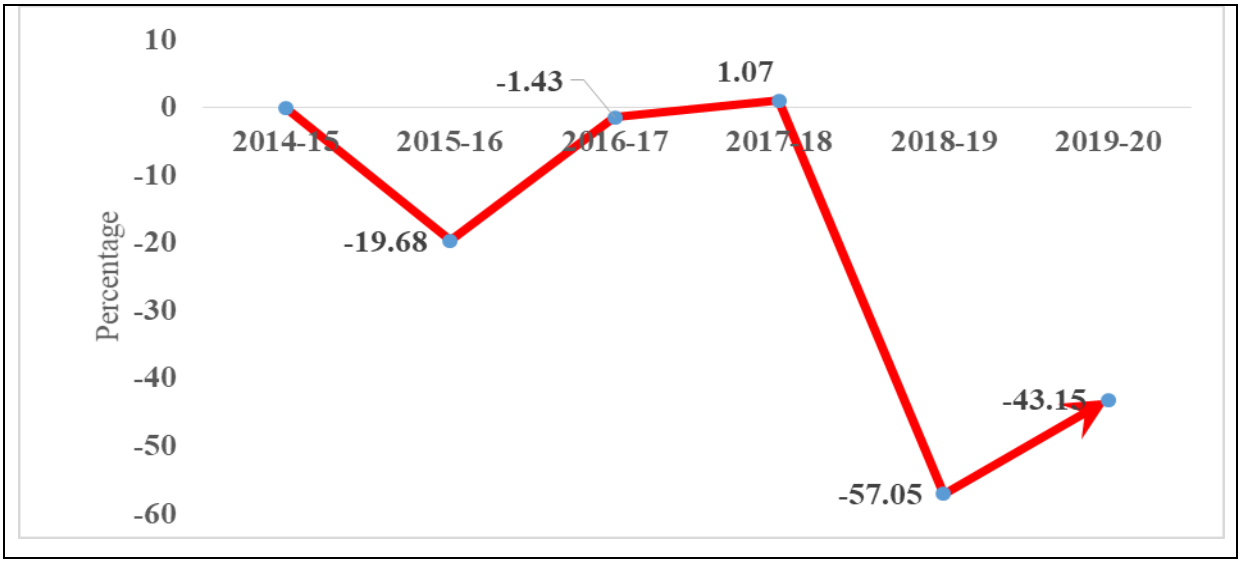



**Figure 4.4: Line graph showing annual percentage change in the revenue share by Premium Services (other than Speed Post)**

The line graph drawn above shows the change in the revenue shared by the Premium Services (Other than Speed Post) with the total revenue generated. It has been found that the maximum increase of 1.07% in revenue generation due to the Premium Services (other than Speed Post) was recorded in 2017-18 in sharp contrast with the previous year. It has mostly dropped, particularly 57.05% in 2018-19 and 43.15% in 2019-20 with regard to their previous years. On average, a negative growth of 24.05% in revenue has been recorded based on yearly comparison within the Premium Services (other than Speed Post).

To identify the issues within the different premium services, correlation coefficients have been calculated. Correlation coefficients are used to measure the strength of the linear

relationship between two variables. A correlation coefficient greater than zero indicates a positive relationship while a value less than zero signifies a negative relationship. A value of zero indicates no relationship between the two variables being compared. It is scaled between the range, -1 and +1. The coefficient of correlation between two intervals or ratio level variables is represented by 'r'. When the value of r is near zero (0), then it is considered that there is little relation between the variables. The more the value of r far from zero, both in the negative and positive directions, the greater is the relationship between the variables. If the value of r is zero, then there is no relation between the variables.

In this case, the coefficients have been calculated separately for the individual Premium Services (other than Speed Post) with regard to the total revenue generated through the postal operations.

**Table 4.1: Correlation coefficients of Premium Services (other than speed post) with regard to the total revenue generated**

| **Premium Services** | **Correlation Coefficients** |
|---|---|
| **Media Post** | **0.4** |
| Retail Post | -0.2 |
| e Post | -0.2 |
| ePayment | -0.3 |
| Business Post | -0.8 |
| Bill Mail Service | -0.8 |
| Direct Post | -0.9 |

The table above represents that the linear relationship of Retail Post (-0.2), ePost (-0.2), and ePayment with regard to the total revenue generated are having mild negative. With each positive increase in Retail Post, ePost and ePayment there is a mild negative in the total revenue generated in a fixed proportion. However, Business Post (-0.8), Bill Mail Service (-0.8), and Direct Post (-0.9) are significantly negative correlation with the total revenue generated. A middle-level linear relationship has been found with Media Post (+0.4) with regard to the total revenue generated. The Multiple set of correlation coefficients within all the components have also been worked out. The same is placed in the table below:

**Table 4.2: Correlation coefficient-set within the Premium Services (other than Speed Post) with regard to the total revenue generated**

| Premium services (Other than Speed Post) | Business Post | Bill Mail Service | Media Post | Direct Post | e Post | ePayment | Retail Post | Total revenue |
|---|---|---|---|---|---|---|---|---|
| Business Post | 1.0 | | | | | | | |
| Bill Mail Service | 0.9 | 1.0 | | | | | | |
| Media Post | -0.4 | -0.4 | 1.0 | | | | | |
| Direct Post | 0.8 | 0.8 | -0.2 | 1.0 | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| e Post | 0.5 | 0.3 | -0.4 | 0.0 | 1.0 | | | |
| ePayment | 0.6 | 0.8 | 0.2 | 0.7 | 0.0 | 1.0 | | |
| Retail Post | 0.6 | 0.3 | -0.3 | 0.2 | 0.9 | 0.1 | 1.0 | |
| Total revenue | -0.8 | -0.8 | 0.4 | -0.9 | -0.2 | -0.3 | -0.2 | 1.0 |

The table above shows the linear relationship within the Premium Services (other than Speed Post) offered by the DoP. In the table above, 0.9 coefficient for Business Mail and Business Post, -0.4 for Media Post and Business Post, 0.8 for Direct Post and Business Post, 0.5 for ePost and Business Post, 0.6 for Retail Post and Business Post and -0.8 for total revenue and Business Post have been calculated. With regard to Bill Mail Services, the coefficient of -0.4 for Media Post, 0.8 for Direct Post, 0.3 for ePost, 0.8 for ePayment, 0.3 for Retail Post, and -0.8 for total revenue have been calculated. For Media Post, the coefficient of -0.2 for Direct Post, -0.4 for ePost, 0.2 for ePayment, -0.3 for Retail Post, and 0.4 for total revenue have been derived. No correlation between ePayment and ePost, a strong correlation between Retail Post and ePost, a negative marginal correlation between total revenue and ePost have been noticed. Insignificant positive and negative correlations in Retail Post and total revenue, respectively have been found with ePayment. The total revenue is negatively insignificant with Retail Post, as per the calculation of correlation coefficients.

**iv. Assessment of PLI and RPLI**

The Postal Life Insurance (PLI) and Rural Postal Life Insurance (RPLI) are offered by the DoP. The PLI offers 6 types of policies. These are: (1) Whole Life Assurance (Suraksha), (2) Convertible Whole Life Assurance (Suvidha), (3) Endowment Assurance (Santosh), (4) Anticipated Assurance (Sumangal), (5) Joint Life Assurance (Yugal Suraksha), and (6) Children Policy (Bal Jiwan Bima). The RPLI offers six types of services, namely 91) Whole Life Assurance (Gram Suraksha), (2) Convertible Whole Life Assurance (Gram Suvidha), (3) Endowment Assurance (Gram Santosh), (4) Anticipated Endowment Assurance (Gram Sumangal), (5) 10 years RPLI (Gram Priya), and (6) Children Policy (Bal Jiwan). After the IT Modernization Project 2012, the PLI and RPLI premium can be paid online at the customer portal through debit/credit card, net banking BHIM/UPI, wallet, and Rupay card. This has facilitated to use of customer-portal where-in anytime, and from anywhere the premium payment may be made and accessed the status. The IT-led facilities have enabled the customers to update their basic details and through Standard Procedure of Operating System, maturity of sum assured, survival loan and death claims may be accessed. As such, PLI and RPLI have provided a boost to the growth and ease of doing business with post offices.

Hence, it has also contributed to the total revenue generated. It has been found that the PLI and RPLI service brought revenue of Rs. 664.38 crore in 2016-17, Rs. 716.00 in 2017-18, Rs. 755.50 crore in 2018-19, and Rs. 729.72 crore in 2019-20.

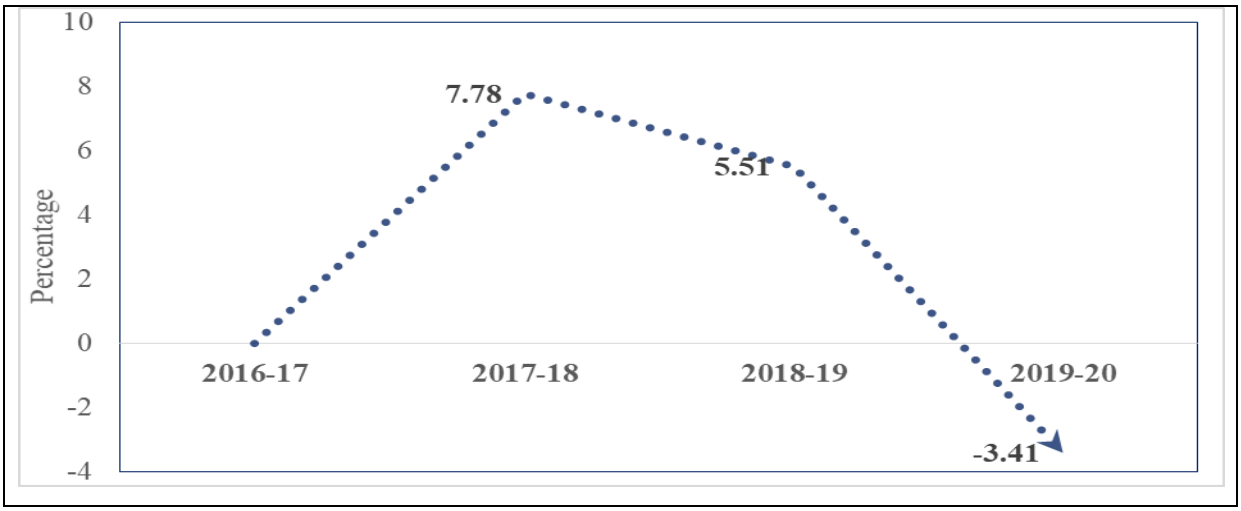



**Figure 4.5: Line graph showing annual percentage change in the revenue share by Postal Life Insurance (PLI) and Rural Life Insurance (RPLI)**

The micro-details are depicted through the diagram given above. The line graph shows the annual contribution rate of PLI/RPLI. It reveals that PLI/RPLI brought 7.78% of additional revenue in 2017-18 and 5.51% in 2018-19 as compared to the previous years. However, it has slightly dropped to 3.41% in 2019-20, as compared to 2018-19. The PLI and RPLI contributed to the total revenue generated at the rate of 5.8% in 2016-17, 5.6% in 2017-18, 5.5% in 2018-19, and 5.4% in 2019-20.

The service and product-based correlation coefficients have also been calculated on the four components analyzed, namely POSB, Speed Post, Premium Services, and PLI & RPLI. The table given below shows the intensity of linear relationships with the total revenue generated.

**Table 4.3: Correlation coefficients of products and services with regard to the total revenue generated**

| Product & Services | Correlation Coefficients |
|---|---|
| PLI and RPLI | 0.98 |
| POSB | 0.91 |
| Speed Post | 0.56 |
| Premium Services (other than Speed Post) | -0.81 |

The tabular information reveals that PLI and RPLI are significantly correlated to the total revenue generated with a correlation coefficient of +0.98 close to one. Almost a similar correlation coefficient has been found with POSB (+91). The Speed Post component is tending towards significance based on the correlation coefficient calculated (+0.56). However, the Premium services (other than Speed Post) are correlated significantly negative

with the revenue generation. The calculation of the correlation coefficient has been found (-0.81) on the component.

The study has also analyzed the impact of revenue generation through POSB, Speed Post, Premium services (other than Speed Post), and PLI & RPLI on the total revenue received using a regression model. After processing the information by individual component, 0.01 as p score for POSB, 0.25 for Speed Post, 0.04 for Premium services (other than Speed Post), 0.90 for PLI and RPLI have been found. The p-value of more than 0.05 is considered to be insignificant and avoidable. Hence, the impact of two components, namely POSB and Premium Services (other than Speed Posts) have been analyzed on the total revenue generated. The POSB has been analyzed in detail whereas, the findings of the (other than Speed Post) have been placed to consider the consistency in the report. The regression findings for the POSB is under:

**Table 4.4: Regression Model to assess the impact of POSB facilities on postal productivity**

| **Summary of Regression Output** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Regression Statistics | | | | | | | |
| Multiple R | 0.92 | | | | | | |
| R Square | 0.84 | | | | | | |
| Adjusted R Square | 0.80 | | | | | | |
| Standard Error | 433.51 | | | | | | |
| Observations | 6 | | | | | | |
| **ANOVA** | | | | | | | |
| | df | SS | MS | F | Significance F | | |
| Regression | 1 | 3908750 | 3908750 | 20.79 | 0.01 | | |
| Residual | 4 | 751733.4 | 187933.4 | | | | |
| Total | 5 | 4660483 | | | | | |
| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
| Intercept | 3410.352 | 2049.00 | 1.66 | 0.171366 | -2278.61 | 9099.31 | -2278.61 | 9099.31 |
| POSB | 1.196808 | 0.26 | 4.56 | 0.010335 | 0.46 | 1.92 | 0.46 | 1.92 |

In the table above, the regression model has Multiple R/correlation coefficient value is 0.92 that measures the strength of the linear relationship between the variables. The score of Multiple R under regression shows an almost perfect linear relationship between dependent and independent variables. The R square is also known as the coefficient of determination which is the proportion of the variance in the response variable. The R-square is 0.84 which indicates that 84% of the variance in the revenue generated through POSB. The standard error of the regression is the average distance that the observed values fall from the regression line. In this case, the observed values fall under an average of 433.51 units from

the regression line. The number of observations in the dataset is 6 for six years. The ANOVA table explains the regression model's degrees of freedom which is equal to the number of regression coefficients –1. In this case, we have an intercept term and one predictor variable, so we have two regression coefficients in total, which means the regression degree of freedom is 2 – 1 = 1. The **total degree of freedom is** equal to the number of observations – 1. In this case, we have 6 observations, so **the total degree of freedom is 5 – 1 = 4**. The Residual degrees of freedom are equal to the total df – regression df. In this case, the residual degree of freedom is 5-1 = 4. The regression Mean Squares are calculated as regression SS/regression df.

The f statistic is calculated as regression MS / residual MS. These statistics indicate whether the regression model provides a better fit to the data than a model that contains no independent variables. In essence, it tests if the regression model as a whole is useful. Generally, if none of the predictor variables in the model are statistically significant, the overall F statistic is also not statistically significant.

In this example, the F statistic is 20.79. The last value in the table is the p-value associated with the F statistics. To see if the overall regression model is significant, we have calculated the p-value to a significance level of 0.05.

If the p-value is less than the significance level, there is sufficient evidence to conclude that the regression model fits the data better than the model with no predictor variable/s.

In this case, the significance F is 0.01, which is less than the common significance level of 0.05. This indicates that the regression model as a whole is statistically significant, i.e. the model fits the data better than the model with no predictor variables.

Now, we have interpreted the coefficient estimates, the standard error of the estimates, the t-stat, p-values, and confidence intervals for each term in the regression model.

The coefficients give us the numbers necessary to write the estimated regression equation:

Yhat = b0 + b1x1+b2x2 .

In this case, the estimated regression equation is:

Yhat= 3410.352 + {1.196* (revenue generated through POSB)}

The coefficient is interpreted as the average increase in the response variable for each one-unit increase in a given predictor variable, assuming that all other predictor variables are held constant. In this case, a **1% change in the revenue generated through POSB is expected to bring about 1.196% of change in the total revenue generated. The intercept is interpreted as the expected average total revenue generated with zero increase in the**

**revenue generated through POSB operations. In this case, the total revenue received is expected to be 3410.352 irrespective of any change in the revenue generated through POSB operations.**

The standard error is a measure of the uncertainty around the estimate of the coefficient for each variable. The t-stat is simply the coefficient divided by the standard error. The next column shows the p-value associated with the t-stat. This number tells us if a given response variable is significant in the model. In this case, we see that the p-value for the amount generated through POSB is 0.01. This indicates that the revenue generated through POSB operation is a significant predictor of achievement.

The last two columns in the table provide the lower and upper bounds for a 95% confidence interval on the coefficient estimates.

For example, the coefficient estimates for revenue generated through POSB is 1.196 but there is some uncertainty around this estimate. We can never know for sure if this is the exact coefficient. Thus, a 95% confidence interval gives us a range of likely values for the true coefficient.

In this case, the 95% confidence interval for revenue generated through POSB (0.46, 1.92). Notice that the confidence interval does not contain the number "0", which means we're quite confident that the true value for the coefficient of regular supervision is non-zero, i.e. a positive number.

**As such, the 'IT Modernization Project 2012' of the Department of Posts has impacted positively on the POSB operations with regard to the total revenue generated. This shows positive performance of the "IT Modernization Project 2012" of the Department of Posts.**

**Table 4.5: Regression Model to assess the impact of Premium Services (other than speed post) on postal productivity**

| **Summary of Regression Output** | | | | | |
|---|---|---|---|---|---|
| Regression Statistics | | | | | |
| Multiple R | 0.81 | | | | |
| R Square | 0.65 | | | | |
| Adjusted R Square | 0.57 | | | | |
| Standard Error | 630.66 | | | | |
| Observations | 6 | | | | |
| ANOVA | | | | | |
| | df | SS | MS | F | Significance F |
| Regression | 1 | 3069540 | 3069540 | 7.71 | 0.04 |
| Residual | 4 | 1590944 | 397736 | | |
| Total | 5 | 4660483 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | 14362.9 | 644.99 | 22.27 | 0.00 | 12572.12 | 16153.69 | 12572.12 | 16153.69 |
| Premium Services | -2.11 | 0.76 | -2.77 | 0.04 | -4.22 | -0.0012 | -4.2245 | -0.0012 |

In the table above, the regression model has Multiple R/correlation coefficient value is 0.81 that measures the strength of the linear relationship between the variables. The score of Multiple R under regression shows an almost perfect linear relationship between dependent and independent variables. The R square is also known as the coefficient of determination which is the proportion of the variance in the response variable. The R-square is 0.57 which indicates that 57% of the variance in the revenue generated through Premium services (other than Speed Post).

In this case, a **1% change in the revenue generated through Premium services (other than Speed Post) is expected to bring about -2.11% of the change in the total revenue generated. The intercept is interpreted as the expected average total revenue generated with zero increase in the revenue generated through premium services. In this case, the total revenue generated is expected to be 14362.9 irrespective of any change in the revenue generated through Premium Services (other than Speed Post). As such, the Premium Services (other than Speed Post) is inversely aligned with the total revenue generated.**

The Department has moved from stand-alone local server-based operations to a uniform central server-based operation through a primary data centre which is operational from April 3, 2013 at Navi Mumbai. The data centre facility is outsourced to Reliance with the kick-off date as December 28, 2012 upto October 2, 2021. However, the DCF contract with the existing vendor beyond 02.10.2020 upto 31.03.2021 has been approved by the competent authority. There exist 72 racks of which 62 are in use at the Data Centre. The data centre caters to 1, 56,000 post offices. It was reported that the server of the data centre is not effectively able to cater to postal operations, particularly DARPAN devices that take too long to sign in. Though the Data Centre has been set up in Navi Mumbai to ensure seamless connectivity contributing to accelerated postal operations, the qualitative findings of the study suggest that the Data Centre was found to be incapable of meeting the complete requirements of the customers surveyed.

