

LABOUR DEPARTMENT

3.6 COMPUTERISATION OF EMPLOYMENT EXCHANGES IN WEST BENGAL

HIGHLIGHTS

The Directorate of Employment, West Bengal, through its network of Employment Exchanges, caters to the activities like registration of job seekers, renewal of registration and submission of list of eligible candidates to employers. Computerisation of 40 employment exchanges in the state was taken up along with network connectivity and the work was entrusted to the ET & TDC on turn-key basis. However, even after spending Rs 6.52 crore, the computerised system installed in the employment exchanges have been lying inoperative for last 30 to 46 months owing to a default timer based lock implanted by the vendor, non-completion of creation of data base, non-installation of software due to abandonment of work by the vendor, largely frustrating the basic objective of the scheme. The application software also lacked in data processing and data manipulation controls. Absence of data disaster recovery strategy led to substantial data loss.

The application software was incomplete and lacked in data processing and data manipulation controls. Crucial activities like generation of seniority list and matching eligible candidates with available jobs is still done manually.

(Paragraph 3.6.7)

Computerisation could not be completed due to non-payment of annual maintenance charges by the government and consequent stoppage of support work by the vendor. The volume of backlog data yet to be entered was as high as 78 to 87 per cent.

(Paragraph 3.6.5)

Tender formalities as required under the West Bengal Financial Rules were not observed and extra expenditure of Rs 29.75 lakh was incurred on supply of computer hardware and software.

(Paragraph 3.6.8)

Software and hardware valuing Rs 32.42 lakh could not be put to use and expenditure of Rs 44.69 lakh on network connectivity remained idle.

(Paragraph 3.6.9)

Operation in eighteen exchanges could not be restored for lack of documentation.

(Paragraph 3.6.10)

Owing to the absence of data disaster recovery strategy, the system experienced major setbacks.

(Paragraph 3.6.11)

Abbreviations used in this Review have been listed in the Glossary (page 215)

Introduction

3.6.1 Employment Services are rendered in West Bengal through various regular employment exchanges including one Professional & Executive Employment Exchange, one Special Employment Exchange for physically handicapped and two Project Employment Exchanges under the Directorate of Employment, West Bengal.

The activities of the Employment Exchanges were

- Registration and renewal of job seekers and renewal of registration
- Updating the information on job seekers, their selection and submission of list of candidates for employment,
- Providing vocational guidance, employment assistance, self-employment, etc. and
- Providing data regarding the quantum of employment generated in the State to the National Planning Commission and other agencies.

Computerisation of employment exchanges

3.6.2 During the Eighth Five Year Plan period, GOI introduced a centrally sponsored scheme for computerisation of employment exchanges in phased manner with the following objectives :

- provide better service in terms of accuracy and speed,
- to maintain a database of unemployed persons and process the data to select and forward eligible candidates to the prospective employers,
- to have a database of registered candidates, the educational institutions and vocational training facilities available in West Bengal.

Under this scheme four employment exchanges in West Bengal were selected (1988) and the National Informatics Centre (NIC) was to develop the application software. Hardware, software and implementation support for the employment exchanges were to be provided by the GOI whereas the State Government was to provide manpower and infrastructure. In the second phase of computerisation, the Electronic Trade & Technologies Development Corporation Limited (ET&TDC) was entrusted (1998) with the computerisation of 40 employment exchanges by the State Government, including three employment exchanges selected but not covered in the first phase, on turn-key basis.

Initially a system with application software in COBOL was in use. Subsequently the System switched over to SCO-Unix operating system with Oracle as Relational Data Base Management System (RDBMS). The various modules in the new software are Master File Maintenance, Registration, Renewal, Transfer, Re-registration, Vacancy, Submission, Updation, Reports, Queries, Employment Statistics (Exchange level and Directorate level), Unemployment Assistance and Self Employment Scheme.

It was observed that even though the initiative to computerise the employment exchanges started as early as in 1988 and an expenditure of Rs 6.52 crore was incurred by the State Government as of August 2005, the process of computerisation had not yet been completed. The IT system was operational only in one out of 41 exchanges¹ selected for computerisation.

Scope of Audit

3.6.3 The IT audit conducted in June 2004 and March 2005 covered the IT environment in the Directorate of Employment Exchange, Regional Employment Exchange (REE) Kolkata, three² SREEs and five³ District Employment Exchanges (DEE) where computerisation efforts were initiated.

Out of the nine Employment Exchanges selected for test audit, REE, Salt Lake, Kolkata was the only Employment Exchange running under technical support of NIC, whereas in the remaining eight Employment Exchanges the software was developed by ET&TDC.

Audit objective and methodology

3.6.4 The IT Audit of computerisation of employment exchanges was taken up with the following objectives.

- Whether prudent financial control was exercised in incurring expenditure on IT assets
- Whether the acquired infrastructure was utilised efficiently and effectively
- Whether the application software was designed to cover all the aspects that were envisaged when the computerisation programme was launched
- Whether the system encompassed IT control aspects
- Whether the overall implementation of the computerisation programme was satisfactory

The methodology of audit included scrutiny of relevant files, issue of audit queries, discussion with the auditee and on-line checking of the system at the test-checked employment exchanges.

