

CHAPTER 1

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY

DEPARTMENT OF POSTS

IT Audit of Meghdoot Package

Highlights

The Department of Posts (DoP) launched the Meghdoot package in July 1999 to computerise the functioning of post offices but the package had not stabilised even after five years.

The package failed to incorporate Departmental rules/checks in a number of areas such as cheques, bills, Postal Life Insurance policies, cash balance limits and pension, thereby exposing itself to risks of improper monitoring, over-payments, frauds, etc.

The package lacked data integrity due to weak controls and many facilities of the package such as those related to pension, bank reconciliation and interlink between different modules were still to be implemented.

IT security related control measures were not adequate.

DoP did not have a proper disaster recovery and contingency plan for business continuity.

Reliance on manual work continued and the objectives set by the Department for introduction of the package such as reducing paper work, eliminating duplicate entries and providing a user-friendly and error-free work environment could not be fully achieved.

List of recommendations

- *DoP should review the package and incorporate the Departmental rules/checks, wherever lacking. DoP should also involve their Internal Audit wing in this exercise.*
- *Since the functions related to pension are yet to be implemented, it is imperative that adequate controls with regard to PPO numbers and family pension are first incorporated.*

- *The package should be urgently reviewed to eliminate the areas where data integrity is not adequate with a view to obviating the need for manual intervention.*
- *DoP should immediately review the bottlenecks being faced in commencement of all the facilities of all the modules and remove them, so that the full potential of the package is utilised.*
- *The implementation of IT security related controls should be reviewed to eliminate risks of manipulation and loss of data. DoP should also prepare a detailed disaster recovery and contingency plan for business continuity and conduct mock trials of the instructions contained therein to check their workability and effectiveness.*
- *DoP may consider software certification through third party.*

1.1 Introduction

The Department of Posts (DoP) provides basic postal services through its post offices such as sale of stamps and stationery; booking of registered articles; insured articles and value payable parcels; remittance of money through money orders and postal orders; philately and speed post services. DoP has undertaken computerisation of many areas of postal operation to modernise its services and enhance customer satisfaction.

1.2 Organizational setup

The Postal Services Board in DoP is headed by a chairperson, who is also the Secretary to the Department. In addition, there are three members holding the portfolios of operations, infrastructure and financial services and personnel. Deputy Director General (Technology) under Member (Operations) looks after the computerisation in the Department. The country is divided into 22 postal circles, each headed by a Principal Chief Postmaster General/Chief Postmaster General. In each head post office, a postal assistant is designated as the system administrator¹.

1.3 'Meghdoot' package

With a view to achieving total computerisation of post offices, the Postal Training Centre (PTC), Mysore developed in-house, a comprehensive software package, 'Meghdoot 98', to handle all post office functions, except Savings Bank. DoP launched the package in July 1999 and upgraded it from time to time. The latest version, 'Meghdoot Millennium 5.1' was introduced in April 2004. The package was developed on a *Windows NT* platform with Microsoft *SQL Server 2000* as *RDBMS* and *Visual Basic* as the front-end tool.

¹ system administrator – the person who monitors and controls the overall functioning of the system.

The objective of the package was to computerise all the front office as well as back office activities performed in a post office. It aimed to provide an efficient software system that would considerably reduce the paper work in post offices and eliminate duplicate data entry; make the system more user-friendly; provide a network operating environment that has in-built security features and allow easy migration and upgrades to new technologies, as they evolve.

The package comprises eight main *modules* and two bridge modules. The main modules are **Treasury** (for processing all receipt and payment transactions), **Accounts** (for pay bills and other bills), **Accountant – PBS** (for pension, bank reconciliation and schedules), **Sub-Accounts** (for sub accounts branch), **Point of Sale** (for counter operations), **Postman** (for delivery branch), **MO Compilation** (for compilation of money orders issued/paid) and **Speed Net** (for speed post booking and delivery). The bridge modules are **SB Cash** (provides interlink between Sanchaya Post² and Meghdoot) and **General Cash** (provides interlink between Point of Sale and Treasury).

1.4 Limitations of audit

PTC, Mysore did not provide the flow diagrams and details of *database* tables to Audit. As a result, Audit could not perform tests on live data in the post offices and work out the financial impact of the operational deficiencies observed by them. The package deficiencies were detected through test checks with dummy records. Although the deficiencies were observed in a few circles, these would be applicable to all the circles since the same version of the package was being used all over the country.

1.5 Scope of audit

Audit of the Meghdoot package was conducted during 2003-2004, covering its implementation and operations in 31 General Post Offices (GPOs)/Head Post Offices (HPOs) in 10 postal circles, namely, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttar Pradesh and Uttaranchal as detailed in **Annex-I**.