The Disaster Recovery centre has been operationalized at PTC, Mysuru on May 15, 2015. The central purpose of the DRC facility is to provide the space, power, cooling, and other related facilities for the DoP's computing infrastructure of the IT Modernization Project 2012. The DRC facility is expected to function as the main data centre in case of any disaster

failure at the DC site to provide business continuity to DOP's day-to-day operations. For this purpose, a copy of data from the DC site is being replicated to the DRC site continuously at the lag of 15 minutes. The DRC is a tier- III data centre facility owned by DoP. DRC has outsourced operation (BOT – Built Operate Transfer Model) at the DoP facility.

The Network integrator segment is operationalized through a tripartite agreement among DoP, Sify, and BSNL. The kick-off date of the segment was 28.09.2012 that was to be concluded upto 27.09.2019. Primarily the tenure of the NI Contract expired on 27.09.2019. The competent authority has extended the contract for 1 year i.e. from 28.09.2019 to 2709.2020. Further, Steering Committee in its meeting held on 28.01.2021 approved the proposal for extension of agreement with the existing vendor from 28.09.2020 to 31.03.2022.

The Financial Service Integrator (FSI) has been outsourced to Infosys with the kick-off date as 28.09.2012 to be concluded by 29.08.2021 with the approval of competent authority. FSI project is in the operation and maintenance phase. So far a total of 23466 POs (including DAPs) have been migrated under CBS. The target installation of a total of 1000 ATMs have been achieved.

The Core System Integrator (CSI) has been outsourced to Tata Consultancy Services (TCS) with the kick-off date as 15.04.2013 to be concluded by September 2023. The CSI Project is in the operational and maintenance phase. Through the Core System Integrator (CSI), the DoP has digitalized all the postal, mails, and counter operations on a single, central server based platform. It has also digitalized the finance &accounts and human resource management functions of the DoP on the online, Systems, Applications & Products in Data Processing (SAP) based platforms. 513 divisions {(501 Postal, & Railway Mail Service Divisions and 12 independent Head Post offices/ General Post Offices (GPOs)} have been rolled out in CSI as on 31$^{st}$ December, 2020.

DARPAN (RH) has been outsourced to the TCIL with a kick-off date of 24.08.2016 and to be concluded by March 2025. The project is in the operation and maintenance phase. The supply of main computing handheld devices has been completed for all DOs. A total of 129754 main computing handheld devices have been delivered to Branch Post Offices. It was found during interaction with the GDSs that the screen and tab buttons of the DARPAN were too short to easily work on them. Of the 8 GB memory, 4 GB is in use by the operating system (OS) of the device that is falling short to conduct postal operations. Five other postal services in need were not found integrated with DARPAN devices, namely Senior Citizen Scheme, Public

Provident Fund (PPF), Monthly Income Scheme (MIS), Kishan Vikas Patra (KVP), and (National Savings Certificate) NSC.

DARPAN-RSI has been outsourced to Infosys with a kick-off date of 05.05.2015 and to be concluded by June 2025. The project is in the operation and maintenance phase. So far a total of 129167 Rural Branch Post Offices have been covered under the scheme. The DARPAN device faces network issues every, now and then. The 3G enabled services are not helpful and their effectiveness may be improved through migrating to 4G and above.

The Mail Operations Hardware (MOH) is one of the segments contributing to the postal operations under the 'IT Modernization Project 2012 of the Department of Posts. The procurement of hardware was decentralized to Circles. The project is completed.

The Change Management (CM) has been outsourced to Tata Consultancy Services (TCS) with a kick-off date as 15.10.2012 and to be concluded by October 1, 2015. Change management has been found vital to lead the entire other components under the scheme. Based on in-depth discussions with the Senior Superintendent of Post Offices (SSPs), it was revealed that training on soft skills like leadership and effective management was the call of the day. It requires bringing in reputed institutions under the loop of training providers to improve the efficacy of the component.

Based on primary information collected from 15 DOs, the Compound Annual Growth Rate (CAGR) has been calculated. The same has been projected through a diagram given below:

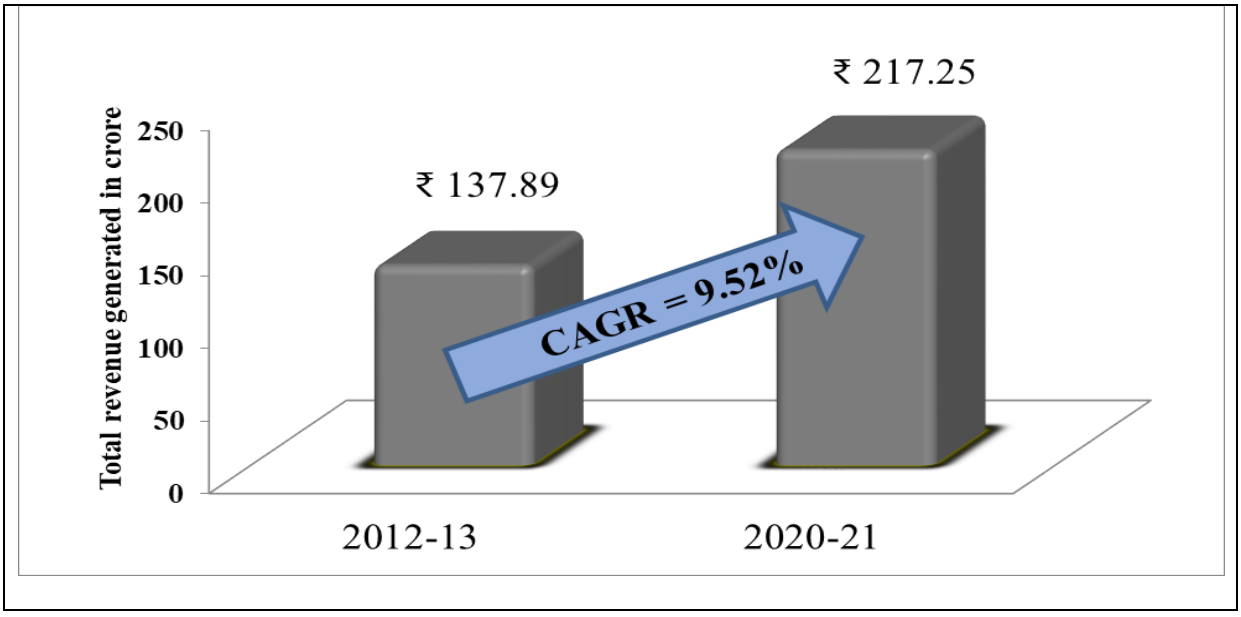



**Figure 4.6: Diagram showing Compound Annual Growth Rate (CAGR) based on primary information for 2012-13 and 2020-21**

The diagram above indicates that due to the "IT Modernization Project 2012" of the Department of Posts, a Compound Annual Growth Rate (CAGR) of 9.52% has been achieved based on information garnered across 15 Divisional Offices which is symmetrical to the CAGR calculated on the secondary information shared by the DoP for India Post as a whole. The revenue generated through the postal operations across 15 divisions has gone up from Rs. 137.89 crore in 2012-13 to Rs. 217.25 crore in 2020-21 across the years. The outcome is the result of financial inclusion of the Indian population on the one hand and mass postal service penetration, on the other.

The quality of services accessed by customers has been assessed using the Likert Scale (1-5) where one stands for the poor whereas, 5 for the best. The components considered under the quality of services are (1) banking facilities at post offices, (2) behavior of postal staff while accessing services, (3) reliable, transparent and speedy postal services, (4) Postal Department's track and trace system, and (5) overall postal services of post offices. The responses received on the Likert Scale have been processed through the Cronbach's alpha reliability test. The result of the test is as under:

**Table 4.6: Score of Cronbach's alpha on the responses of quality of postal services**

| | |
|---|---|
| Number of Items/questions/components | 5 |
| Sum of the items Variances | 4.98 |
| Variance of Total Score | 16.85 |
| Cronbach's alpha | 0.881 |

Components:

1. Banking facility of post offices
2. Behavior of Postal Staff with regard to postal service delivery
3. Reliability, transparency and speed of postal services
4. Postal Department's track and trace system
5. Overall services of Post Offices

Cronbach's alpha is a measure used to assess the reliability or internal consistency of a scale. Suppose that we measure a quantity which is the sum of k components:

$$X = Y_1+Y_2+----------+Y_K$$

Cronbach's alpha is defined as:

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum Var(Yi)}{Var(X)}\right) \qquad ; 0<\alpha<1$$

Where,

K = Number of components,

Var(X): Variance of the observed total,

Var(Yi): Variance of ith component.

Rule of thumb for results of Cronbach's alpha: it ranges from 0 to 1. If alpha is zero then components are not correlated with each other, if alpha is one then all the items have high correlations and if alpha is negative then it indicates that something wrong in the data set.

**Table 4.7: Internal consistency in the responses received on postal services**

| Cronbach's alpha | Internal Consistency |
|---|---|
| $\alpha>0.9$ | Excellent |
| $0.8<\alpha<0.9$ | Good |
| $0.7<\alpha<0.8$ | Acceptable |
| $0.6<\alpha<0.7$ | Questionable |
| $0.5<\alpha<0.6$ | Poor |
| $0.5>\alpha$ | Unacceptable |

Thus, the result derived from the Likert scale after processing through Cronbach's alpha reliability test of the above components has been found significantly consistent (0.881).

After conducting the reliability test of the score, the average of state-wise responses has been placed. In the overall average, the responses of total customers (N=1953) have been calculated on the parameters laid down which is as under:

**Table 4.8: Distribution of customers' responses on quality of services**

| States | Banking facility of Post Offices | Behavior of Postal Staff with regard to Postal Service delivery | Reliability, transparency and speed of Postal Services | Postal Department's track and trace system | Overall services of Post offices |
|---|---|---|---|---|---|
| Assam | 3.05 | 3.54 | 3.28 | 3.37 | 2.94 |
| Himachal Pradesh | 3.58 | 4.09 | 3.86 | 3.90 | 4.02 |
| Madhya Pradesh | 3.58 | 4.01 | 3.61 | 3.56 | 4.05 |
| Maharashtra | 3.72 | 3.92 | 3.97 | 3.91 | 4.05 |
| Odisha | 3.66 | 4.34 | 4.04 | 4.06 | 4.11 |
| Tamil Nadu | 3.99 | 4.43 | 4.32 | 4.33 | 4.45 |
| **Overall Average** | **3.63** | **4.08** | **3.88** | **3.89** | **3.99** |

The table above shows that banking facility of post offices has scored 3.63, the behavior of postal staff with regard to postal services has received 4.08, reliability, transparency and speed of the postal services have got 3.88, the track and trace system of the postal department has attained 3.89, with overall services as 3.99. On the Likert scale, the acceptable score is considered to be 2.5 in the range of 1 to 5. On average, the banking facility of post offices has scored the maximum in Tamil Nadu (3.99), followed by Maharashtra (3.72), Odisha (3.66), 3.58 each for Himachal Pradesh & Madhya Pradesh, and Assam (3.05). The behavior of postal staff with regard to postal service delivery has scored the highest in Tamil Nadu (4.43), followed by Odisha (4.34), Himachal Pradesh (4.09), Madhya Pradesh (4.01) Maharashtra (3.92), and Assam (3.54). The reliability, transparency and speed of postal services have received high in Tamil Nadu (4.32), followed by Odisha (4.04), Maharashtra (3.97),

Himachal Pradesh (3.86), Madhya Pradesh (3.61), and Assam (3.28). The Postal Department's track and trace system has scored the highest in Tamil Nadu (4.33), followed by Odisha (4.06), Maharashtra (3.91), Himachal Pradesh (3.90), Madhya Pradesh (3.56), and Assam (3.37). The overall services of post offices have been rated high in Tamil Nadu (4.45), followed by Odisha (4.11), 4.05 each for Maharashtra & Madhya Pradesh, and Assam (2.94). Hence, the overall score on the above components of the quality services stands above the average and acceptable on the Likert Scale.

**2. Customer's access to the Post Office through web portal, mobile and call centres**

The postal services through the web portal, mobile, and call centres enable access deeper, cheaper, and faster. Through the online service and call-centre based services, customers can access the services from wherever and whenever they like. To get the responses on the above component, the customers were asked whether they availed the postal services through web-portal and apps. The responses (N=1953) have been summarised as under:

**Table 4.9: Distribution of responses on access to postal services through web-portals and Apps**

| State | Access to postal service through web-portals and Apps | Ousted web-portals services | Total |
|---|---|---|---|
| Assam | 32 (11.8) | 239 (88.2) | 271 (100.0) |
| Himachal Pradesh | 196 (60.7) | 127 (39.3) | 323 (100.0) |
| Madhya Pradesh | 191 (63.0) | 112 (37.0) | 303 (100.0) |
| Maharashtra | 246 (75.0) | 82 (25.0) | 328 (100.0) |
| Odisha | 196 (60.3) | 129 (39.7) | 325 (100.0) |
| Tamil Nadu | 248 (61.5) | 155 (38.5) | 403 (100.0) |
| **Total** | **1109 (56.8)** | **844 (43.2)** | **1953 (100.0)** |

The table above shows the approval and disapproval of customers with regard to the use of postal services through web-portal and Apps. The tabular information reveals that 56.8% of the sampled customers have accessed portal services through web portals and Apps. However, 43.2% of customers sampled have not used the web-based or App-enabled services of postal operations. In the affirmative responses, the highest customers' feedback has been received from Maharashtra (75.0%), followed by Madhya Pradesh (63.0%), Tamil Nadu (61.5%), Himachal Pradesh (60.7%), Odisha (60.3%), and Assam (11.8%) across the HOs, SOs, and BOs in the sampled states. The customers ousting postal operations through web-based services have recorded the maximum in Assam (88.2%), followed by Odisha (39.7%), Himachal Pradesh (39.3%), Tamil Nadu (38.5%), Madhya Pradesh (37.0%), and Maharashtra (25.0%). Overall, approximately 60% of customers have assented to the use of postal operations through web portals and Apps. It was found during the in-depth discussions with

GDSs that due to fluctuations in the network, the web portals were not used by all the customers. Side by side, digital literacy has not adequately penetrated the rural lot. However, digital access to postal services is likely to grow, as network connectivity and server support receive further improvement.

The findings plotted in the table above have also been portrayed through the line graph drawn below:

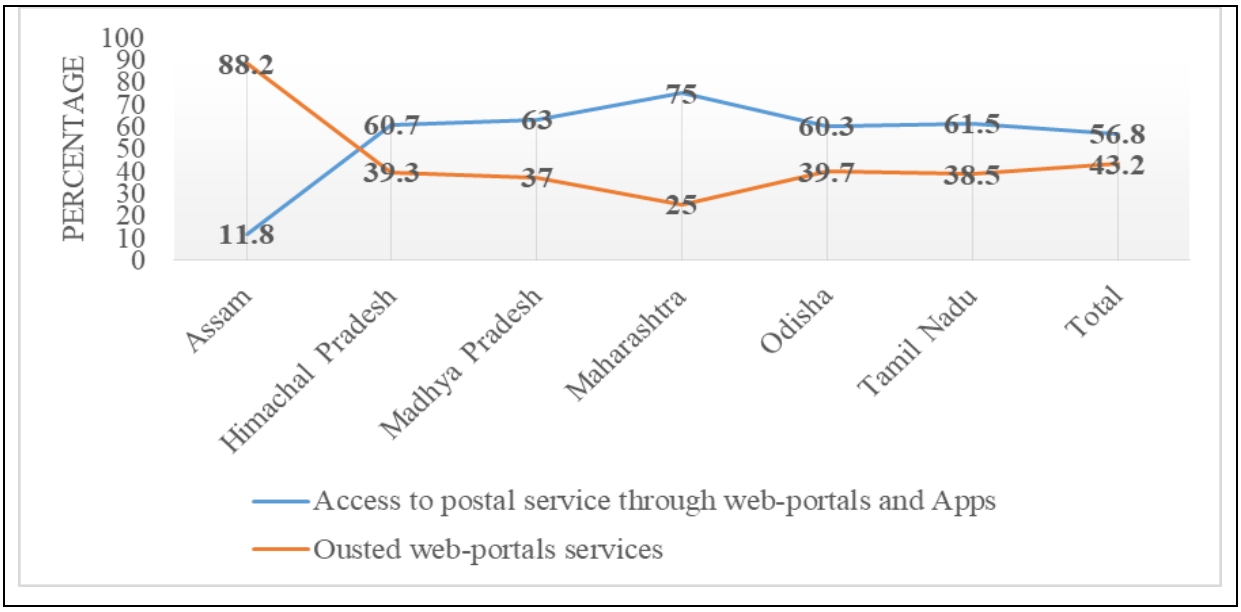



**Figure 4.7: Line graph showing access and ousted web-portals and Apps in the target area**

The line graph drawn above shows that overall 56.8% of customers are using web-based and App services of the Department of Posts. The highest percentage of web-based service users has been found in Maharashtra of the total customers surveyed.

The experience of customers accessing web-portals and Mobile apps were received on the Likert Scale (1-5) where one being poor and 5, the best. The average score of 2.5 is considered to be acceptable. The intensity on the Likert scale has been received from the customers who accessed the service (N=1109). However, the call centres services and public grievance redressal have been responded by a total of 1953 customers surveyed across the Post Offices.

**Table 4.10: Distribution of rating scale based responses on quality of IT services**

| States | Experience with web-portal/mobile apps (N=1109) | Call centre services and public grievance redressal system (N=1953) |
|---|---|---|
| Assam | 2.52 | 3.28 |
| Himachal Pradesh | 3.24 | 3.50 |
| Madhya Pradesh | 3.58 | 3.44 |
| Maharashtra | 3.52 | 3.93 |
| Odisha | 3.25 | 3.74 |

| | | |
|---|---|---|
| Tamil Nadu | 3.64 | 3.84 |
| **Overall average** | **3.32** | **3.64** |

Overall, the average score of 3.32 has been responded by affirming customers that they accessed web portals and mobile apps. The above score on experience with accessing web-portals and mobile Apps are better (3.32>2.5) on the Likert Scale. The highest rating has been received from Tamil Nadu (3.64), followed by Madhya Pradesh (3.58), Maharashtra (3.52), Odisha (3.25), Himachal Pradesh (3.24), and Assam (2.52).

A well-laid-out system for handling grievances for the postal operations is in place. A monitoring mechanism to ensure the quality of services and prompt redressal of public grievances are considered to be a citizen-centric initiative that enables the Postal Department to deliver quality services to its customers in a hassle-free manner. It helps identify areas of concern where correctional measures are required. In this context, the call centre services and Public Grievance Redressal system have scored 3.64 on the Likert Scale. The above score is better off (3.64>2.5). The highest score on the indicator has been scored in Maharashtra (3.93), followed by Tamil Nadu (3.84), Odisha (3.74), Himachal Pradesh (3.50), Madhya Pradesh (3.44), and Assam (3.28). It is worth mentioning that most complaint registers did not have an entry for long. It was expressed that online complaints were registered.

**3. Increase in the transactions in Postal banking, insurance and retail activities**

An increase in postal transactions is conditioned and contingent upon several factors. It starts primarily with behavioral components goes up to the ease of doing business. It is reflected through the various services accessed by customers as well. However, on the component, the feedback of counter staff has been considered (N=263) in Post Offices across the states. The feedback of the counter staff has been received on the Likert Scale (1to 5) where one being poor and 5, the best. The findings have been processed through Cronbach's alpha test to assess the reliability of the responses. The acceptable value for the reliability of the responses on Cronbach's alpha is considered to be acceptable for being greater than 0.7. In this case, the test score is 0.904 (0.904>0.7). The Cronbach's alpha test is summarised as under:

**Table 4.11: Score of Cronbach's alpha on the responses of transaction facilities**

| | |
|---|---|
| Number of Items/questions/components | 5 |
| Sum of the items Variances | 4.99 |
| Variance of Total Score | 18.04 |
| Cronbach's alpha | 0.904 |

Components:

1. Postal banking in the post offices after the IT Upgradation
2. Status of PLI subscription in the post offices
3. IT enablement in ease of doing business

4. Satisfied with the available network in operating with Departmental Post Offices
5. Operation and maintenance of computer hardware, network hardware, and updation of IT software

Cronbach's alpha is a measure used to assess the reliability or internal consistency of a set of scales. Suppose that we measure a quantity which is the sum of k components:

$$X = Y_1+Y_2+----------+Y_K$$

Cronbach's alpha is defined as:

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum Var(Yi)}{Var(X)}\right) \quad ; 0<\alpha<1$$

Where,

K = Number of components,

Var(X): Variance of the observed total,

Var(Yi): Variance of ith component.