Audit observations

Progress of computerisation

3.6.5 A complete picture of the status of computerisation of 41 employment exchanges is given in **Appendix 3.5**.

It would be seen that only one centre (running with NIC software) was using the computerised system to maintain the database on unemployed persons;

¹ Including REE, Kolkata where computerisation had been done in 1988 by NIC

² Asansol, Durgapur, Howrah

³ Dum Dum, Krishna nagar, Kalyani, Bongaon, Bardhaman

while all other exchanges continued with the manual system. This was despite the fact that Rs 6.52 crore had been spent on acquiring hardwares, creating software, data entry work, etc.

In case of 18 exchanges, on-line operation was started but stopped due to user password locking, whereas in 12 other exchanges, creation of data base was not completed due to abandonment of the work by the vendor. In a few cases, though hardware were installed, software were yet to be installed, whereas in some other, even the hardwares have not been set up for various problems.

As the software developed was an on-line system the backlog data available in Live Register was to be entered into the system before commencing on-line registration. It was observed that delay in installation of hardware and software contributed to delay in backlog data entry and on-line operation. As a result the benefits of computerisation of employment exchanges were largely unrealised till now as indicated below:

In twelve Employment Exchanges the on-line system had not yet been introduced though the hardware and software installation had been completed. Out of the twenty Employment Exchanges, which were made online, eighteen were made operational after a time lag of between 12 and 35 months.

Non-renewal of AMC resulted in suspension of work by the vendor midway

The annual maintenance contract (AMC) for the installed computer system was executed for the year 1999-2000 with ET & TDC at a cost of Rs 7.11 lakh. The directorate continued to get the maintenance work done by the vendor upto June 2001, pending approval of the department. The proposal of the Directorate for AMC with ET & TDC for the years 2000-2001 and 2001-2002, however, was not approved by the department owing to advice of Finance Department for carrying on the maintenance work on call-to-call basis. A claim for Rs 71.28 lakh was made by the vendor against services rendered upto June 2001, which was not paid. ET & TDC left the work incomplete without handing over the software packages. Between December 2001 and April 2003, on-line operation stopped in the exchanges one after the other due to a default timer based lock implanted by the vendor.

The directorate accepted (March 2005) the fact that, owing to non-availability of Source code of the application software the system could not be made operational, even though prominent vendors had been contacted.

The department also attributed (August 2005) such stoppage of computerisation to non-renewal of AMC by the government and consequent stoppage of support work by ET&TDC. The department claimed that the software problem in DEE, Uluberia has already been sorted out; however, it has been ascertained that on-line operation has not yet been resumed in that exchange.

Delay in backlog data entry

Though backlog data entry was required to be completed for on-line connectivity, except for one exchange, the same had not been completed in any of the exchanges. Scrutiny further disclosed that 78 to 87 per cent of

backlog data were yet to be entered in four employment exchanges⁴. In two exchanges⁵, the backlog data entry had not even been started though hardware and software installation was completed as early as 1998.

Design and functional deficiencies in the system

Non-development of unique code for employment exchanges

3.6.6 It was noticed during audit that no unique code had been designed for the employment exchanges. Separate sets of codes for each menu of different sub-modules maintained by each exchange would lead to problems during on-line data transfer among exchanges frustrating the primary objective of the second phase of computerisation.

The system also had no provision for data entry in respect of vocational training facilities.

3.6.7 Analysis of the application software installed in REE, Kolkata (developed by NIC) and DEE, Bardhaman (developed by ET & TDC) in audit to evaluate the reliability of the data and efficiency of data processing functions for extraction of requisite information, revealed the following:

- * The query module did not facilitate generation of exclusive list of valid live candidates as it included the cancelled and transferred registrations also.
- * The fields “date of birth”, “seniority date”, “qualification details” were not subject to any supervisory control checked with regard to editing of existing records and could be modified by human intervention. The directorate stated (March 2005) that the fields were operated only by supervisory password to control the unwanted intrusion in the fields. Test check of the system, however, revealed that no such practice was in vogue. This was also confirmed by the Employment Officer, REE, Kolkata.
- * Due to non-functioning of the preliminary submission sub-module under submission module (meant for submission of candidates to prospective employers), the system could not generate the list of candidates for submission. Moreover, the module had no provision for segregation of the candidates who had already received call letters or offers from the general live register as was required under the rules. As a result these activities were still being done manually and were not free from potential human error and discretion.
- * The minimum mandatory age for registration of a candidate in the employment exchange was 14 years. Due to lack of inbuilt validation check, the system accepted invalid dates of birth vis-a-vis registration dates in the “Registration” module.

⁴ DEE, Chanchal, DEE, Ghatal, DEE, Purulia and DEE, S. Kolkata

⁵ SREE, Darjeeling and DEE, Raigunj

- * The submission module was not designed to consider more than a single qualification when needed and extracted records using the ‘or’ mode without considering the ‘and’ mode. For example, when the requirement of Higher Secondary (HS) passed ITI fitter candidate was fed into the system, the module supplied list of persons having qualifications of either ITI fitter or HS pass.
- * Query module did not provide for page-wise print out for queries executed.
- * There was no provision for registration of ‘Ex-servicemen’ and ‘P&E’ (Professional and Executive) separately in the system.