The objectives of audit were to:

- ↘ ascertain whether rules and regulations as per the codes and manuals had been incorporated in the package for its effective functioning;
- ↘ evaluate the effectiveness of general computer controls associated with the system; and

² Sanchaya Post – The software package which handles functions related to Savings Bank in post offices.

- ❏ ascertain how far the objectives set by DoP for the introduction of the package were achieved.

1.6 Audit findings

During the course of audit, a number of deficiencies were observed in the package. The important ones are discussed below under the broad categories of 'incomplete incorporation of Departmental rules in the system', 'threats to data integrity due to weak controls', 'non-utilisation of package facilities' and 'Information Technology (IT) security' related issues.

1.7 Incomplete incorporation of Departmental rules in the package

Departmental rules as they exist ensure effective internal controls to manage risks. A software package should either replicate all the relevant checks in the system or automate them. If these rules/checks are not incorporated in the package, risks such as improper monitoring, over-payments, frauds, etc. cannot be mitigated. This will not only entail manual interventions, but will also defeat the objectives of providing an error free and more responsive environment, together with the easy flow of work.

Audit found a number of instances in various modules where departmental rules had not been incorporated, as discussed below:

1.7.1 No provision for reversal of cancelled transactions – 'Treasury' module

The 'Treasury' module processes issue and receipt of cheques in the HPOs. In order to ensure that cancelled or dishonoured cheques are properly accounted for and that they are correctly depicted in the Head Office summary³, the package should have had a provision to reverse the original entries. However, the package did not have such a provision. As a result, the package-generated Head Office summary had to be corrected manually to avoid the depiction of inflated receipts and payments.

The Management accepted the audit observation.

1.7.2 Inadequate incorporation of Departmental rules for processing bills – 'Accountant' module

The 'Accountant' module processes pay bills, supplementary bills and other establishment bills. Sample checks by Audit revealed the following:

³ Head Office summary – account of receipts and payments of the HPO which also includes the details of transactions in the Treasurer's Cash Book.

- ↘ the package did not have a provision for deduction of recoveries from officials while processing supplementary bills and hence, these bills were being prepared manually with the attendant risks;
- ↘ the package permitted the drawal of a second festival advance, even where the first advance was outstanding, which was not permissible under the rules. It even allowed drawal of festival advance in excess of the permissible limits and to ineligible officials such as Group “B” gazetted officers. Thus, there was a risk of irregular payments; and
- ↘ the package did not calculate the minimum of General Provident Fund subscriptions required to be recovered from the officials as per the rules, leaving scope for under-recovery of the subscriptions.

The Management accepted the deficiencies pointed out by Audit.

1.7.3 No provision for exercising controls in respect of lapsed PLI policies – 'Point of Sale' module

DoP introduced Postal Life Insurance (PLI) as a welfare measure for its employees. In course of time, it extended the scheme to the employees of other Central Government departments, state governments, public sector undertakings, local bodies, banks, etc. Post office counters accept the premia in respect of these policies through the 'Point of Sale' module.

PLI rules stipulate that a policy for which premia are not paid for six months or more is to be treated as lapsed. Once the policy lapses, the insurer ceases to be covered by the policy for payment of the benefits. The Chief Postmaster General of a circle is the authority for revival of the policy. The outstanding premia amount can be accepted with prescribed revival fees, only after his approval.

Audit noticed that the package was accepting payments of premia in respect of policies, irrespective of whether they were live, lapsed or revived. This showed that it did not have controls in place for checking the acceptance of premia. The indiscriminate acceptance of premia entailed the risk of payment of benefits to ineligible insurers. The Computerised Postal Life Insurance (CLIP) package is not linked to the Meghdoot package.

The Management accepted the audit observation.

Recommendation

- ⇄ **In order to strengthen internal controls with regard to PLI functions, DoP should endeavour to link the database of its existing CLIP package⁴ with the Meghdoot package. This would also**

⁴ CLIP package - the software package that handles all functions related to PLI.

mitigate the attendant risks of payments to persons whose policies had lapsed.

1.7.4 Inadequate controls for monitoring cash balance limits – 'Sub-Accounts' module

The 'Sub-Accounts' module monitors holding of cash in the HPOs and sub-offices.

- ↘ The heads of circles prescribe maximum and minimum balances of cash to be held by HPOs and sub-offices. Any cash held in excess by a sub-office is to be remitted to its HPO. In case of shortage of cash balance, the sub-office has to recoup the same by requisitioning cash from its HPO. While scrutinising the daily accounts received from sub-offices, the HPO has to watch the excesses over the authorised balances and make notes in the 'Error Book' maintained for the purpose.

Sample checks showed that the package did not generate any error messages when the minimum and maximum cash limits were not adhered to. It also did not provide for maintenance of an 'Error Book' to record such errors.