Rule of thumb for results of Cronbach's alpha: it ranges from 0 to 1. If alpha is zero then components are not correlated with each other, if alpha is one then all the items have high correlations and if alpha is negative then it indicates that something wrong in your data.

**Table 4.12: Internal consistency in the responses received on transaction facilities**

| Cronbach's alpha | Internal Consistency |
|---|---|
| α>0.9 | Excellent |
| 0.8<α<0.9 | Good |
| 0.7<α<0.8 | Acceptable |
| 0.6<α<0.7 | Questionable |
| 0.5<α<0.6 | Poor |
| 0.5>α | Unacceptable |

Thus, the result derived from the Likert scale after processing through Cronbach's alpha reliability test of the above components has been found significantly consistent (0.904). After processing through the reliability test, the qualitative responses received from the counter staff (N=263) is as under:

**Table 4.13: Distribution of responses on postal operations by counter staff**

| State | Postal banking in the post offices after the IT upgradation | Status of PLI subscription in the post offices | IT enablement in ease of doing business | Satisfied with the available network | Operation and maintenance of computer hardware, network hardware, and updation of IT software |
|---|---|---|---|---|---|
| Assam | 3.52 | 3.90 | 3.48 | 3.61 | 3.35 |
| Himachal Pradesh | 4.12 | 4.09 | 4.18 | 3.42 | 3.48 |
| Madhya Pradesh | 4.03 | 3.95 | 4.03 | 3.82 | 3.53 |
| Maharashtra | 3.93 | 3.98 | 3.80 | 3.72 | 3.59 |

| | | | | | |
|---|---|---|---|---|---|
| Odisha | 3.84 | 3.93 | 3.77 | 3.37 | 3.47 |
| Tamil Nadu | 4.51 | 4.50 | 4.38 | 4.06 | 4.01 |
| **Overall Average** | **4.06** | **4.11** | **4.00** | **3.72** | **3.63** |

The table above represents the feedback received from the counter staff on postal banking in the post offices after the IT up-gradation, the status of PLI subscription in the post offices, IT enablement in ease of doing business, satisfaction with available network and operation and maintenance of computer hardware, network hardware and updation of IT software. On average, the postal banking in post offices after the IT up-gradation has scored 4.06 (4.06>2.5). The status of PLI subscription in the post offices has reached 4.11 (4.11>2.5). The IT enablement in ease of doing business has got 4.0 (4.0>2.5). The satisfaction with the network has scored 3.72 (3.72>2.5). The operation and maintenance of computer hardware, network hardware, and updation of IT software have squared off with 3.63 (3.63>2.5).

The Postal banking in the post offices after IT upgradtion has scored the highest in Tamil Nadu (4.51), followed by Himachal Pradesh (4.12), Maharashtra (3.93), Odisha (3.84), and Assam (3.52). The status of PLI subscription in the post offices has scored the highest in Tamil Nadu (4.50), followed by Himachal Pradesh (4.09), Maharashtra (3.98), Madhya Pradesh (3.95), and Odisha (3.93). IT-enablement in ease of doing business has scored the maximum in Tamil Nadu (4.38), followed by Himachal Pradesh (4.18), Madhya Pradesh (4.03), Maharashtra (3.80), Odisha (3.77), and Assam (3.48). The network-based satisfaction has received the highest rating from Tamil Nadu (4.06), followed by Madhya Pradesh (3.82), Maharashtra (3.72), Assam (3.61), Himachal Pradesh (3.42), and Odisha (3.37). Operation and maintenance of computer hardware, network hardware, and updation of IT software have scored the maximum in Tamil Nadu, followed by Maharashtra (3.59), Madhya Pradesh (3.53), Himachal Pradesh (3.48), Odisha (3.47), and Assam (3.35). Overall, the different scores received from counter staff across the components are above the acceptable value of 2.5 on the Likert Scale.

**Table 4.14: F-Test for footfall and work efficiency due to IT Modernization Project 2012**

| **Particulars** | **footfall before** | **footfall after** | **work efficiency before** | **work efficiency after** |
|---|---|---|---|---|
| Mean | 52.6 | 52.6 | 52.6 | 52.6 |
| Variance | 1049.3 | 1590.3 | 477.3 | 1895.3 |
| Observations | 5 | 5 | 5 | 5 |
| df | 4 | 4 | 4 | 4 |
| F | 0.66 | | 0.25 | |

| | | |
|---|---|---|
| P(F<=f) one-tail | 0.35 | 0.11 |
| F Critical one-tail | 0.16 | 0.16 |

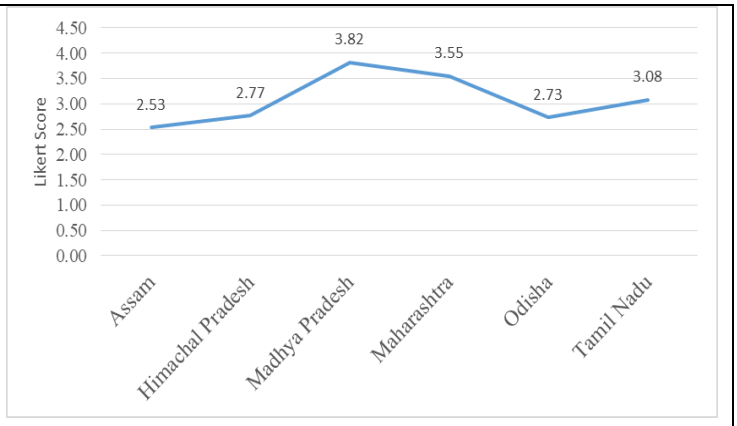
The before and after implementation of the IT Modernization Project 2012 of the Department of Posts in terms of footfall and work efficiency in post offices have been processed through F-test so as to estimate the brought-in-change. The footfalls indicate the number of additional customers got added up to access postal services. The work efficiency connotes the intensity of speed in the service delivery by the postal staff. Both footfalls and work efficiency have been processed through the f-test. An F-test is used to measure if the variances of two variables are equal. This test can be a two-tailed test or a one-tailed test. The two-tailed version tests against the alternative that the variances are not equal. The one-tailed version only tests in one direction that is the variance from the first population is either greater than or less than (but not both) the second population variance. In this case, the choice is determined by the footfalls and work efficiency. The table above represents the F-test of two-sample variances with regard to footfall and work efficiency. It has been found that the f-value for the footfall is 0.66 which is higher than the F critical one tail value of 0.16. Similarly, the f-value for the work efficiency is 0.25 which is higher than the F critical one tail value of 0.16. However, the p-value of 0.35 and 0.11>0.05 shows the test is moderately significant. Over and above, the null hypothesis for both before and after implementation of the IT Modernization Project 2012 of the Department of Posts fails to be accepted, as both have unequal variances in the case of footfall and work efficiency. As such, there are recognized changes due to the implementation of the 'IT Modernization Project 2012' of the Department of Posts in both footfall and work efficiency. The number of footfall and work efficiency have changed. But the change has not been recognized to a great extent.

**4. Reduction in paperwork, particularly in administration and account offices**

In the statement of implementation schedule of the 'IT modernization Project 2012' of the Department of Posts under Appendix-1, para8 of main note on point number v, one of the outcomes mentioned is the reduction in paperwork, particularly in administrative and account offices. The paperless work aims at speeding up the work, at the same time Department would help sequester carbon footprints. It has also implications for the speedy and green ecosystem of working. The information on the component was received from a total of 110 Postmasters out of 111 surveyed across the HOs, the SOs, and the BOs. The responses were registered on the Likert Scale of 1 to 5. One stands for excessive use of paperwork whereas 5 for tapering off. The average response of 2.5 is considered to be acceptable. The responses are summarised as under:

**Table 4.15: Distribution on rating scale based responses for paperless work in administration and account offices**

| State | Paperless work |
|---|---|
| Assam | 2.53 |
| Himachal Pradesh | 2.77 |
| Madhya Pradesh | 3.82 |
| Maharashtra | 3.55 |
| Odisha | 2.73 |
| Tamil Nadu | 3.08 |
| **Overall average** | **3.12** |




The information in tabular form and figure reveals that the Post offices have taken initiatives to work paperless. The table represents the responses received on the component with an overall average of 3.12 (3.12>2.5). The maximum responses for paperless work in administrative and account offices have been reported from Madhya Pradesh (3.82), followed by Maharashtra (3.55), Tamil Nadu (3.08), Himachal Pradesh (2.77), Odisha (2.73), and Assam (2.53). On the right side, the line graph depicts similar results. The line graph appears closer to the horizontal axis in Assam, Himachal Pradesh, and Odisha. However, the Post Offices from Madhya Pradesh, Maharashtra, and Tamil Nadu have started operating paperless in sharp contrast with other states surveyed under the study.

**5. Improvement in the monitoring and management of Post offices for improved decision making**

One of the expected outcomes of the 'IT Modernization Project 2012' of the Department of Posts is that the management of post offices and monitoring can be made more effective through the project implementation. Accessibility of information from a centralized database will enable improved decision making and responsive administration. The responses on the component were received from Postmasters (N=111). It contained two questions, namely (1) Has computerization helped postal administration? (2) Do you think the IT project has enabled improved decision-making? The responses received from Postmasters are summarised relating to the first question is as under:

**Table 4.16: Distribution of responses with regard to computerization helping postal administration**

| State | Computerization fully helping Postal Administration | Computerization moderately helping Postal Administration | Total |
|---|---|---|---|
| Assam | 0 (0.0) | 15 (100) | 15 (100.0) |
| Himachal Pradesh | 2 (13.3) | 13 (86.7) | 15 (100.0) |
| Madhya Pradesh | 3 (17.6) | 14 (82.4) | 17 (100.0) |
| Maharashtra | 1 (4.5) | 21 (95.5) | 22 (100.0) |
| Odisha | 2 (12.5) | 14 (87.5) | 16 (100.0) |
| Tamil Nadu | 0 (0.0) | 26 (100.0) | 26 (100.0) |
| **Total** | **8 (7.2)** | **103 (92.8)** | **111 (100.0)** |

The table above presents the responses regarding whether computerization is fully or moderately helping postal administration. It has been found that 7.2% of the postmasters (N=8) have expressed that computerization was fully helping postal administration across the six NSSO classified zones. However, in the affirmative responses received, the maximum positive responses in favor of computerization helping fully postal administration were recorded from Madhya Pradesh (17.6%), followed by Himachal Pradesh (13.3%), Odisha (12.5%), and Maharashtra (4.5%). No full affirmative responses have been received either from Assam or from Tamil Nadu.

Side by side, computerization moderately helping postal administration has been responded by the maximum number of Postmasters (N=103). The maximum responses on the above component have been received from the Postmasters of Tamil Nadu & Assam (100%), followed by Maharashtra (95.5%), Odisha (87.5%), Odisha (87.5%), Himachal Pradesh (86.7%), and Madhya Pradesh (82.4%). Hence, computerization has gradually become effective in the administration of postal operations. The same is also presented through the line graph below:

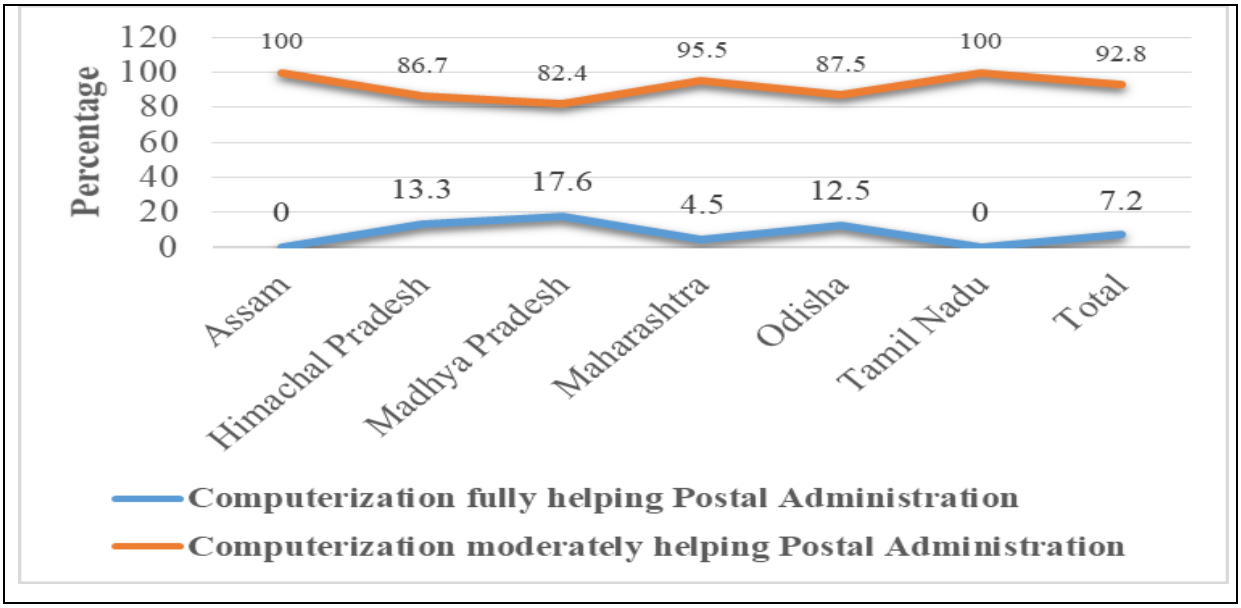



**Figure 4.8: Line graph showing computerization helping postal administration in the target area**

The line graph drawn above shows that computerization moderately helping the postal administration has got plotted on above the computerization fully helping postal administration. The gaps between both the lines are evident in the diagram. Except for the Post offices of Assam and Tamil Nadu, computerization has fully helped postal administration in the other four states. However, computerization moderately helping the postal administration have scored higher in all the six states. Computerization needs to be transformed in such a way that it fully helps the postal administration. The major reasons expressed during the in-depth discussion with the post office heads were: technical glitches, network interruptions turning into inadequacy in work delivery, and sporadic hardware issues.

One of the outcomes of the 'IT Modernization Project 2012' of the Department of Posts is to ensure improved decision-making through the accessibility of information from a centralized database. The goal of data governance has to ensure the quality of an organization’s data across the data lifecycle. But the processes involves often end up stymieing transformative progress and success. At their worst, the processes sporadically found black holes that drained resources yielding no tangible benefits. However, a centralized database holds value provided seamless IT-enabled data is accessible. By building a program around data enablement, the DoP has ensured that the right data is delivered to the right resource at the right time. Data enablement requires innovation, timely updates, IT savvy people, processes, and technologies. The seamless data access leverages improved decision-making. The responses garnered from Postmasters on the component are summarized as under:

**Table 4.17: Distribution of responses on IT-enablement and improvement in the decision making**

| State | Improvement in decision making | Moderate improvement in decision making | Total |
|---|---|---|---|
| Assam | 0 (0) | 15 (100) | 15 (100) |
| Himachal Pradesh | 2 (13.3) | 13 (86.7) | 15 (100) |
| Madhya Pradesh | 2 (11.8) | 15 (88.2) | 17 (100) |
| Maharashtra | 2 (9.1) | 20 (90.9) | 22 (100) |
| Odisha | 1 (6.3) | 15 (93.8) | 16 (100) |
| Tamil Nadu | 2 (7.7) | 24 (92.3) | 26 (100) |
| **Total** | **9 (8.1)** | **102 (91.9)** | **111 (100)** |

The table above presents the responses received from postmasters on IT enablement and improvement in decision making. One of the critical outcome indicators laid down in the project outcome is the IT Modernization Project 2012 of the Department of Posts would lead to improvement in the decision-making of Postal Offices. The tabular information reveals that the IT Modernization Project 2012 of the Department of Posts has leveraged improvement in decision-making. 8.1% of Postmasters have affirmed that IT enablement has led to improvement in decision making. Out of the total affirmed responses (N=9), maximum assents have been received from Himachal Pradesh (13.3%), followed by Madhya Pradesh (11.8%), Maharashtra (9.1%), Tamil Nadu (7.7%), and Odisha (6.3%). No response was received from Assam on the above component.

Also, moderate improvement in decision-making has been responded by most of the postmasters surveyed (N=102). Most of such responses have been received from Assam (100%), followed by Odisha (93.8%), Tamil Nadu (92.3%), Maharashtra (90.9%), Madhya Pradesh (88.2%), and Himachal Pradesh (86.7%). Hence, 91.9% of postmasters (N=102) surveyed informed that IT enablement moderately provided the impetus for improvement in decision making. It is worth mentioning that outcome of the project is gradually surfacing with promising footprints. To be equipped with the know-how to work with IT has enabled the postmasters to take improved decisions. However, implementation of the computerization in Post Offices, Mail offices, administrative and other offices, the establishment of required IT infrastructure, development of required software applications are yet to be raised ensuring easy accessibility. The Steering Committee may like to look into the overall quality of postal computerization vis-à-vis skills of the users. The findings on the above component have been shown through the line graph drawn below:

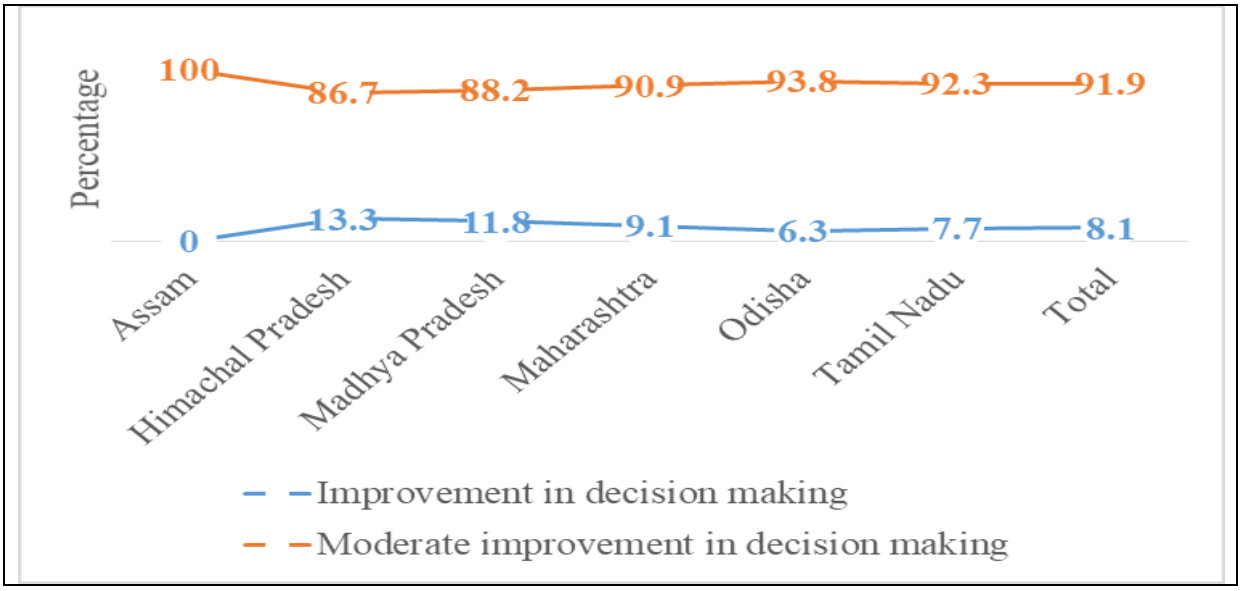



**Figure 4.9: Line graph showing IT-enablement and improvement in decision making**

The line graph drawn above shows IT enablement through the project and improvement in decision making in the post offices. The moderate improvement in decision-making is reflected through a line graph drawn above the fully affirmative line. The complete improvement and moderate improvement lines are considerably distanced. The states plotted on the horizontal axis and percentages placed on the vertical axis indicate the performance of the scheme on the component. Overall, the IT-led computerization has helped the administrative decisions of Post Masters surveyed across the target areas. It is worth mentioning that the indicator is inextricably intermingled with the laid down project outcomes.