The Employment Officer, REE, Kolkata accepted the audit points.

Purchase and Installation of Hardware and Software

3.6.8 During audit a number of irregularities and deficiencies were noticed in connection with the purchase and installation of hardware and software.

Non-observance of tender formalities and avoidable expenditure of Rs 29.75 lakh

In violation of Rule 47 of the West Bengal Financial Rules, Volume I, directorate did not follow tender formalities while entrusting the computerisation of employment exchanges to ET&TDC (August 1998); no formal agreement was executed either. This resulted in acceptance of varying rates for the supply of computer hardware and software leading to extra expenditure amounting to Rs 29.75 lakh⁶ on five items on the basis of the lowest price.

Directorate of Employment stated (March 2005) that the rate offered by ET&TDC was lower as compared to another quotation received and variations were mainly due to change of market price of the items which were ordered at different times for different exchanges. The reply was not acceptable as open tender would have resulted in larger number of offers and availability of more competitive rates for bulk purchase. There was no justification for not complying with the time tested provisions of the financial rules.

Idle expenditure of Rs 77.11 lakh

3.6.9 Further, in two exchanges, the software procured at a cost of Rs 11.90 lakh could not be installed as the vendor left the job midway; while in three exchanges hardware worth Rs 20.52 lakh could not be installed due to electrical or administrative problems. Moreover, investment of Rs 44.69 lakh on setting up connectivity also remained idle as no connectivity could be established till date.

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Item	Quantity	Cost as per lowest rate	Actual cost	Difference
(Rupees in lakh)				
SERVER	36	104.04	105.78	1.74
SCOUNIX	36	24.30	27.81	3.51
ORACLE	36	128.02	150.59	22.57
License SCO	36	9.54	10.69	1.15
SCO DEV	36	14.40	15.18	0.78
Total				29.75

Absence of documentation

No URS, SRS or User Manual were prepared

3.6.10 Proper documentation protects the interests of the users in case of any future necessity. It was, however, noticed that the directorate did not possess any documentation relating to the system. User Requirement Specifications (URS) and System Requirement Specification (SRS) in respect of the second phase of computerisation were not made available to audit. Moreover, no User Manual had been prepared; when the on-line operation stopped functioning in eighteen employment exchanges, it could not be made functional in the absence of proper system documentation.

Lack of security for IT assets

Non-existence of data disaster recovery strategy

3.6.11 A comprehensive IT security policy was required to reduce to an acceptable level the risk of breach of the confidentiality, integrity or availability of information or the data handled. However, audit observed that the directorate framed no such policy clearly spelling out the recovery strategy in case of loss of data/system following any disaster. Due to absence of any data disaster recovery strategy, the system experienced major setbacks. Ninety five *per cent* and 18 *per cent* of the backlog data, which were fed into the computers in SREE, Durgapur, and DEE, Khatra respectively, were lost. The back up data could not be retrieved as the drive in which the data of SREE, Durgapur were stored proved to be defective and back up of the data entered in DEE, Khatra was not maintained. This indicated that due care was not taken for storing and periodical checking of back up data.

The Additional Director accepted (March 2005) the fact in respect of DEE Khatra. In respect of SREE Durgapur it was stated that back up was properly stored in data cartridge. However, no such data cartridge was made available to audit for examination.

Audit also noticed that the entire package was susceptible to viruses, etc. as no effective anti-virus measures had been taken.

Conclusion

3.6.12 The government of West Bengal had not been able to fully computerise the targeted employment exchanges in the state although a period of seventeen years had elapsed since the initiation of computerisation programme. The State Government could not ensure optimum utilisation of the hardware and software facilities provided by the Government of India. Moreover, even at the places covered by computerisation work, the systems were not fully operative. As a result manual interventions were done at crucial stages like generation of seniority list and matching of candidates with available jobs. Thus, human error and discretion had not been completely eliminated from the functioning of the automated system. The Disaster Recovery Planning was poor which led to loss of substantial data. Thus, the basic objective of providing quick and quality services to employment seekers and employers remained unfulfilled rendering the Government investment of Rs 6.52 crore during 1997-2005 unfruitful.

Recommendations

- * *Steps may be taken to get the on-line operation re-started by overcoming the situation caused by the timer based lock implanted by the vendor. Backlog data entry work may also be taken up in time bound manner.*
- * *The works of installation of hardware and software in all the targeted employment exchanges should be completed immediately.*
- * *Adequate care should be taken in specifying the terms and conditions especially about handing over of source code and other documentation before entering into a contract with outsourcing agencies in future.*
- * *Available workforce should be trained up adequately for smooth running of the day-to-day work.*
- * *The design and functional deficiencies in the system may be rectified.*
- * *An adequate data disaster recovery strategy may be developed and implemented strictly.*
- * *In order to ensure smooth functioning of the system, a proper maintenance policy should be adopted and implemented by the Government with due consideration of the data security aspect.*