- ↘ HPOs send cash required by sub-offices daily through sub-office cash bags. The amount of cash sent is noted in the transit accounts and cancelled when the sub-office acknowledges its receipt. The 'Sub-Accounts' module had no provision for automatic pairing of the cash-in-transit between the HPOs and their sub-offices, thereby requiring manual intervention.

The Management accepted the audit observations.

1.7.5 Inadequate incorporation of pension rules – 'Accountant-PBS' module

The 'Accountant-PBS' module processes the functions related to pension.

- ↘ Allotment of a unique PPO⁵ number to each pensioner is the most critical element to ensure that pension payments are made only to authorised pensioners. The package should, therefore, have a provision to ensure that it allots only unique PPO numbers to each pensioner. The package not only accepted different pension details for the same PPO number but also processed such pension cases without generating any error message. This entailed the risk of unauthorised drawal of pension.

⁵ PPO - Pension Payment Order.

- As per rules, a pensioner is permitted to commute a maximum of 40 per cent of his pension towards lump sum payment of commuted value. The pension is restored on completion of 15 years from the date of retirement or from the date of payment of the commuted amount, whichever is earlier. However, in case of death of a pensioner within 15 years, the commutation has no impact on the family pension. Audit observed that the package erroneously deducted the commuted amount from the family pension.
- Family pension is drawn at an enhanced rate for seven years from the date of death or until the pensioner has attained the age of 65/67 years, whichever is earlier. No checks had been incorporated in the module for drawal of family pension at enhanced rates. This could lead to payment of family pension at reduced rates to the family of the deceased.

The Management accepted the above audit observations.

While drawal of pension is fraught with risks of fraud, deficiencies with regard to family pension may impair beneficiary satisfaction. Since the functions related to pension are yet to be implemented, it is imperative that adequate controls with regard to PPO numbers and family pension are incorporated immediately.

The above deficiencies are illustrative and not exhaustive.

Recommendations

- ⇄ **DoP should review the package and incorporate the departmental rules/checks, wherever lacking. DoP should also involve their Internal Audit wing in this exercise.**
- ⇄ **Since the functions related to pension are yet to be implemented, it is imperative that adequate controls with regard to PPO numbers and family pension are first incorporated.**

1.8 Threats to data integrity due to weak controls

A package is effective only if the users have confidence in the data that it generates. Otherwise, they continue to rely on manual procedures or intervene manually to correct the package-generated data. In either case, the effectiveness of the package gets diluted through increased work load and proneness to errors.

The following instances suggest inadequate data integrity:

1.8.1 Discrepancies in opening and closing balances – 'Treasury' module

- ✎ The 'Treasury' module processes all receipt and payment transactions of a HPO. For the purpose of monitoring, it generates important control registers such as the Head Office summary and the Treasurer's Cash Book⁶. The closing balance of the Treasurer's Cash Book should agree with the total of the items shown under the closing balance of the Head Office summary as the cash balance held by the Treasurer⁷ at the close of the day should tally with that of the HPO.

The package-generated closing balances of the Treasurer's Cash Book and Head Office summaries did not tally. The individual transactions, when compared with the vouchers, were found to be correct but the totals generated by the package were wrong. The closing balances worked out by the package had to be corrected manually to generate the correct reports.

- ✎ The closing balance of the Head Office summary for each day should be carried forward as the opening balance for the next day. Audit observed that the opening balances of the Head Office summaries generated by the package were not correct, as the closing balances of the previous day were not carried forward correctly by the package. The Treasurers had to correct the opening balances manually to generate revised Head Office summaries.
- ✎ The corrections made to the package-generated totals in the above instances were not recorded in the module *log files*, leaving no audit trail.

The Management accepted the above deficiencies.

These shortcomings indicated that the package-generated data was not reliable.

Recommendation

- ⇕ **DoP should review the package to eliminate the areas where data integrity is not adequate with a view to obviating the need for manual intervention.**

⁶ Treasurer's Cash Book - a register maintained by the Treasurer, containing details of all receipts and payments, including stamps.

⁷ Treasurer - a clerk in the post office functioning as a cashier.

1.9 Non-utilisation of package facilities

1.9.1 Non-utilisation of pension and bank reconciliation functions – 'Accountant-PBS' module

The 'Accountant-PBS' module processes the functions related to pension and bank reconciliation.

- ↘ The HPOs and their sub-offices had not commenced implementation of facilities available in the module with regard to pension. As a result, preparation of pension bills, drawal of pension arrears, transfer of pension data to the treasury, receipt of data regarding payment from the treasury, transfer of pension to savings bank accounts, preparation of pension schedules, etc. had to be done manually with the attendant disadvantages.
- ↘ Bank reconciliation is an important activity in any HPO. The details of individual cheques drawn and remitted by each HPO have to be reconciled every month with the details in the bank scroll received from the bank. This process facilitates correct accounting of the cheques as each drawal/remittance is paired with the details of individual cheques available in the scrolls. The 'Accountant-PBS' module did not have any provision for entering details of individual cheques. It only had a provision for entering the data in the bank scroll, which was a consolidated statement.