As a result of the "IT Modernization project 2012" of the Department of Posts, it has been found that most of the counter staff were found using scanners, printers, and other peripherals in the sampled post offices. Out of 263 counter staff surveyed, a total of 260 respondents have expressed their responses. The responses are presented in the table given below:

**Table 4.18: Distribution of responses on use of scanners, printers and other peripherals by counter staff**

| **Age Group of Counter Staff** | **Affirmative responses** | **Non-affirmative responses** | **Total** |
|---|---|---|---|
| Upto 30 | 36 (92.3) | 3 (7.7) | 39 (100.0) |
| 30 and less than 40 | 106 (91.4) | 10 (8.6) | 116 (100.0) |
| 40 and less than 50 | 31 (83.8) | 6 (16.2) | 37 (100.0) |
| 50 and above | 62 (91.2) | 6 (8.8) | 68 (100.0) |
| **Total** | **235 (90.4)** | **25 (9.6)** | **260 (100.0)** |

Out of the total responses received from counter staff (N=260), it was found that the maximum counter staff in the age group of upto 30 used the scanners, printers, and peripherals (92.3%), followed by an age group of 30 and less than 40 (91.4%), 50 and above (91.2%) and 40 and above (83.8%). The non-users of such items have fallen in the age group of 40 and less than 50 (16.2%), followed by 50 and above (8.8%), 30 and less than 40 (8.6%), and Upto 30 (7.7%). Overall, 90.4% of the counter staff expressed that they used the scanners, printers, and other peripherals. The same can be shown by the diagrams given below:

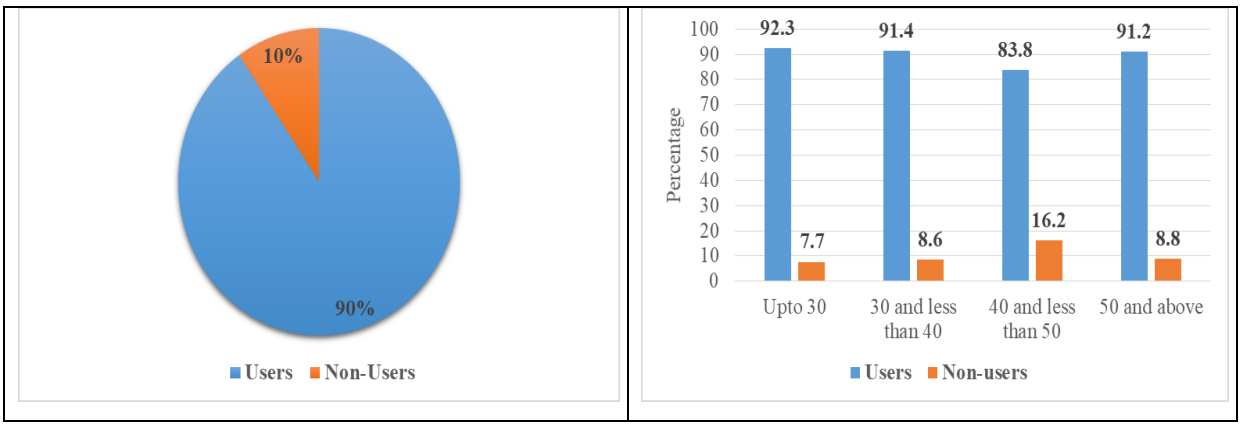



**Figure 4.10: Pie chart and bar diagram showing counter staff using scanners, printers and other peripherals**

The above diagrams show that the maximum share is of counter staff using scanners, printers, and peripherals in the pie chart. The bar diagram shown on the right shows the users of the above items by age group. It shows that counter staff under the age group of below 30 have used the scanners, printers, and other peripherals more than the other age group of counter staff. It informs that after the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the frequency of such service users has grown.

**6. Speedy and transparent access of information to the customers**

One of the overarching outcomes of the scheme is to benefit customers and stakeholders through more reliable, speedy operations and transparent availability of information to the customers. The aforesaid parameters ensure improved customer satisfaction due to faster and more reliable services in postal, logistics, banking, insurance, and retail operations. To ensure faster delivery, speedy and transparent access of the information to the customers, the DoP has taken strategic initiatives through the 'IT Modernization Project 2012' of the Department of Posts. The track and trace system in operation has enabled the customers to know the real-time status of their deliverables accessed through web portals and mobile apps. DARPAN device has enabled doorstep services to customers, particularly in rural areas. It has increased business in rural postal network reducing the dependency for financial support on the

Government. The efficient in contents and wider in magnitude, the postal services are operationalized through improved speed, momentum, and fastness. The banking facility extended by Post Offices has enabled unbanked and under-banked people to be included. Side by side, to have a digital footprint of the clearance of street letter boxes, the DoP has implemented electronic clearance of letterboxes through in-house developed 'Nanyatha' software. In a nutshell, speedy and transparent access of information to the customers is one of the culminated and expected outcomes of the Postal operations through 'IT modernization Project 2012' of the Department of Posts. To know channels of interest of customers to be associated with postal services, responses from customers (N=1953) were received. The responses received on the channels are summarised as under:

**Table 4.19: Distribution of customers' responses for association with post offices**

| State | Faster delivery of services | Friendliness of the staff | Availability of cheaper services | Trust in the institution | Close to your habitation | Others | Total |
|---|---|---|---|---|---|---|---|
| Assam | 189 (69.7) | 56 (20.7) | 13 (4.8) | 5 (1.8) | 8 (3.0) | 0 (0) | 271 (100) |
| Himachal Pradesh | 177 (54.8) | 47 (14.6) | 50 (15.5) | 32 (9.9) | 12 (3.7) | 5 (1.5) | 323 (100) |
| Madhya Pradesh | 61 (20.1) | 59 (19.5) | 44 (14.5) | 63 (20.8) | 29 (9.6) | 47 (15.5) | 303 (100) |
| Maharashtra | 199 (60.7) | 62 (18.9) | 28 (8.5) | 39 (11.9) | 0 (0.0) | 0(0.0) | 328 (100) |
| Odisha | 232 (71.4) | 39 (12.0) | 24 (7.4) | 9 (2.8) | 5 (1.5) | 16 (4.9) | 325 (100) |
| Tamil Nadu | 208 (51.6) | 66 (16.4) | 51 (12.7) | 52 (12.9) | 20 (5.0) | 6 (1.5) | 403 (100) |
| **Total** | **1066 (54.6)** | **329 (16.8)** | **210 (10.8)** | **200 (10.2)** | **74 (3.8)** | **74 (3.8)** | **1953 (100)** |

The table above presents the reasons for the association with post offices expressed by customers. A total of seven reasons, namely faster delivery of services, friendliness of the staff, availability of cheaper services, postal services close to habitation, trust in the postal institutions, and others were received. After garnering the responses, the feedback has been presented in the table above. A total of 1066 responses (54.6%) were received for faster delivery of services. Out of the total responses received on the indicator, the maximum customers showed agreement in Odisha (71.4%), followed by Assam (69.7%), Maharashtra (60.7%), Himachal Pradesh (54.8%), Tamil Nadu (51.6%), and Madhya Pradesh (20.1%). The component of the friendliness of the staff (N=329) has scored the maximum in Assam (20.7%), followed by Madhya Pradesh (19.5%), Maharashtra (18.9%), Tamil Nadu (16.4%), Himachal Pradesh (14.6%) and Odisha (12.0%). Availability of cheaper services has scored

10.8% (N=210). The maximum responses on the component have been received in Himachal Pradesh (15.5%), followed by Madhya Pradesh (14.5%), Tamil Nadu (12.7%), Maharashtra (8.5%), Odisha (7.4%), and Assam (4.8%). Proximity with habitation has scored 3.8% of the total customers surveyed. It has been found that the maximum responses have been received on the component in Madhya Pradesh (9.6%), followed by Tamil Nadu (5.0%), Himachal Pradesh (3.7%), Assam (3.0%), and Odisha (1.5%). There is no response documented from Maharashtra. Trust in the institutions has scored 10.2% as per the responses received from the customers surveyed. It has been found that the maximum response on the component has been received in Madhya Pradesh (20.8%), followed by Tamil Nadu (12.9%), Maharashtra (11.9%), Himachal Pradesh (9.9%), Odisha (2.8%), and Assam (1.8%). The 'other reasons' have scored 3.8% of the total responses received. On the component, the maximum responses have been received in Madhya Pradesh (15.5%), followed by Odisha (4.9%), and Himachal Pradesh & Tamil Nadu (1.5%). No response has been received on the component from Maharashtra. Overall, the highest score has been received on faster delivery of services (54.6%), followed by the friendliness of the staff (16.8%), availability of cheaper services (10.8%), trust in the institution (10.2%), and close to habitation & others (3.8%). Hence, out of the total components responded, faster delivery of services, friendliness of the staff, availability of cheaper services, and trust in the institution have majorly been reposed. The findings are also presented through the diagram below:

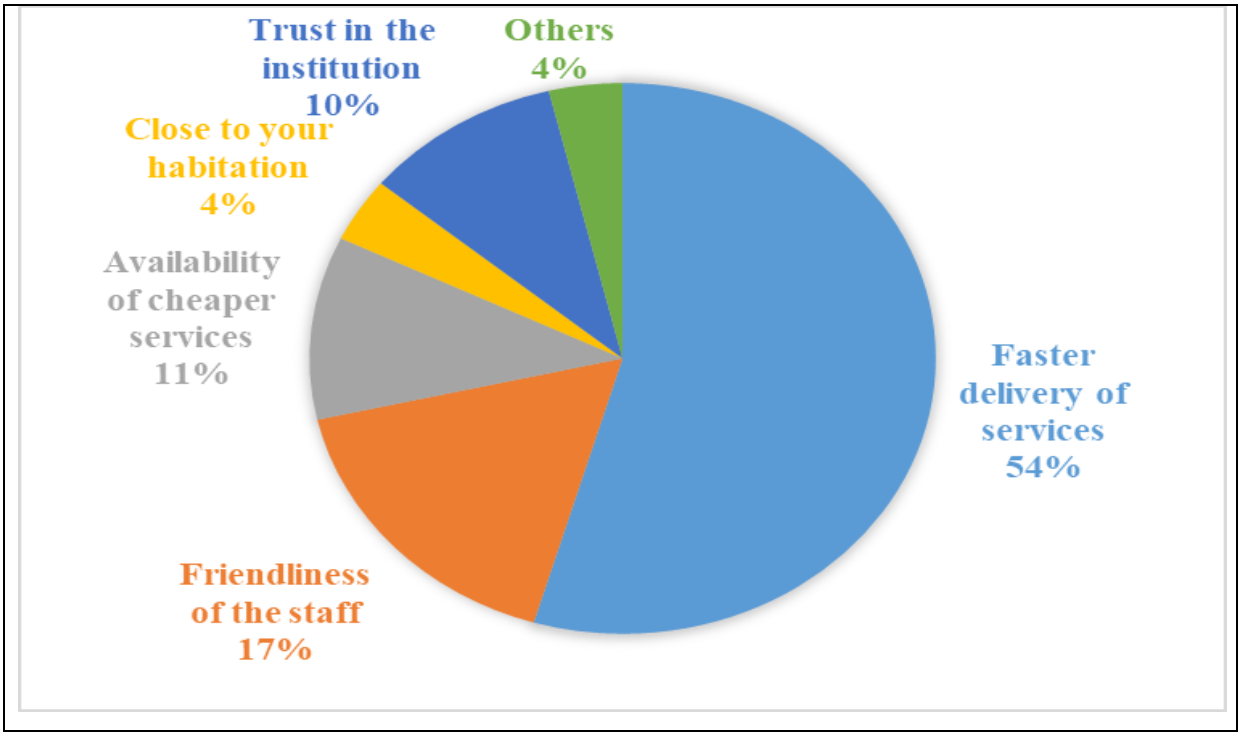



**Figure 4.11: Pie chart showing distribution of responses on association with postal services**

The pie chart drawn above presents the reasons assigned by customers to be associated with the Post offices. It is obvious that the major reason for getting connected with post offices is faster delivery of services. The friendliness of the staff has also been endorsed by the customers surveyed. Affordable postal services have been acknowledged by the customers. The legacy of postal service in terms of winning the confidence of customers is also one of the significantly expressed reasons. The diagram also reveals that though postal services are affordable, quality service coupled with transparency and accountability is profusely desirable. However, the amicable behavior of postal staff has also attracted customers to access postal services.

Reliability and transparency of postal services are the instrumental outcomes that the 'IT Modernization Project 2012' of the Department of Posts envisages. The quality component of reliability and transparency of postal services have been assessed using the Likert Scale. The range used on the Likert scale is 1 to 5. The scale range ascends from poor to the best. The average score of 2.5 is considered to be good. The responses received on the component are summarized as under:

**Table 4.20: Distribution of rating scale based responses on reliability and transparency of postal services**

| State | Responses |
|---|---|
| Assam | 3.28 |
| Himachal Pradesh | 3.88 |
| Madhya Pradesh | 3.61 |
| Maharashtra | 3.97 |
| Odisha | 4.04 |
| Tamil Nadu | 4.32 |
| **Overall average** | **3.89** |

The table above presents the responses received from the customers (N=1953). It reveals that the component has received an overall average of 3.89. The highest response on the scale has attained in Tamil Nadu (4.32), followed by Odisha (4.04), Maharashtra (3.97), Himachal Pradesh (3.88), Madhya Pradesh (3.61), and Assam (3.28). As such, the reliability and transparency of postal services have scored 3.89 (3.89>2.5) that indicates improvement, trust, and increased efficacy of postal services.

However, the postmasters surveyed under the study suggested eight-fold measures to be taken into account to improve the outcome of postal operations. The suggestions included (1) improvement in physical infrastructure, (2) upgradation of digital infrastructure, (3) inclusion of additional human resources, (4) need for training, (5) efficient sales services, (6) creation of more customer-friendly work ecosystem, (7) minimization of frequent deputation, and (8)

complete paperless work. Indeed, the suggestions need to be considered for smart and effective postal operations. This may also help attract more footfalls in the Post Offices. The responses received from postmasters (N-111) sampled have been presented in the table given below:

**Table 4.21: Distribution of responses on improvement measures shared by postmasters**

| State | Upgrade digital infrastructure | No suggestions | Improve physical infrastructure | Better training for human resource | More human resource | Full paperless work needed | More Customer friendly approach | Efficient sales service needed | Avoid frequent deputation | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Assam | 5 (33.3) | 1 (6.7) | 6 (40.0) | 0 (0.0) | 3 (20.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 15 (100.0) |
| Himachal Pradesh | 9 (60.0) | 4 (26.7) | 1 (6.7) | 0 (0.0) | 1 (6.7) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 15 (100.0) |
| Madhya Pradesh | 4 (23.5) | 7 (41.2) | 3 (17.6) | 0 (0.0) | 3 (17.6) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 17 (100.0) |
| Maharashtra | 14 (63.6) | 3 (13.6) | 0 (0.0) | 3 (13.6) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 2 (9.1) | 0 (0.0) | 22 (100.0) |
| Odisha | 6 (37.5) | 3 (18.8) | 0 (0.0) | 4 (25.0) | 0 (0.0) | 0 (0.0) | 2 (12.5) | 0 (0.0) | 1 (6.3) | 16 (100.0) |
| Tamil Nadu | 13 (50.0) | 3 (11.5) | 0 (0.0) | 3 (11.5) | 1 (3.8) | 5 (19.2) | 1 (3.8) | 0 (0.0) | 0 (0.0) | 26 (100.0) |
| **Total** | **51 (45.9)** | **21 (18.9)** | **10 (9.0)** | **10 (9.0)** | **8 (7.2)** | **5 (4.5)** | **3 (2.7)** | **2 (1.8)** | **1 (0.9)** | **111 (100.0)** |

The table above represents the suggestions received from the Postmasters for the improvement of postal services. The data on the above component reveals that the need for digital upgradation of infrastructure has attracted 45.9% of responses, followed by no suggestions (18.9%), further improvement in infrastructure & better training for human resource (9.0%), deployment of more human resource (7.2%), full paperless work (4.5%), more customer-friendly approach (2.7%), efficient sales services (1.8%) and avoidance of frequent deputations (0.9%). The maximum response for digital upgradation has been received from Maharashtra (63.6%), Himachal Pradesh (60.0%), Tamil Nadu (50%), Odisha (37.5%), Assam (33.3%), and Madhya Pradesh (23.5%). Improvement in physical infrastructure has been raised from Assam (40.0%), Madhya Pradesh (17.6%), and Himachal Pradesh (6.7%). Better training for human resources has been expressed from Odisha (25.0%), Maharashtra (13.6%), and Tamil Nadu (11.5%). More human resource deployment has been raised from Assam (20.0%), Madhya Pradesh (17.6%), Himachal Pradesh (6.7%), and Tamil Nadu (3.8%).

Implementation of full paperless work has been suggested from the postmasters surveyed in Tamil Nadu (19.2%). A more customer-friendly approach to be executed has been received from Odisha (12.5%) and Tamil Nadu (3.8%). The requirement of efficient sales services has been raised from Maharashtra (9.1%). From Odisha, it has been suggested to avoid frequent deputations. Overall, suggestions received from postmasters suggest executing improved resurrection of digital postal platforms so that it can attract better productivity and cutting edge level of customers' satisfaction.

The relationship between postal instruments and different post offices has been processed through the Chi-square test. The results are as under:

**Table 4.22: Distribution of observed frequencies for postal services in the Chi-square test**

| **Instruments** | **BO** | **HO** | **SO** | **Total** |
|---|---|---|---|---|
| Mail Service | 91 | 102 | 126 | 319 |
| Postal Banking | 166 | 170 | 214 | 550 |
| PLI/RPLI | 18 | 39 | 29 | 86 |
| Central Govt. related services | 10 | 19 | 13 | 42 |
| Others | 23 | 39 | 30 | 92 |
| Mail Service & Postal Banking | 93 | 164 | 199 | 456 |
| Mail Service, Postal Banking & PLI/RPLI | 62 | 70 | 138 | 270 |
| All the above instruments | 44 | 27 | 67 | 138 |
| **Total** | **507** | **630** | **816** | **1953** |

The table above plots the number of different posts offices surveyed and responses received from the customers with regard to the type of services being accessed. A total of 507 responses have been received from Branch Post Offices, 630 from Head Post Offices, and 816 from sub-Post Offices from the customers. To assess the significance of the relationship, the instruments and Post Offices have been processed through the Chi-square test. As such, two hypotheses have been classified which are as under:

**Null Hypothesis**: There is no relation between the Post offices and their services.

**Alternate Hypothesis**: There is a significant relationship between the Post offices and their services.

Using Chi-square theoretical framework, the expected frequencies for the instruments have been derived. The derived frequencies are placed in the table to further process the test which is given below.

**Table 4.23: Distribution of derived frequencies for postal services in the Chi-square test**

| Instruments | BO | HO | SO | Total |
|---|---|---|---|---|
| Mail Service | 82.81 | 102.90 | 133.28 | 319 |
| Postal Banking | 142.78 | 177.42 | 229.80 | 550 |
| PLI | 22.33 | 27.74 | 35.93 | 86 |
| Central Govt. related services | 10.90 | 13.55 | 17.55 | 42 |
| Others | 23.88 | 29.68 | 38.44 | 92 |
| Mail Service & Postal Banking | 118.38 | 147.10 | 190.53 | 456 |
| Mail Service, Postal Banking & PLI | 70.09 | 87.10 | 112.81 | 270 |
| All of the above Instruments | 35.82 | 44.52 | 57.66 | 138 |
| **Total** | **507** | **630** | **816** | **1953** |

The derived frequencies from the observed ones have been placed in the table above. The sum of expected derived frequencies from observed is the same as that of the sum of observed frequencies. Based on the expected frequencies, the calculation of Chi-square has been done. The calculation of Chi-square is as under:

**Table 4.24: Result of Chi-Square test for postal services by post office type**

| Post Office Type | Observed values (O) | Expected Values (E) | (O-E) | (O-E)^2 | (O-E)^2/E |
|---|---|---|---|---|---|
| **BO** | 91 | 82.81 | 8.19 | 67.03 | 0.81 |
| | 166 | 142.78 | 23.22 | 539.15 | 3.78 |
| | 18 | 22.33 | -4.33 | 18.71 | 0.84 |
| | 10 | 10.90 | -0.90 | 0.82 | 0.07 |
| | 23 | 23.88 | -0.88 | 0.78 | 0.03 |
| | 93 | 118.38 | -25.38 | 644.04 | 5.44 |
| | 62 | 70.09 | -8.09 | 65.48 | 0.93 |
| | 44 | 35.82 | 8.18 | 66.83 | 1.87 |
| **HO** | 102 | 102.90 | -0.90 | 0.82 | 0.01 |
| | 170 | 177.42 | -7.42 | 55.05 | 0.31 |
| | 39 | 27.74 | 11.26 | 126.74 | 4.57 |
| | 19 | 13.55 | 5.45 | 29.72 | 2.19 |
| | 39 | 29.68 | 9.32 | 86.91 | 2.93 |
| | 164 | 147.10 | 16.90 | 285.72 | 1.94 |
| | 70 | 87.10 | -17.10 | 292.30 | 3.36 |
| | 27 | 44.52 | -17.52 | 306.81 | 6.89 |
| **SO** | 126 | 133.28 | -7.28 | 53.06 | 0.40 |
| | 214 | 229.80 | -15.80 | 249.65 | 1.09 |
| | 29 | 35.93 | -6.93 | 48.06 | 1.34 |
| | 13 | 17.55 | -4.55 | 20.69 | 1.18 |
| | 30 | 38.44 | -8.44 | 71.22 | 1.85 |
| | 199 | 190.53 | 8.47 | 71.82 | 0.38 |
| | 138 | 112.81 | 25.19 | 634.48 | 5.62 |
| | 67 | 57.66 | 9.34 | 87.25 | 1.51 |

$$X^2 = \sum \frac{(\text{observed - expected})^2}{\text{expected}}$$

Chi-square Calculated = 49.34
Degree of freedom = (8-1)*(3-1) = 14
Chi-square tabulated at degree of freedom = 23.685

Based on 49.34 as calculated Chi-square and 23.685 as Chi-square tabulated at the degree of freedom, the Chi-square calculated is greater than chi-square tabulated, as such we fail to accept the null hypothesis and conclude that the instruments are greatly significant for post offices. Hence, the instruments should be expanded more at the different layers of post offices across the country.

### 4.2 Additional Parameters

#### a) Coverage of Beneficiaries

In additional parameters, the study has covered the customers' feedback-based information with regard to gender and location. The sample collected on the component reveals that women representation in the target group has been accounted for 36.0%. The table given below summarise the information on the above component:

**Table 4.25: Coverage of Beneficiaries by gender**

| State | Female | Male | Total |
|---|---|---|---|
| Assam | 124 (39.1) | 193 (60.9) | 317 (100.0) |
| Himachal Pradesh | 132 (35.6) | 239 (64.4) | 371 (100.0) |
| Madhya Pradesh | 68 (19.0) | 290 (81.0) | 358 (100.0) |
| Maharashtra | 152 (38.4) | 244 (61.6) | 396 (100.0) |
| Odisha | 110 (28.6) | 274 (71.4) | 384 (100.0) |
| Tamil Nadu | 251 (50.1) | 250 (49.9) | 501 (100.0) |
| **Total** | **837 (36.0)** | **1490 (64.0)** | **2327 (100.0)** |

The information in the tabular form reveals that the maximum women representation in the pool of sampled beneficiaries has been found in Tamil Nadu (50.0%), followed by Assam (39.1%), Maharashtra (38.4%), Himachal Pradesh (35.6%), Odisha (28.6%), and Madhya Pradesh (19.0%). Overall, 36% women representation has been calculated amongst the respondents surveyed. The same can also be shown through the diagram drawn below:

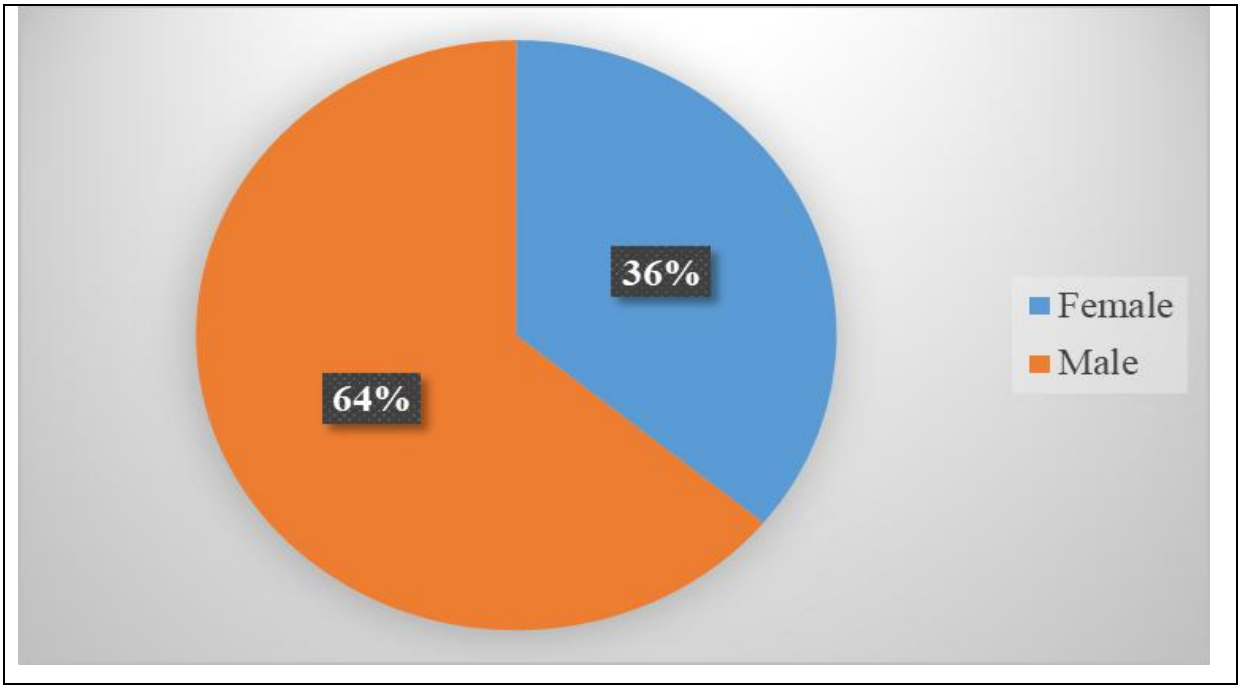



**Figure 4.12: Pie chart showing distribution of responses by gender**

The pie chart drawn above shows that the maximum area has been circumscribed by male respondents (64%) whereas, relatively lesser area by the women respondents (36%). The women representation of 36% shows a satisfactory trend of gender inclusion in postal operations including service providers and service recipients. The information presented is inclusive of customers, counter staff, and heads of the Head Post Offices, Sub-post Offices, and Branch Post Offices. 36% of the women representation is almost representative of 48% of the women population in our country.

The location-wise details of the respondents have also been worked out. The details are as under:

**Table 4.26: Distribution of Respondents by location**

| State | Rural | Urban | Total |
|---|---|---|---|
| Assam | 147 (46.4) | 170 (53.6) | 317 (100.0) |
| Himachal Pradesh | 190 (51.2) | 181 (48.8) | 371 (100.0) |
| Madhya Pradesh | 151 (42.2) | 207 (57.8) | 358 (100.0) |
| Maharashtra | 153 (38.6) | 243 (61.4) | 396 (100.0) |
| Odisha | 206 (53.6) | 178 (46.4) | 384 (100.0) |
| Tamil Nadu | 205 (40.9) | 296 (59.1) | 501 (100.0) |
| **Total** | **1052 (45.2)** | **1275 (54.8)** | **2327 (100.0)** |

The table above discloses that 45.2% of the respondents were found from rural areas whereas, 54.8% from urban areas. Of the rural respondents, the maximum respondents were from Odisha (53.6%), followed by Himachal Pradesh (51.2%), Assam (46.4%), Madhya Pradesh (42.2%), Tamil Nadu (40.9%), and Maharashtra (38.6%). 54.8% of respondents belonged to urban areas.

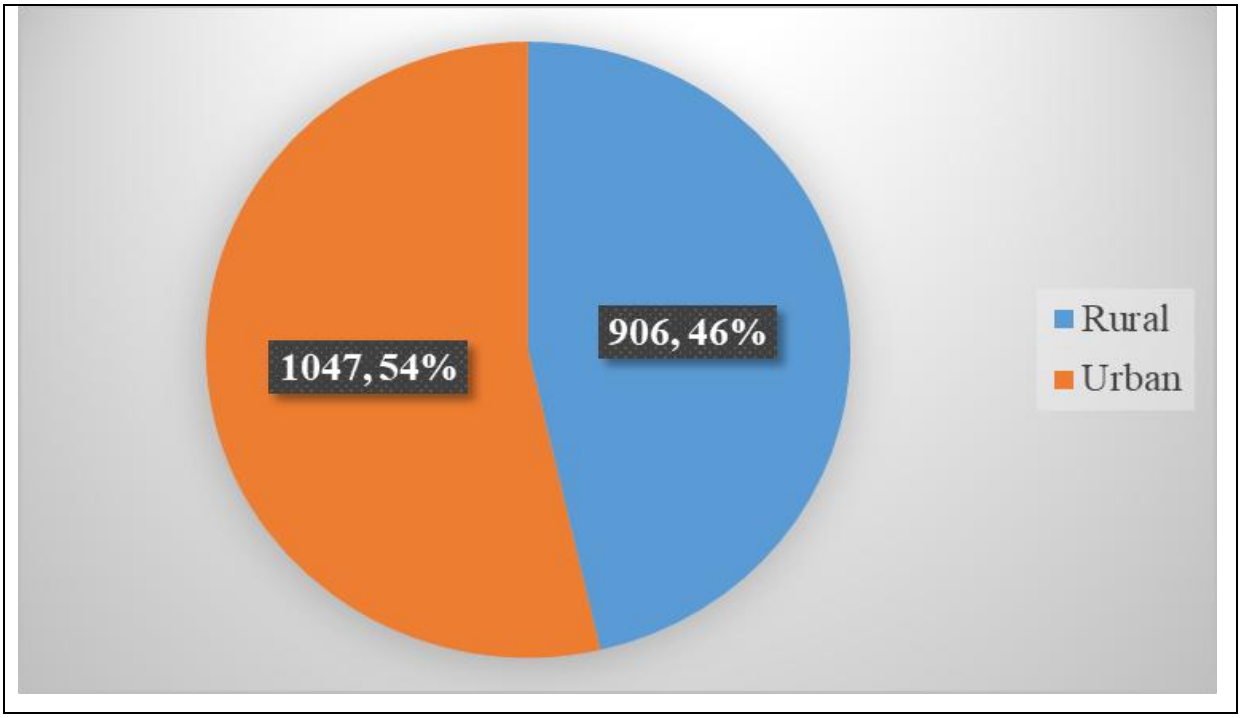



**Figure 4.13: Pie chart showing rural and urban coverage of the postal services**

The pie chart drawn above represents the rural and urban penetration through IT-enabled Postal operations. It has been found that 46% of customers have been covered from rural areas whereas 54% from urban areas. The information indirectly discloses the fact that though BOs are catering to the rural areas, some of the urban people are also associated with Branch Post offices either in form of service providers or as a customer.

The coverage of the scheme to Divyangjan (disables) is one of the components that the study has covered. The details are given in the table below:

**Table 4.27: Physical status of customers sampled**

| State | Abled | Divyangjan | Total |
|---|---|---|---|
| Assam | 271 (100) | 0 (0) | 271 (100) |
| Himachal Pradesh | 301 (94.7) | 17 (5.3) | 318 (100) |
| Madhya Pradesh | 298 (98.3) | 5 (1.7) | 303 (100) |
| Maharashtra | 326 (99.7) | 1 (0.3) | 327 (100) |
| Odisha | 324 (99.7) | 1 (0.3) | 325 (100) |
| Tamil Nadu | 399 (99) | 4 (1) | 403 (100) |
| Total | 1919 (98.6) | 28 (1.4) | 1947 (100) |

It has been found that 1.4% of customers belonged to Divyangjan. The maximum Divyangjans were found in Himachal Pradesh (5.3%), followed by Madhya Pradesh (1.7%), Tamil Nadu (1%), Maharashtra & Odisha (0.3%). However, no customer was found in the category from Assam. However, 1.4% representation of Divyangjan shows the inclusiveness of rendering the postal services.

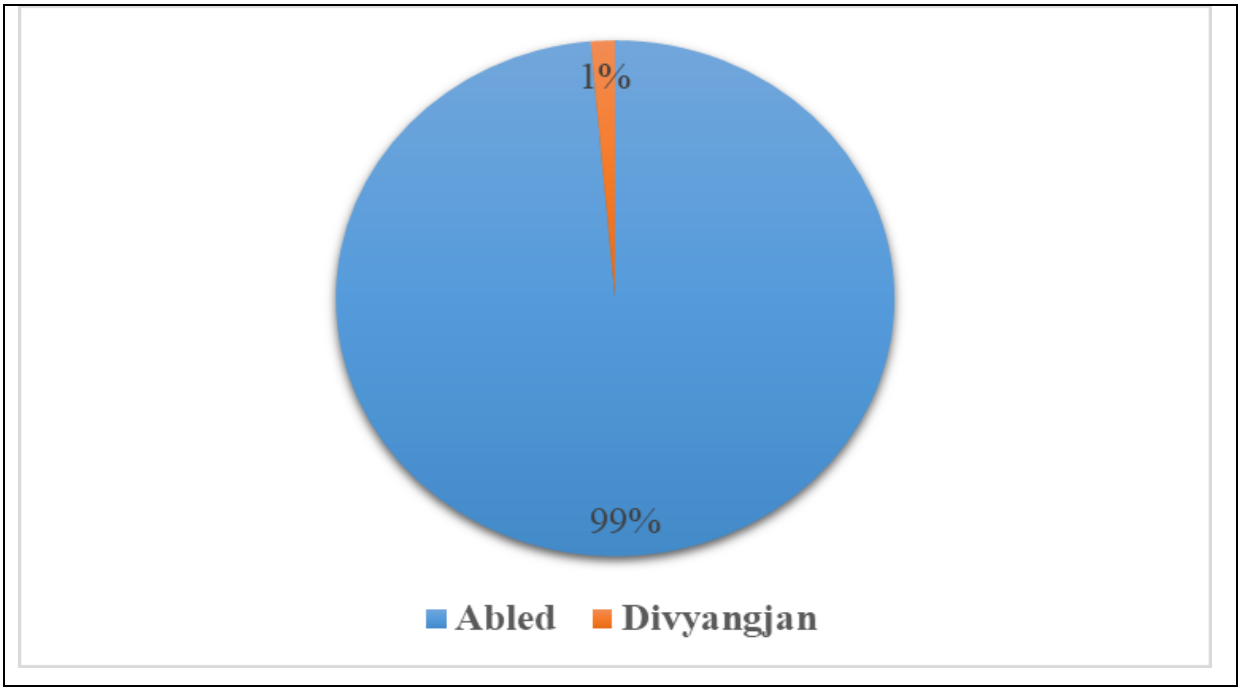



**Figure 4.14: Pie chart showing physical status of customers sampled**

The pie chart drawn above shows that the maximum area has been covered by abled customers. The representation of Divyangjan in the respondents sampled has been found at 1.4%.

The study has also covered the social category of respondents sampled from the Post offices of NSSO classified zones. Five social categories have been classified based on the data collected. The details are as under:

**Table 4.28: Social Category of respondents sampled**

| State | General | OBC | SC | ST | Minority | Total |
|---|---|---|---|---|---|---|
| Assam | 126 (39.7) | 152 (47.9) | 13 (4.1) | 21 (6.6) | 5 (1.6) | 317 (100) |
| Himachal Pradesh | 263 (70.9) | 21 (5.7) | 69 (18.6) | 18 (4.9) | 0 (0.0) | 371 (100) |
| Madhya Pradesh | 129 (36) | 135 (37.7) | 54 (15.1) | 36 (10.1) | 4 (1.1) | 358 (100) |
| Maharashtra | 150 (37.9) | 192 (48.5) | 44 (11.1) | 7 (1.8) | 3 (0.8) | 396 (100) |
| Odisha | 246 (64.1) | 68 (17.7) | 40 (10.4) | 24 (6.3) | 6 (1.6) | 384 (100) |
| Tamil Nadu | 195 (38.9) | 234 (46.7) | 56 (11.2) | 13 (2.6) | 3 (0.6) | 501 (100) |
| **Total** | **1109 (47.7)** | **802 (34.5)** | **276 (11.9)** | **119 (5.1)** | **21 (0.9)** | **2327 (100)** |

The table above shows the five social categories classified after collating the information collected, namely General, Other Backward Class (OBC), Scheduled Caste, Scheduled Tribes (ST), and minority. Though six religious communities viz. Muslims, Christians, Sikhs, Buddhists, Zoroastrians (Parsis), and Jains are declared as minorities by National Commission for Minorities Act, 1992, majority of the Muslim and Christian have been found under the minority category during the study. The table reveals that in the OBC category, the

majority of the respondents were found from Maharashtra (48.5%), followed by Assam (47.9%), Tamil Nadu (46.7%), Madhya Pradesh (37.7%), Odisha (17.7%) and Himachal Pradesh (5.7%). Under the Scheduled caste category, the maximum stakeholders surveyed were found from Himachal Pradesh (18.6%), followed by Madhya Pradesh (15.1%), Tamil Nadu (11.2%), Maharashtra (11.1%), Odisha (10.4%), and Assam (4.1%). Under the Scheduled Tribe category, the maximum respondents were found in Assam (6.6%), followed by Odisha (6.3%), Himachal Pradesh (4.9%), Tamil Nadu (2.6%), and Maharashtra (1.8%). Under the minority category, the maximum responses were received from Assam & Odisha (1.6%), followed by Madhya Pradesh (1.1%), Maharashtra (0.8%), and Tamil Nadu (0.6%). Overall, 34.5% OBC, 11.9 % SC, 5.1% ST and 0.9% minority category respondents were found in the sample size of the study. The respondents from the general category have been found approximately 47.7% of the total sample size covered. Based on the participation of the above social categories, the coverage of the scheme has been found socially inclusive. The same can be shown through the diagram drawn below:

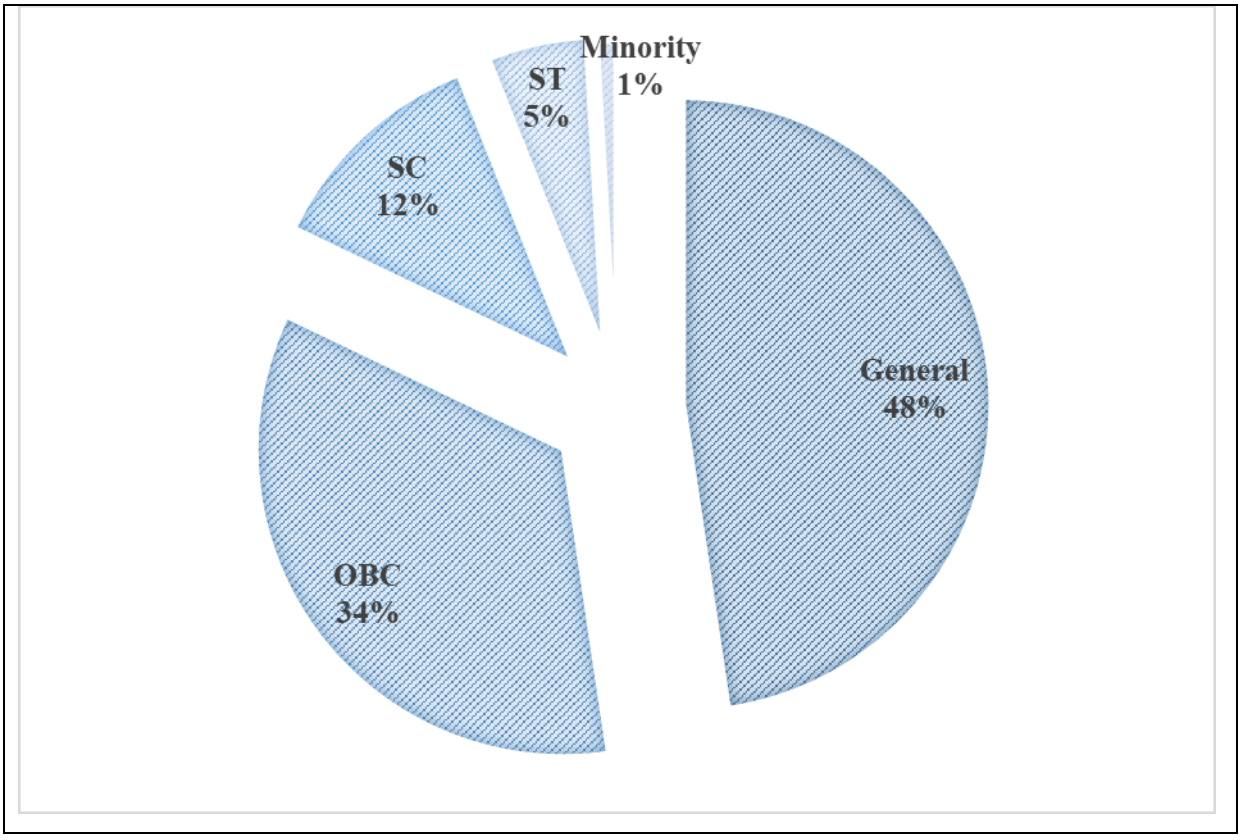



**Figure 4.15: Pie chart showing the social classification of respondents**

The pie chart drawn above categorically discerns that the maximum inclusion of respondents has been from the General category (48%), followed by OBC (34%), SC (12%), ST (5%), and Minority (1%).