The HPOs were not utilising the module for the purpose of bank reconciliation because of the above deficiency and the work was being done manually.

The Management accepted the above deficiencies.

1.9.2 Non-utilisation of the 'Treasury' module leading to non interlinking of modules

The Meghdoot package comprises eight main modules and two bridge modules. The data entered and processed through each module should be available to other modules in the package for processing and preparation of various statements/reports, closure of accounts as illustrated in **Annex – II**.

The 'Treasury' module, which was the hub of the package, was not implemented in any of the HPOs taken up for review by Audit in the Gujarat, Kerala, Madhya Pradesh, Punjab and Uttar Pradesh circles. In the Karnataka, Maharashtra, Orissa and Tamil Nadu circles, the implementation of the module was not complete.

Continuance of manual work compromises the objectives of computerisation such as reducing paper work, eliminating duplicate entry and providing a user-friendly and error-free work environment. Partial implementation of computerisation and simultaneous manual work expose the

system to greater risks since both manual and package-driven internal controls get weakened.

Recommendation

- ⇄ **DoP should immediately review the bottlenecks being faced in commencement of all the facilities of all the modules and remove them, so that the full potential of the package is utilised.**

1.10 Information Technology security issues

For a computerised system to work efficiently and effectively, it is imperative that the controls related to information technology security are effective and are followed scrupulously. Various deficiencies in the implementation of IT security related measures in respect of the Meghdoot package came to notice as discussed below :

1.10.1 Weak password controls

The Meghdoot package works in an RDBMS environment. A good password policy should provide for (a) automatic disconnection after a set number of *login* attempts; (b) display of last login time and date of the user with details of unsuccessful login attempts and (c) automatic terminal time out. The passwords used to gain access to the package and the system resources should not be easy to guess, should be changed regularly and should comprise a minimum of eight alphanumeric characters. Following deficiencies were noticed:

- ↘ the package accepted passwords of single character;
- ↘ the operators used passwords which were easy to guess;
- ↘ the passwords were not being changed frequently; and
- ↘ the post office staff were using the passwords of their supervisors for performing their functions.

Thus, the package lacked an effective password policy/procedure to ensure compliance of DoP's own instructions on *logical access* requirements. This left the computerised system open to unauthorised access with the attendant risks.

1.10.2 Ineffective segregation of duties

Proper segregation of duties ensures that officials are granted access to only their respective operational areas and they are not able to trespass upon other officials areas of operation, especially those of their supervisors, who exercise checks over their activities. In a *Local Area Network (LAN)* environment, responsibilities of the controls of assets/system procedures lie with the system administrator and the responsibility for maintenance of the database in a RDBMS lies with the database administrator. These two roles should be segregated.

No such segregation of duties was ensured. In many HPOs, a postal assistant performed the role of both the system and *database administrator* along with performing supervisory functions. This arrangement gave scope for unauthorised changes to the data, making the integrity of the database suspect, leaving room for manipulations.

1.10.3 Disaster recovery and contingency plan for business continuity

DoP is dependant on the package for the smooth running of HPOs and sub-offices. In cases of human error, failure on account of electric and magnetic fluctuations, natural calamities or crashing of the computerised system, the activities of HPOs and the sub-offices can get severely disrupted. Audit observed that DoP did not have a proper disaster recovery and contingency plan for business continuity. Although DoP had issued some instructions in this regard, these were not available in all HPOs. It was also observed that some of the HPOs were not following DoP's orders for taking regular backup of data, which is a basic precaution.

The Management accepted the audit observation.

Recommendations

- ⇄ **DoP should review the implementation of IT security related controls to eliminate risks of manipulation and loss of data. DoP should also prepare a detailed disaster recovery and contingency plan for business continuity and conduct mock trials of the instructions contained therein to check their workability and effectiveness.**
- ⇄ **DoP may consider software certification through third party.**

1.11 Conclusion

The efforts made by DoP to develop the Meghdoot Package for computerising all the activities in post offices are steps in the right direction. However, the package has not stabilised even after five years due to incomplete incorporation of Departmental rules and inadequate data integrity. Many facilities in different modules of the package have not yet been implemented. IT security related control measures in place are not adequate. As a result, reliance on manual work continues, which is a setback to the objectives set by DoP for introduction of the package such as reducing paper work, eliminating duplicate entry and providing a user-friendly and error-free work environment. There is need for DoP to take urgent remedial measures.

The matter was referred to the Ministry in October 2004; their reply was awaited as of February 2005.