**b) Initiatives Taken during the Lockdown Period due to Covid-19 Pandemic**

The postal service was declared as one of the essential services during the period of lockdown since March 24, 2020. The Department of Posts leveraged its vast network of more than 1.57 lakh post offices and 416083 postal employees on the ground to provide delivery of essential services to the citizens at their doorsteps even in the remotely located area across the country. The Department undertook transmission and delivery of essential items, viz. medicines, medical equipment, PPE kits, temperature-sensitive Covid-19 testing kits, masks, etc. to the remotest corners of our country. Around 37,000 tonnes of essential items in 7.5 lakh bags were transported during the lockdown period through the postal network. Special arrangements were made with the Indian Drug Manufacturers Association. To facilitate door delivery of essential services, "Post Info" mobile application was developed to receive service requests from customers who could not come to post offices. The App was successfully used to enable people to avail postal and banking services at their doorsteps. More than 55,000 requests were received for door delivery of services which were fulfilled by post offices of the area concerned. During the Covid pandemic, more than 40.84 crore transactions worth more than  4,71,484 crores were made through Post Offices Saving Bank (POSB) Accounts and around 93.17 lakh ATM transactions worth more than  3144 crores were withdrawn from Post Office ATMs. Disbursement of pension payments and other social scheme benefits of both the central and state governments, at the doorsteps of citizens through the Aadhaar Enabled Payment System (AePS) was another focus area of operation during the lockdown. The India Post Payments Banks (IPPB) played a stellar role in this area. Mobile Post Office or Post Office on Wheels was also put in place in several parts of our country. Money withdrawals (both from POSB and AePS), deposits, collecting Postal Life Insurance premiums, booking/delivery of mail articles like speed post and registered post were some of the services which were made available through Post Office on Wheels. The staff of the Department of Posts provided food and other provisions to the needy and stranded people during the lockdown. More than 60 lakh food packets/ dry ration packets were distributed through the postal network with the help of voluntary contributions by postal employees. The activities were conducted with various civil society organizations and religious community members. The Central Postal Ladies Organization (CPLO) also came forward during the hour of need by arranging and distributing a month's dry ration of food to 500 migrant families and cooked food for 30000 migrants. The CPLO also embarked on an initiative of making 50000 masks for distributing among all frontline staff of post offices. The DoP also created a separate category Covid-19 grievances enabling an online portal

(CPGRAMS) for public catering to postal needs. 1360 grievances were addressed in the record time of three days. The call centre of the Department serviced 25 lakh calls during the pandemic. Over 1.80 lakh grievances addressed via Twitter. The same has been acknowledged by the Hon'ble Prime Minister of India-Shri Narendra Modi. Overall, the contributions made to Covid situations were speedily delivered with the help of IT-enabled postal operations.

**c) Implementation Mechanism**

The basket of the IT Modernization Project 2012 of the Department of Posts conducted by Project Management Unit (PMU) is bestowed with eight effective segments. The governance structure of the project is four-tiered with an Overall Steering Committee and Project Coordination Committee that guides and reviews the work of the project teams from a vendor on boarding stage to the solution deployment stage. The structure of implementation as follows:

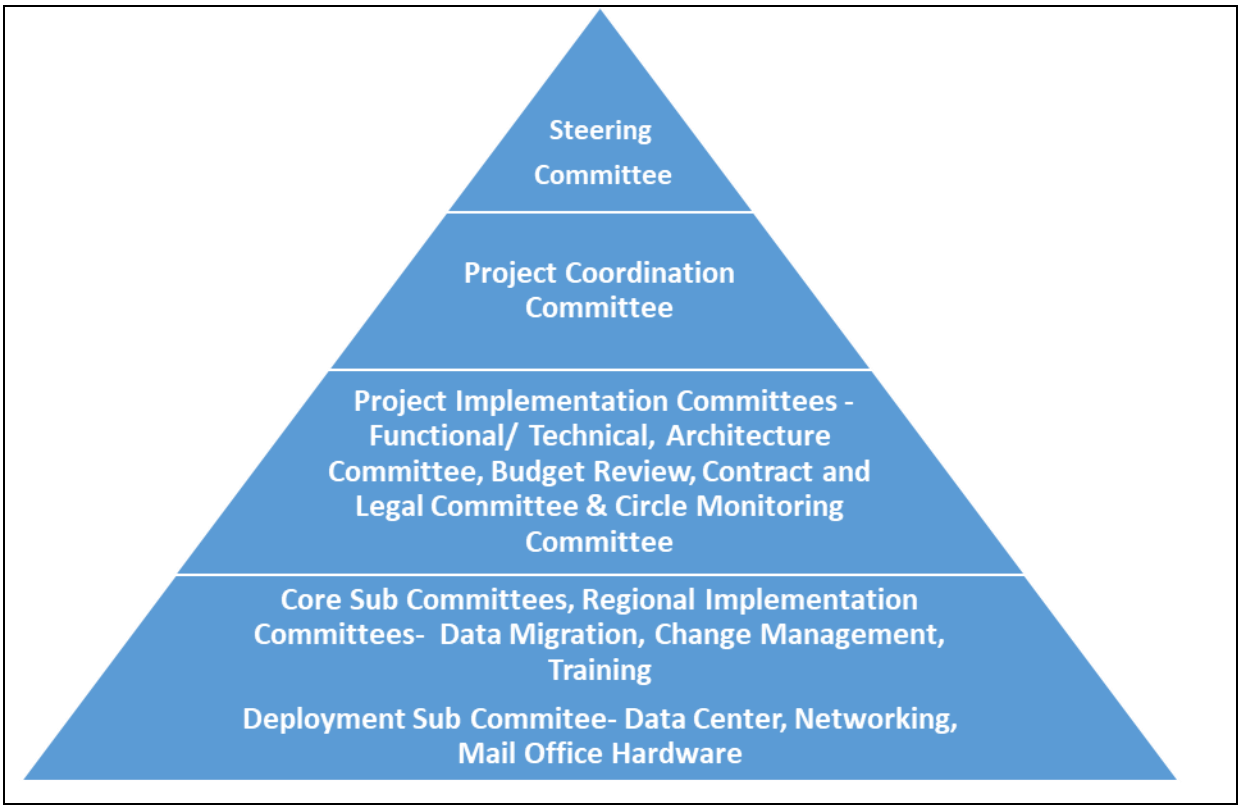



**Figure 4.16: Flow-chart of implementation structure of the "IT Modernization Project-2012" of the Department of Posts**

The role of the inter-ministerial Steering Committee is to sanction all the projects under the lT Modernization of Department of Posts including total contract costs, manage the project as per the recommendation of EFC including, appointing agencies for verification and validation of fulfilment of project conditions. The Steering Committee is also authorized to have the

required degree of flexibility to modify the financial and physical parameters of the scheme within the total budget recommended by the EFC.

The Project Coordination Committee (PCC) is chaired by the Secretary (Posts), and responsible for reviewing the project, issues/risks, and taking key decisions with respect to the project.

The Project Implementation Committee (PIC) includes: (i) FSI Project Coordination Committee (PIC), (b) Technical Projects Implementation Committee (PIC) includes (i) NI Project Implementation, (ii) DCF Project Implementation, (iii) MoH Project Implementation, (C) CSI Project Implementation Committee (PIC) and (d) PIC-DARPAN, (e) PM Tools Project Implementation Committee (PIC). The CSI-FSI-RSI Integration Committee is responsible for the integration of different solutions of the projects. Each Project Implementation Committee has core sub-committees aligned with the functional/business area. The Core Sub-Committees consists of key representatives from concerned business departments, domain experts of various applications, and the Pilot circles. The core committee is responsible for Process, Data Migration, Change Management & Training. The sub-committees include Technology Project Implementation Committee- DCF, Technology Project Implementation Committee- NI & MoH, FSI Project Sub Committee- FSI PIC- Insurance (Including ECMS), FSI PIC- Insurance (Including ECMS), FSI PIC- Technology, and Sub-committee under DARPAN PIC for managing the implementation of the Rural System Integrator contract'.

**d) Training/ Capacity building of Administrators**

Aligned with National Training Policy-2012, the DoP has made a vast resource of learning material and courses online which provides the employees an enormous choice for learning. The Institutions have developed e-learning portal which provides a single point of access to the repository to the training resources. Also, the DoP provides training through Rafi Ahmad Kidwai National Postal Academy (RAKNPA) at Ghaziabad. The DOP has Postal Training Centres (PTCs) functioning at Darbhanga, Guwahati, Madurai, Mysuru, Saharanpur, and Vadodara. Regional Training Centres (RTC) are functional at Delhi, Nashik (Maharashtra), and Hubbali (Karnataka). Besides, there are 473 Workplace Training Centres (WTCs) at the circle office/Regional Office/Divisional Office/Head Office that are geared to provide immediate training requirements. The WTCs primarily impart IT modernization-related training under India Post 2012 Project. The trainings are given considering rule-based to role-based model. A total of 7882 MTS on Development Programme for Mail Overseers/Postman/MTS, 36436 GDSs on Development Programme for Gramin Dak

Sewaks, and 54262 supervisory staff on Development Programme for Operations have received trainings in the year 2019-20 depicted in the Annual report of 2020-21. As such, a total of 103980 human resources have been trained through the different training institutions operating under the DoP. During the study, it was found that the behavior of postal staff and improved access to the know-how of digital resources may provide exponential growth to postal productivity. As such, the training institutions operating under Postal Department may focus on outcome-based trainings. The training on smart communication skills, immediate customer grievance redressal system, digital platforms used under IT Modernization Project 2012 of the Department of Posts, and high-impact-change management through e-Governance are required to be given to counter staff and GDSs. The DoP may get these trainings conducted through other institutions as well to harness a competitive advantage. The staff dealing with accounts should be trained on accrual accounting to understand the significance of supply chain and file entry on the daily basis contributing to higher productivity coupled with ease of doing business.

**e) IEC Activities**

Information, education, and communication-related components may help disseminate financial and social security-related schemes of the DoP. Our country is standing at the cusp of the extended period of high growth powered by demography and rising markets. Being young and aspirational social systems, she is impatient to realize her goal and ambitions. The goals and ambitions driven by seamless information and communication technology cast an overarching in several areas and circumscribed by services rendered by the DoP. The Department of Posts with uniqueness in the market share has to leverage the advantage to harness though its products and services by adopting a pragmatic approach coupled with flexibility in its structure. With the help of IT-enabled Postal Operations, the DoP is poised to break down the rural-urban divide and act as a catalyzer in financial inclusiveness. Though schemes and services provided by Post Offices are widely accessed by people, the information dissemination about the scheme can lead to its improved scale and outreach. The elimination of vicissitudes through giving wider publicity may attract more footfalls. It has been found in the study that though footfalls have increased, it has not gone up to statistically significant levels. The Postal Operations should be publicized using local media, particularly regional TVs and Radios to improve rural penetrations of postal schemes. The Department of Posts may take a multi-pronged approach to handle corruption, irregularity in services, and malpractices taking into account participative measures. It may also be realized through information, education, and communications.

It comes from the common quarters that the current IT resources go to the maintenance of existing IT operations and systems. The risks to holding onto legacy systems are many, but modernizing IT in any sector is not easy or cheap. The IT modernization is to be made successful through creating digital literacy amongst the public on the one hand and updating the digital skills of personnel working in the postal department, on the other. This can be strengthened through information, education, and communication. As such, the postal products are 'public goods' which may help reduce the dependency for financial support on the government and also benefit people through financial inclusion. The following seven strategies may help ensure IT modernization in postal operations, effectively. The same has been represented through the diagram given below:

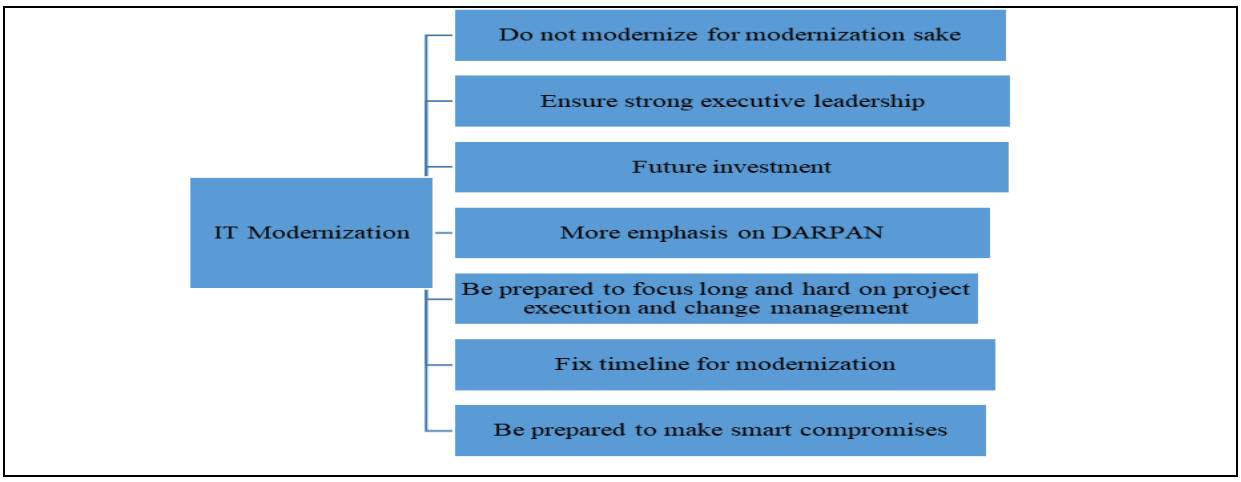



**Figure 4.17: Step-chart showing steps to be considered under the next roll out of the IT modernization project**

**f) Benefits (Individual, Community)**

The Department of Posts, with its network of 1, 56,721 Post Offices, is the largest postal network in the world. The Department of Posts has led to the last mile reach through 15703 urban post offices and 141018 rural Post offices. 25409 Departmental Post offices, 131312 Branch Post Offices with 245141 GDSs, the Department is catering to individuals and communities. On average, a Post Office serves 8605 individuals. At the same time, on average 6301 persons are served by rural post offices whereas, 29299 average persons per urban post offices. Hence, the coverage of the urban population is more as compared to rural individuals through the postal operations.

Business Post Services are available at Business Post centres in the selected Post offices across the country. Through the business post services a total revenue of Rs. 8988 lakh have been generated w.e.f. January 1, 2020 upto December 31, 2020. With increasing commercial activity, the need for the direct advertising of products and services by the business

organization is growing. Direct mail is about printed matters usually carrying a sales message of announcements designed to elicit a response from a carefully selected consumer group or market segment. Through the activities carried out under the segment, the department has earned a revenue of Rs. 58 lakh w.e.f. 01.01.2020 to 31.12.2020. The media post has earned a total of Rs. 2400 lakh for the same period. The retail post has been able to generate a revenue of Rs. 65.10 crore in the same period. The e-post of the segment has earned Rs. 848 for the same period. Through the number of inland electronic money orders (eMO) has earned 193.04 crore as commission amount for the said period. A total of 2.45 lakh new PLI and 6.20 RPLI policies have been procured in 2020-21. It is worth mentioning that Postal services in the Northeast are operated through a total of 4007 Post Offices in Assam, 302 in Arunachal Pradesh, 701 in Manipur, 491 in Meghalaya, 384 in Mizoram, 330 in Nagaland, 711 in Tripura, and 209 in Sikkim. The post offices have offered 24716556 saving accounts, 74780 merchants' accounts, 36416050 AePS transactions, and 340236 digital life certificates. Under the India Post Payments Bank Limited, services like saving account, current account, 24X7 instant money transfers, including MGNREGA, and payment of scholarships, social welfare benefits, Government subsidies, bill and utility payments, enterprise and merchant payments delivery of services through Postmen and Grameen Dak Sewaks, access to any bank account through Aadhaar enabled payment services have been executed. Hence, the postal services have benefitted both individuals and communities across the country. Keeping in view the revenue generated by different postal instruments and social security subscriptions availed, the coverage of Postal operation has been found to have increased. The incredible coverage of the larger number of individuals vis-à-vis communities herald a new era of AtmaNirbhar Bharat through postal operations.

**g) Convergence with Scheme of Own Ministry/Department or Other Ministry/Department**

There is no such scheme that directly converges with the existing "IT Modernization Project 2012" of the Department of Posts. The doorstep services to rural people, gearing up banking facilities to unbanked or under-banked people, delivery of faster communication services, the assistance provided during the Covid pandemic are some of the exceptional jobs that the Department of Posts has enabled through the 'IT Modernization Project 2012' of the Department of Posts. Hence, the scheme is unique and one of its kind.

**h) Asset/ Service Creation and its Maintenance Plan**

The silos under the scheme are the true assets. The silos are mostly outsourced to the vendors based on RFP and competitive bidding process. The maintenance plan is also linked with the

RFP with the service providers. The handheld DARPAN devices have led to increased outreach of financial services to the remotely located pockets of our country. The data centre set-up at Navi Mumbai and Disaster Recovery set-up at PTC, Mysuru are the major assets of the "IT Modernization Project 2012" of the Department of Posts. The Core System Integrator (CSI) ensures the overall integration of the solutions. The CSI is dependent on Network Integrator (NI) for integration with Network Management System and Data Facility Centre (DCF). The CSI and DCF are interdependent for integration between building Management System. All silos are integrated and stand out to be assets created under the scheme. The maintenance plan is well laid down under the respective silos rolled out. The availability of a national asset of IT network connecting 156721 post offices are readily available to be used by Central and State Governments. The reduction in manual and paper-based postal processing has led to a greener post office, improving the environmental sustainability of the postal system. The potential reduction in the transaction cost and availability of manpower for redeployment in marketing and other revenue capabilities have been found as effective outcomes of the 'IT Modernization Project 2012' of the Department of Posts implementation.

### 4.3 Gaps in the achievement of outcomes

The evaluation study conducted on the "IT Modernization Project 2012" of the Department of Posts, has identified the following gaps in the achievement of outcomes:

1. As the project involved multiple vendors, inadequate relationships in meeting the projected timeline and synergy among the vendors for achieving deliverables were noticed. There exist different silos having different start and completion dates as laid down in the executed project timelines.
2. The digital infrastructure was not adequately upgraded in different post offices. It was shared by most of the counter staff surveyed during the study.
3. The data centre was reported to confront acute traffic and as a result, the server was taking longer than expected to process the requests of customers. That created an issue in ensuring transparent accountability.
4. The Disaster Recovery Centre (DRC), at Mysuru, faced challenges for the required recurring items. The inadequate resource base of DoP with the DRC was noticed.
5. A limited number of racks (62) out of 72 were found used by the Data Centre at Navi Mumbai. The racks in use were not seamlessly supporting the postal transactions.
6. The User Interface of Financial Services Integrator provided by Infosys was found to be inefficient and unresponsive in service delivery because it took too long to ready for access. In the Post offices sampled, the inefficiency of the FSI was detected.

7. The screen size, tabs, and memory (8GB) of DARPAN devices were reported to be too small. The scheme in demand like Senior Citizen Scheme, PPF, Monthly Income Scheme, Kisan Vikas Patra (KVP), and NSCs were not found integrated with DARPAN devices.

8. Many offices were found affected by Network issues, lack of CBS rollout, CSI rollout, and absence of DARPAN devices.

9. The postal staff surveyed did not undergo any refresher trainings for their skill upgradation. The change management has covered hardware and software areas but yet trainings on the soft skills were found missing.

10. The growth percentage of 6.81% has been attained through the revenue generation as against the targeted 7.11%.

11. The look and feel of Post Offices need to be modernized through effective infrastructure upgradation so that Post Offices can have a higher market share with the existing products and services.

**4.4 Key Bottlenecks & Challenges**

(i) The delayed decision-making and implementation of the silos stand as a major bottleneck in navigating interaction with the vendors. That resulted in different dates of implementation of silos whereas, all the segments of the "IT Modernization Project 2012" of the Department of Posts are interdependent.

(ii) Implementation of Change requests through the vendor has been very difficult to achieve a consensus on what constitutes a change was not acceptable to the concerned entities. It lacked the required degree of acculturation.

(iii) Multiple Vendors involved in the implementation phase and interdependency among them were found inadequately synchronized.

(iv) Difficulty/Delays in approval from various stakeholders at the different stages of implementation were expressed by supply-side stakeholders.

(v) Challenges from the rural environment like lack of reliable power supply to charge devices, lack of internet connectivity were major bottlenecks.

(vi) Complexities in data migration and validation were identified as the major challenges.

(vii) Understanding the process changes necessitated in the new environment and incorporating the changes in business processes were found to be concerning issues.

(viii) Capacity building capability and recruiting staff with necessary skills found in scarce.

(ix) Implementing new requirements for delivering up-to-date functionalities and countering time overrun which arose due to the changes.

(x) Staff's ability to cope with the changes was moderately handled by capacity-building programmes.

### 4.5 Input Use Efficiency

The calculation of input use efficiency is considered to be an important parameter in the scheme evaluation. The input use efficiency focuses on avoiding or reducing the wastage of resources. Input efficiency measures the performance of the system and minimizes losses to resources. Input use efficiency is not only used by itself as an indicator but also used to measure the output. In this context, we have considered the total fund flow to the scheme w.e.f. FY 2012-13 and the achievement made under the "IT Modernization Project 2012" of the Department of Posts including the number of the POSB account holders, Premium Product users, registered & unregistered posts operationalized PLI and RPLI subscribers and MGNREGA accounts. The details are summarised as under:

**Table 4.29: Derived input-out ratio of postal services**

| Financial Year | Actual Expenditure in crore | Physical Achievement in crore | Input-use ratio |
|---|---|---|---|
| 2012-13 | 26.13 | 694.36 | 26.57 |
| 2013-14 | 253.95 | 676.90 | 2.67 |
| 2014-15 | 88.84 | 675.50 | 7.60 |
| 2015-16 | 307.19 | 617.88 | 2.01 |
| 2016-17 | 188.42 | 621.07 | 3.30 |
| 2017-18 | 415.63 | 636.17 | 1.53 |
| 2018-19 | 375.32 | 575.61 | 1.53 |
| 2019-20 | 367.39 | 510.71 | 1.39 |

Input use efficiency, also known as the productivity ratio refers to the extra unit of output generated from an additional unit of input. This indicates as to how efficient the input (funds disbursed in the context of the scheme evaluation) was in terms of generating the required output (the customers covered). The efficiency of input use can be computed by taking a simple ratio of output to input. A higher input use efficiency ratio indicates that output is maximized without requiring more of any input values or use of input is minimized while satisfying at least the given output levels. On average input-use has scored 5.83. In this context, the figures can be plotted through the line graph drawn below:

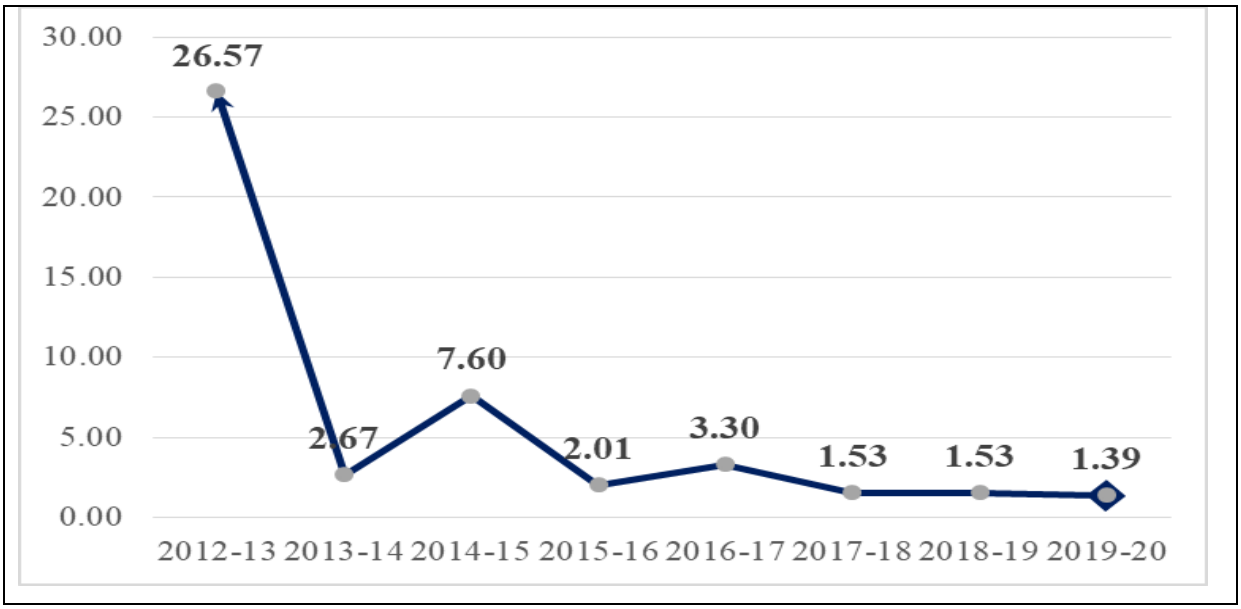



**Figure 4.18: Line graph showing input use efficiency of the Scheme**

The input use efficiency shows a positive sign with regard to the actual expenditure and achievement made under the scheme. The lower the value of the input use, the higher is the intensity of efficiency. As such, on average input-use has been worked out to be 5.83. The input-output ratio used in this diagram is about the actual expenditure incurred by PMU and the physical target achieved. The DoP has achieved all the target set efficiently. However, the physical numbers presented in the tabular form are of different quality. The project being a greenfield project may not accurately be assessed with regard to the target achieved. It is worth mentioning that the 'IT Modernization Project 2012' of the Department of Posts has incredibly improved work efficiency, sales, ease of doing business, optimum utilization of time, customers' goodwill, brand equity, team unity, and new markets. The Project has scored better on the intangible benefits as compared to tangible. However, with the help of the IT Project, the Department of Posts has mobilized a revenue of Rs. 13558.2 crore against the total expenditure of 29139.74 crore during the year 2019-20.

# 5. OBSERVATION AND RECOMMENDATIONS

## 5.1 Thematic Assessment

1. The key objectives envisaged under "IT Modernization Project 2012" of the Department of Posts are promoting equity or inclusiveness, public accountability, and innovation. With the computerization of all post offices, the IT solution has brought parity in postal, banking, and insurance services between urban and rural post offices. Public accountability component as one of the deliverables of the scheme intends to ensure better delivery of services to the public like old age pension money order payment, Mahatma Gandhi National Rural

Employment Guarantee Scheme (MGNREGS) wage disbursement enhance the improved visibility of all the mail, banking, insurance and retail transactions to customers leading higher level of transparency. Through the innovation, the customers will be able to access the mail, banking, insurance, and retail services of the Department through web and mobile apart from the normal channel of physical access to the Post offices. The study findings suggest that with the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the postal services' penetration to rural population has comparatively grown over the years. Based on the quantitative results, the postal services are accessed across the social categories. The direct benefit transfers have been availed by a number of MGNREGS beneficiaries. A total of 190981218 savings bank holders, 116874371 recurring deposit holders, 14951294 monthly income scheme subscribers, 2178943 senior citizen scheme beneficiaries, 23067983-time deposit customers, 2697852 PPF holders, 16770858 Sukanya Samriddhi Account subscribers have been identified with the postal services as of 31.03.2020. The parcel products have been designed through a network consisting of 190 parcel hubs, including 57 Level 1 (L1) and 133 Level 2 (L2) hubs for handling of parcels have been operationalized. Integrated parcels processing centres have been operationalized in 12 cities i.e. Delhi, Mumbai, Bhubaneswar, Vijayawada, Jaipur, Ahmedabad, Kolkata, Lucknow, Ludhiana, Coimbatore, Guwahati, and Hyderabad. The 24X7 track and trace services have enabled customers to access the status of their postal instruments. The online and offline existence of the grievance and redressal system has also helped the customers to lodge their grievances both physically and online. Hence, on the key objectives/deliverables envisaged, the 'IT Modernization Project 2012' of the Department of Posts has fairly performed. However, there are a number of Post offices that are either away from the access of IT modernization silos or having a poor interface with Financial System Integrator (FSI) or Network Integrator (NI), and so on.

2. The qualitative and quantitative contributions made by the 'IT Modernization Project 2012' of the Department of Posts has been found to be effective. Qualitatively, the faster delivery of services has been found as one of the major reasons that the customers surveyed felt attracted with. Quantitatively, the number of postal services have grown up over the years, particularly for un-banked or under-banked customers. With regard to speed post, the revenue generated in 2015-16 was Rs.1605.25 crore that rose to Rs.1783 crore in 2016-17. It was Rs.1829.80 crore in 2017-18 that rose to Rs.1922.51 crore. It was Rs. 1764.09 crore that concluded with Rs. 1002.75 crore, as of December, 2020. Since December 2018, a total of 2.34 crore articles of Order Aadhaar Reprint Letter (OARL), Aadhaar Verification Letter (AVL), and Polyvinyl

Chloride (PVC) Aadhaar have been delivered. It has been reported that around 7 lakh unregistered mail bags are being tracked per month. 235 Speed Post-processing hubs, 319 Computerized Registration Centres (CRCs), 320Unregistered Mail offices, 227 Business processing Centres (BPCs), 33 Book Now Pay Later (BNPLs) Centres and 242 Transit Mail Offices (TMOs) are performing operations online in the CSI solutions. Consequent upon the suspension of train & flight services across the country from 25th March, 2020 due to the COVID-19 pandemic, the entire mail transmission network of the Department of Posts was severely impacted. During the period of lockdown, the Mail Motor service played a stellar role in ensuring the regular movement of essential goods i.e. medicines, medical equipment, ventilators, COVID testing kits, etc. and other postal articles booked/posted by the general public and private, hospital, and various public and private sector laboratories.

3. The "IT Modernization Project 2012" of the Department of posts has digitalized the infrastructure for the world's largest postal network. This Project has been undertaken by the Department with objectives to modernize and computerize all non-computerized Post offices in the country including Branch Post offices in rural areas, mail offices, administrative and other offices. It has also catered to the development of scalable, integrated, and modular software covering all operations of the Department of Posts. The project has also established required IT infrastructure including Data Centre, Wide Area Network (WAN) based networking of the Department post offices; and created Rural Information and Communication Technology (Rural ICT). The project has been implemented through eight different segments, namely Data Centre Facility (DCF), Network Integrator (NI), Financial Services System Integrator (FSI), Core System Integrator (CSI), Digital Advancement of Rural Post of for a New India (DARPAN) - Rural System Integrator (RSI) and Rural Hardware (RH), Mail Operations Hardware (MOH), and Change Management (CM). The silos have been found interdependent. However, it has been found that 1439 offices with primary connectivity, 2097 offices with secondary connectivity, and 323 with no connectivity are facing issues regarding network integrator. The CBS rollout under the FSI silo is yet to be done in 1728 Post offices. Out of 507 divisions, CSI rollout yet to be operationalized in 10 left out divisions. The fundamentally instrumental DARPAN rollout is yet to be done in 578 Branch Offices out of the total 131312 BOs.

**Table 5.1: Expected dates to complete required services**

| Silo | Instruments | Cutoff date for rollout |
|---|---|---|
| Network Integrator (NI) | Primary Connectivity in 1439 Offices | March 31, 2022 |
| | Secondary Connectivity in 2097 Offices | March 31, 2022 |
| | Rollout in 1728 Post offices | March 31, 2022 |
| Financial Service Integrator (FSI) | CBS rollout in 1728 Post offices | March 31, 2022 |
| Core System Integrator (CSI) | CSI rollout in 10 Divisions | March 31, 2022 |
| Rural System Integrator/ Rural Hardware | DARPAN rollout in 578 Branch Offices | March 31, 2022 |
| Mail Operation Hardware (MOH) | Need-based rolling out in circles in consultation with DoP | March 31, 2022. |

Apart from these, other silos in operation need to be examined technically to know their quality services. The existing vendors may provide the latest concerns to the DoP so that required correctional measures to be executed. The next phase of the "IT Modernization Project" may be rolled out w.e.f. April 1, 2022 to March 31, 2027. All the silos are to be strengthened along with the inclusion of new IT techniques.

4. The postal operations were found to be efficiently working with digital platforms, as already explained through the t-test. The financial output has increased over the years due to the 'IT Modernization Project 2012' of the Department of Posts. The maximum number of people have accessed financial, mail, and social security services. Though the footfall has increased insignificantly, the increased volume of transactions and revenue generated through the services inform the effectiveness of postal digitalization. One of the urgency-based requirements was full-filled through the initiatives undertaken during the Covid-19 Pandemic. During the period, more than 40.84 crore transactions worth more than Rs. 471484 crores were made through Post Office Saving Bank (POSB). Accounts and around 93.17 lakh Automated Teller Machine **(**ATM) transactions worth more than Rs. 3144 crore were withdrawn. Hence, the digitalization led by the 'IT Modernization Project 2012' of the Department of Posts has performed effectively on both output and outcome indicators.

5. The level of customer satisfaction was documented through questionnaires, and focus group discussions. The customers were found to be largely satisfied with the postal staff. The

technical glitch due to network connectivity made some of the customers disappointed. The elderly people standing in the waiting line expressed their disappointment. The reason assigned to this concern was the shortage of counter staff. The counter staff, particularly from the eastern zone expressed to avoid frequent deputations. Overall, if the silos are strengthened, some human resources are additionally deployed, and the infrastructure of the Postal Department is converted into the state-of-the-art, the Post offices would turn into accessing the increased market share.

### 5.2 Externalities

Externalities occur in a scheme when the intended outcomes are not achieved or partly achieved due to unintended or latent reasons. In the case of the "IT Modernization Project 2012" of the Department of Posts, the major externalities have been found to be emanating from *inter* and *intra* sources. Inter- is a prefix used to form words that mean between or among Departments. Intra- is a prefix used to form words that mean on the inside, or within. Inter- refers to activity between or among different organizations. Intra- refers to activities that occur within an organization. As such, inter refers to exogenous and heterogenetic reasons whereas, intra- indigenous and orthogenetic. The inter sources are the constraints received from outside the DoP whereas, intra within the DoP itself. The inter externalities consist of not having adequate banking tie-up with RTGS/NEFT code so that inter transactions can be executed smoothly. The network speed needs to be improved so that quick transactions can be done in line with that of the commercial banks. The network connectivity is provided through tripartite between the DoP, Sify, and BSNL. There is a need to go for tech refresh/ replacement of hardware and augmenting the capacity of DOP's IT infrastructure which may improve the services in line with commercial banks and other such organizations. The intra externalities are two-fold. First, the counter staff need to be motivated to treat their customers with care and support. Second, digitalization should be imbued in the system more effectively to avoid any technical glitch. The DARPAN devices extended to GDSs need to be integrated with other schemes such as, Senior Citizen Scheme, PPF, Monthly Income Scheme, KVP, and NSC. The closure of the account attached with BOs are presently done from SOs. That needs to be disposed of at the level of BOs itself. The limited withdrawal needs to be extended.

# 6. CONCLUSION

## 6.1 Issues and Challenges

The "IT Modernization Project 2012" of the Department of Posts has been one of the most ambitious schemes to revamp the postal service delivery. The services of Post Offices have been renovated through the implementation of eight silos. The silos with their different start dates and completion dates vary in terms of their periodic implications. However, the silos are interdependent for providing impactful outcomes for both ease of doing business and covering the unbanked and under-banked population of our country. The required know-how to deal with digital tools for the counter staff in particular and others, in general, can also be factored in with the 'IT Modernization Project 2012' of the Department of Posts. Sharp in impact and wider in coverage, the 'IT Modernization Project 2012' of the Department of Posts has confronted with some of the issues and challenges which are as under:

1. The silos are not properly integrated. The CSI is responsible for the overall integration of the solution. The CSI has kicked off on 15.04.2013 whereas, DCF, NI, and FSI were already started in 2012. The DARPAN rollout was also executed in 2015-16.
2. The Network connectivity provided through the tripartite agreement has been found with inadequate access across the sampled states. That stands as a major issue in the operations of postal services. The Network available with DARPAN devices is 2G and 3G. That network needs to be migrated to 4G and above.
3. The Data centre server was found to be overloaded resulting in unnecessary customer wait. The available 62 racks in use are insufficient, though it has 72 racks. The IT Vendors need to augment the capacity of servers at Data Centre and brought to an effective level to provide seamless and glitch-free delivery of services.
4. There are still a considerable number of Post offices where NI, FSI, CSI, and RSI/RH silos yet to be rolled out. The Mail Operation Hardware entrusted to circle offices need to be expedited so that benefits of postal digitalization can aptly be harnessed.
5. The staff and customers were not sufficiently found acculturised with digitalization. The track and trace services were also not found being accessed by the customers while receiving their concerns in the focus group discussions.
6. Many of the customers were found giving money to the Post office heads for deposits out of the trust that they would provide the receipt after the completion of transactions. Though the deposits did not have any issue, in the age of IT where the responsiveness has been raised

considerably, immediately providing receipt would have had an indelible impression of postal services.

### 6.2 Vision for the future

The implementation of 'IT Modernization Project 2012' of the Department of Posts has brought about significant changes in the postal operations resulting in inclusiveness, transparency, accountability, and innovations. The size of revenue generation and target-led-achievement in most of the segments have been realized. The customers' satisfaction has exponentially grown in all HOs, SOs, and BOs. The IT-enabled instruments have led to value addition in the Postal services. The DoP may strengthen its market position with the clients through the transformation of inbound and outbound information processes. Every employee has to know what role he or she plays in core processes, what concrete contribution he or she is making to the value-added chain and what support he or she can offer. The quality of postal services and customer satisfaction can be improved through delivering excellence and innovative thinking. The tailor-made solutions may raise customer satisfaction and effectiveness in administrative decision-making. Creating an ecosystem to differentiate from competitors, conquering new market segments, strategic decisions to be one step ahead of competitors may be considered as a step forward to qualitative postal operations. A performance-based culture needs to be developed to achieve growth aspirations. As such, the DoP may create an environment for the employees in which they can develop, excel, execute business strategies and contribute to the improved success of postal services.

However, a three-term-vision is suggested to improvise the postal operations with special reference to improved rural outreach. These are short, medium, and long-term visions. In the short-term vision, strides are to be taken to solve the network-related issues which are impacting the overall business and customer satisfaction. The unavailable services with the DARPAN device need to be immediately integrated so that other postal services have adequate doorstep outreach in the rural areas. The DoP should attempt to provide high-quality mail, parcel, and related services so that customers conclude the postal services offering value for money. Other than premium services should also be made efficient, time-bound, and reliable. Job stress among employees need to be mitigated by filling up the vacancies.

In the medium run, the financial and other service-related windows should be transformed so that it takes short time in the service delivery. The capacity of the various applications at the data centre needs to be increased so that the postal services do not incur opportunity costs. The issues related to the Disaster Recovery Centre should be handled by a dedicated team maintaining having proper sync with planning and execution because it serves as the

motherboard of IT platforms. The screen size, tabs, and memory of DARPAN devices need to be increased so that they can efficiently be handled. The migration from 2 G and 3G devices to 4G and above may also be executed. The DARPAN device may also be gradually replaced by handy tabs. However, abrupt change may cause a huge accumulation of e-waste and poor use-value of postal assets. The DoP may adopt a true and fairer feedback system to be taken from every customer who receives services, optionally. The attractive infrastructure of postal buildings should be in place so that one feels a sense of satisfaction, to begin with.

In long term, the DoP may like to set up an additional data centre either in Bihar or in Uttar Pradesh or Guwahati so that it leverages the network connectivity for efficient work delivery. Keeping in view the financial competitiveness, the DoP may start micro-lending on a pilot basis, and based on feedback, a final call on it may be taken. The DoP may start it at a short-scale with its employees to minimize the risk deficits. The interest rate on financial services may also be increased for customers depositing money with Postal Bankings. This would help DoP to retain its customers along with attracting more additional customers. The DoP may also adopt accrual accounting so that Return on Investment (ROI) can be calculated, and remedial measures be taken to ensure efficacious postal service delivery. It is worth mentioning that DoP should come up with an integrated plan to handle the silos and their maintenance plan because outsourcing is not the answer in the longer run. The DoP may like to follow best practices of IT systems so that incurred costs can be minimized and the DoP may come out from the financial deficits based on total revenue and total expenditure calculated for the last 10 years.

### 6.3 Recommendation for Scheme with reasons

After the implementation of "IT Modernization Project 2012" of the Department of Posts, the coefficient for revenue generated from POSB facilities (63.9%) has been found as 1.96 with regard to the total revenue generated as an intercept coefficient of 3410.352. It indicates that after the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the POSB facilities (63.9% share in revenue generation) are strongly linked postal operations have reached an incredible productivity score. The business facilities of Post Offices, the behavior of Postal Staff with customers, reliability of postal services, track and trace system, transparency of postal services, and overall services of Post offices have scored 3.63, 4.08, 3.88, 3.89,3.89 and 3.99, respectively (scores>2.5) on the Likert Scale (1-5) after processing through extremely significant score on the Cronbach’s alpha reliability test. It shows that after the implementation of the 'IT Modernization Project 2012' of the Department of Posts, the services provided by Post offices have become satisfactory with increased bandwidth.

The service instruments provided by post offices have also been processed through Chi-square test. The test reveals that the calculated Chi-square is 49.34 against the tabulated Chi-square of 23.685 (Chi-square calculated > Chi-square tabulated). It indicates a robust relationship of IT-driven postal instruments with Head Post offices, Sub-Post Offices, and Branch Post offices. 36 % of women representation, 46% of rural coverage, 1.4% of Divyanjans, 11.9% of SC, 5.1% of ST, and 0.9% of the minority have been found in the respondents' pool that shows the social inclusiveness of the postal operations. Hence, the benefits accrued to customers through IT-led Postal operations are significant. Considering the postal productivity on account of improved IT system, satisfactory services received through web-portal, mobile, and call centres, increased number of postal transactions in postal banking, insurance, and retail activities, web and mobile-enabled track and trace, centralized database creating moderately improved decision making, reliable, speedy and transparent postal operations, **the study recommends for continuation of the 'IT-Modernization Project 2012' of the Department of Posts upto March 31, 2027.** The DoP is expected to ensure improved reliability, reach, relevance and resilience through its services. To improve the effectiveness of the IT-Modernization Project 2.0 to be rolled out, the findings based recommendations are as under:

1. To increase the productivity driven by the multiplier effect, the DoP may like to invest in Business Intelligence (BI) and Management Information System (MIS) in the next phase of the scheme to help administration take more responsive and efficacious decisions.
2. Smaller micro-services are required to be brought in, plugging in the critical gaps in the integration with various software. The uncovered areas need to be covered under the IT Modernization Project 2.0.
3. A micro component in the new rollout may focus on the development of flexible software which can easily integrate with the application of different vendors and external users.
4. The screen, tabs, and RAM of the DARPAN device need to be enlarged. The existing RAM of 8 GB is insufficient, as half of RAM is used by the operating system (OS). It may be scaled up to 64GB.
5. The Network connectivity requires to be improved, as the postal operations are factored in network connectivity. Further, the existing 2 G and 3G enabled DARPAN devices need to be migrated to 4G and above.
6. To extend the financial inclusion and mitigate the challenges therein, Aadhaar Enabled Payment System (AEPS) needs to be operationalized and augmented.

7. The services like Senior Citizen Scheme, PPF, Monthly Income Scheme, KVP, and NSC need to be integrated with DARPAN (BOs). For the closure of the account, the beneficiary has to go to SOs from BOs. The facility may be extended at the BO level, developing improved brand equity of post offices in delivering doorstep products and services.

8. Except for Media Post covered under Premium Services (other than Speed Post), the services like Retail Post, ePost, ePayment, Business Post, Bill Mail Services, and Direct Post may be dovetailed, even if they fall under the category of inelastic services.

9. The Department of Posts may take steps to promote use of internet banking and mobile banking. For this purpose, more products and services should be offered through internet/mobile banking.

10. To ensure improved financial inclusion, the DOP may start lending on a pilot basis with its staff. Based on the feedback, the same may be expanded in a phased manner.

11. A strong and dedicated implementation team with the required flexibility may be delegated the task of implementation of different segments of new projects.

12. To ensure the smooth and speedy processing of change requests, a committee may be constituted to take decisions on Change Requests within a fixed time frame. The committee should have the support of a technically equipped team as well.

13. In the next phase of the project, the additional required human resources may be inducted, proper Training Need Analysis (TNA) based customized training be imparted, efficiency in sales services be increased, and a paperless work environment be promoted.

14. The postal staff may be requested to chip in smart suggestions to reboot the financial health and strategic operations of BOs so that the postal operations can be aligned with market trends and compete with emerging competitions. If the suggestion/s received was worth considering, some incentivization may be linked in, irrespective of his/her position in the administrative hierarchy.

15. The "Annual Financial Expenditure and Revenue" may be shared with all postal staff using digital platforms to invite their suggestions for further improvement and appraise the financial status of the Postal Department so that every single staff of DoP can contribute to Postal Service Development. The rule-based operations may be converted into role-based.

16. The DoP may come up with an integrated system of in-house silos operations in a phased manner through out-of-the-box thinking, the inclusion of innovative products, and accrual accounting to improve upon the revenue generated with regard to expenditure incurred are also recommended.

## 7. Annexure -1: Responses received from 15 Divisional Offices from NSSO zones

| Items | Details for FYs | | | | | |
|---|---|---|---|---|---|---|
| | 2012-13 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
| Number of postal transactions (Booking of Speed Post/Regd/Parcel, eMOs, etc.) for. | 16179938 | 26254533 | 25608489 | 45222435 | 48055897 | 36562972 |
| Number of POSB accounts Opened (All Schemes and Certificates) | 1256899 | 1538650 | 1603781 | 1608061 | 1583852 | 1247996 |
| Number of PLI/RPLI Policies Procured | 38504 | 26781 | 33758 | 43079 | 41383 | 41509 |
| Number of premium collections done for PLI/RPLI | 507830798 | 847228413.1 | 882144336.7 | 967525743.9 | 1112116933 | 1143259836 |
| Revenue generated from services | 1272717042 | 1908077188 | 1856745800 | 2192850507 | 1891369919 | 1845252019 |
| **Total revenue generated (INR)** | 1378861868 | 2105239073 | 2064836639 | 2416785693 | 2205224991 | 2172511661 |

## 8. Annexure -2: Outline of IT Modernization Project

**1. Introduction**

IT Modernization project of the Department of Posts (DoP) was approved by the Government in November 2012 with a total outlay of Rs. 4909 Crore. This project involves computerization, modernization and networking of about 1, 55,000 post offices in the country, including about 1, 30,000 branch post offices in rural areas run by the Gramin Dak Sewaks. This project plans to provide central server based integrated, modular and scalable solution for various operations of the department including mails, human resource management, banking, insurance and finance & accounts. It also involves creation of IT infrastructure like Data Centre, Disaster Recovery Centre, setting up of a Wide Area Network (WAN) and providing solar powered and portable handheld computing devices (Micro ATM compliant) to all the Branch Post Offices.

IT Modernization Project of Department of Posts is being undertaken with a total outlay of Rs. 4909 crore. The Project involves computerization and Modernization and networking of 1, 55,000 Post offices in the country, including 1, 30,000 Branch Post Offices in rural areas run by the Gramin Dak Sewaks.

**2.2** The project involves providing Central Server based integrated, modular and scalable solution for all the operations of Department of Posts including Mails, Human Resource, Banking, Insurance and Finance & Accounts. It also involves creation of IT Infrastructure like Data Centre, Disaster Recovery Centre, setting up of a Wide Area Network (WAN) and providing solar powered and portable hand-held computing devices (Micro ATM compliant) to all the Branch Post Offices.

**2.3** The objective of the IT modernization project of Department of Posts

1) Modernization and computerization of all the non-computerized Post offices in the country including Gramin Dak Sewak (GDS) Branch Post Offices in rural areas, mail offices, administrative and other offices;

2) Development of scalable, integrated and modular software covering all operations of the Department of Posts;

3) Establishment of required IT infrastructure including Data Centre, Wide Area Network (WAN) based networking of the departmental post offices; and

4) DARPAN-RICT (Digital Advancement of Rural Post Offices for a New India- Rural Information Communication Technology (Rural ICT) infrastructure.

**2.4** The Project is being implemented through eight different segments: Data Centre 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). All these eight segments are integrated with overall solution architecture under the purview of CSI.

## 9. Annexure -3: Research Tools

**QUESTIONNAIRE FOR HEAD OF THE DIVISIONAL OFFICE**

1. Name of the DO Representative:
2. Type of Post Office: (1) HO (2) SO (3) BO (4) DO
3. Mobile No.:
4. State: (1) Maharashtra (2) Himachal Pradesh (3) Odisha (4) Tamil Nadu (5) Assam (6) Madhya Pradesh
5. District:
6. Please provide the details as under:

| **Items** | **Details For FYs** | | | | | |
|---|---|---|---|---|---|---|
| | 2012-13 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
| Number of Postal Transactions(Booking of Speed Post/Regd/Parcel,eMOs etc) | | | | | | |
| Number of POSB Accounts Opened (All Schemes and Certificates) | | | | | | |
| Number of PLI/RPLI Policies Procured | | | | | | |
| Number of premium collections done for PLI/RPLI | | | | | | |
| Revenue generated from services | | | | | | |
| **Total revenue generated (INR)** | | | | | | |

7. Any suggestion to improve the overall working of Post offices?

   …….

## QUESTIONNAIRE FOR HEAD POSTMASTER

1. Name of the Post Master/in-charge:
2. Type of Post Office: (1) HO (2) SO (3) BO (4) DO
3. Mobile No.:
4. Gender: (1) Male (2) Female (3) Transgender
5. State: (1) Maharashtra (2) Himachal Pradesh (3) Odisha (4) Tamil Nadu (5) Assam (6) Madhya Pradesh
6. District:
7. Location: (1) Urban (2) Rural
8. Social Category; (1) General (2) OBC (3) SC (4) ST (5) Minority
9. Please respond to the following components:
10. How many computers are there in your post office? How many of them are working?
11. Has computerization effectively helped the postal administration? (1) Yes (2) No
12. Has the IT Modernisation Project helped in getting data and enabled better data analysis? (1) Yes (2) No
13. Do you think the IT project has enabled improved decision-making? (1) Yes (2) No
14. Do you have sufficient number of scanners, printers, and other peripherals? (1) Yes (2) No
15. Do you feel the digitalization of Post Offices has helped in improving Customer service delivery? (Rating scale 1-5)
16. To what extent the IT solutions (Finacle, Mcamish, RSI) have increased outreach of the Post offices? (Rating scale 1-5).
17. How do you rate the human resource management in the post offices after the IT enablement? (Rating Scale 1-5)
18. To what extent are you satisfied with Network availability (Wide Area Network) in operating with Departmental Post offices? (Rating Scale 1-5)
19. To what extent Project DARPAN (RICT) has expanded the reach of the rural post offices and improved the experience of the rural customers at branch post offices? (Rating Scale 1-5)
20. Has Project DARPAN increased transparency and reliability of Postal & financial transactions at Branch Post Offices?
21. Rank following issues (assigning 1 to the biggest problem and 5 to the smallest problem) in terms of ease of doing business at the post office? (1) Network related problem (2) Hardware problem (3) Deficit of trust (4) Lack of infrastructure (5) Others

22. To what extent the post office has started functioning paperless, particularly in accounts? (Rating Scale 1-5)
23. What needs to be done in addition to smoothen the overall working of the post offices?

## QUESTIONNAIRE FOR COUNTER STAFF OF POST OFFICES

1. Name of the Staff:
2. Designation:
3. Type of Post Office: (1) HO (2) SO (3) BO
4. Mobile No.:
5. Gender: (1) Male (2) Female (3) Transgender
6. Age:
7. State: (1) Maharashtra (2) Himachal Pradesh (3) Odisha (4) Tamil Nadu (5) Assam (6) Madhya Pradesh
8. District:
9. Location: (1) Urban (2) Rural
10. Social Category; (1) General (2) OBC (3) SC (4) ST (5) Minority
11. Are you aware of IT infrastructure including Data Centre, WAN-based networking in the postal department? (1) Yes (2) No
12. Have you worked on DARPAN (RICT)? (1) Yes (2) No (3) N.A
13. If yes, how do you rate the experience? (Rating scale 1-5)
14. How do you rate the DARPAN (RICT) device? (Rating scale 1-5)
15. Has the banking solution (Finacle) provided enhanced the customer and user experience? (1) Yes (2) No
16. Are you aware that the department has a Data Centre and Disaster Recovery Centre? (1) Yes (2) No
17. How do you rate the efficiency of your computer? (Rating scale 1-5)
18. Do you utilize scanners, printers, and other peripherals, if required (1) Yes (2) No
19. How many trainings have you received since 2012? (1) None (2) One (3) Two (4) three (5) Over
20. How do you rate your training experience? (Rating Scale 1-5)
21. How do you rate your work efficiency before the IT project? (Rating scale 1-5)
22. How do you rate the services provided by Post Offices before infrastructure upgradation in the post offices? (Rating scale 1-5)
23. What was the level of footfall before the IT project implementation? (Rating scale 1-5)
24. How was the internet connectivity before the introduction of the WAN/LAN network? Rating scale 1-5)
25. How do you rate the service delivery from your desk after the implementation of IT systems? (Rating scale 1-5)

26. How do you rate the services rendered by Post Offices after infrastructure upgradation in the post offices? (Rating scale 1-5)
27. What is the footfall level after the implementation of the IT project? (Rating scale 1-5)
28. Do you feel the Digitisation of Post Offices has helped in improving Customer service delivery? (Rating scale 1-5)
29. How do you rate the services provided by Post Offices before infrastructure upgradation in the post offices?
30. How do you rate the postal banking in the post offices after the IT modernization? (Rating Scale 1-5)
31. How do you rate the status of PLI subscriptions in the post offices after the IT modernization? (Rating Scale 1-5)
32. To what extent IT enablement has led to the ease of doing business? (Rating Scale 1-5)
33. To what extent are you satisfied with the available network operating with departmental post offices? (Rating Scale 1-5)
34. To what extent DARPAN (RICT) has enabled the outreach of rural post offices across the country? (Rating Scale 1-5)
35. How long after the IT rollout, the internet facility was activated at the Post office? (1) Within one year (2) Within two years (3) Within three years (4) Not as yet
36. How do you rate the operation and maintenance of computer hardware, network hardware, and updation of IT software? (Rating scale 1-5)
37. How to improve the productivity of the post offices?

**QUESTIONNAIRE FOR THE END USER (Customer)**

1. Name of the Customer:
2. Customer Type: (1) Regular Customer (2) Occasional Customer (3) Agent (4) Pensioners
3. Type of Post Office: (1) HO (2) SO (3) BO
4. Mobile No.:
5. Gender: (1) Male (2) Female (3) Transgender
6. State: (1) Maharashtra (2) Himachal Pradesh (3) Odisha (4) Tamil Nadu (5) Assam (6) Madhya Pradesh
7. District:
8. Location: (1) Urban (2) Rural
9. Social Category; (1) General (2) OBC (3) SC (4) ST (5) Minority
10. Physical Status (a) Able (b) Disabled
11. How frequently do you come to the post office? (1) Daily (2) Thrice or twice in a week (3) Once in a week (4) Occasionally
12. What kind of services do you receive from the post office?

    (1) Mail service (2) Postal Banking (3) PLI (4) Central Govt. related services (5) Others
13. What attracts you to the postal services? (1) Faster delivery of services (2) Friendliness of the Staff (3) Availability of cheaper services (4) Closer to your habitation (5) Better incentives (6) Trust in the Institution (7) Other, please specify.
14. Have you used the banking facilities of post offices? (1) Yes (2) No
15. If yes, how do you rate the banking facility of the post office? (Rating scale 1-5)
16. How do you rate the behavior of postal staff when you come to transact? (Rating scale 1-5)
17. Do you know that the post office also deliver old age pension, money order payment MGNREGA/DBT disbursement, Aadhar service, Passport Seva, Common Services, etc.? (1) Yes (2) No
18. To what extent do you perceive the postal operations reliable, transparent and speedy? (Rating scale 1-5)
19. Do you take postal services through web portals/mobile apps? (1) Yes (2) No
20. If yes, how do you rate your experience with web portals/mobile apps(Rating Scale 1-5)

21. How do you rate the call centre services and its public grievance redressal system? (Rating Scale 1-5)
22. How do you rate the Department's track and trace system? (Rating Scale 1-5)
23. How do you rate the overall services of the Post office? (Rating Scale 1-5)