

2.3 IMPLEMENTATION OF INFORMATION TECHNOLOGY IN E-GOVERNANCE INITIATIVE IN WEST BENGAL INDUSTRIAL DEVELOPMENT CORPORATION LIMITED

Highlights

Even after the lapse of 40 months and investing Rs 1.52 crore in the information technology (IT), organisational objectives were not achieved due to lack of IT plan, IT policy, IT strategy, IT security policy and various control procedures.

(Paragraphs 2.3.5, 2.3.6, 2.3.7, 2.3.8 & 2.3.9)

After the lapse of over 40 months and expenditure of Rs 83 lakh, development of Loan Accounting System Software (LASS) had not yet been completed and its functioning was deficient.

(Paragraphs 2.3.5 & 2.3.7)

Critical milestones at different stages of the project lifecycle were not set up. Objectives in establishing and maintaining a website costing Rs 32 lakh were not accomplished due to faulty design of the website.

(Paragraphs 2.3.5 & 2.3.6)

Introduction

2.3.1 West Bengal Industrial Development Corporation Limited (Company), the premier Investment Promotional Agency in the state of West Bengal was incorporated in 1967 with the main objective to secure and assist in an expeditious and orderly establishment, growth and development of industries in the State.

The activities of the Company are two fold: (i) Financing activities - to provide financial assistance in the form of attractive packages to investors for setting up new medium and large-scale industries and also for expansion, diversification and modernisation of existing units, and (ii) Promotional activities – to attract new investors by sharing industry related information with all concerned.

2.3.2 The Board of Directors headed by the Chairman manages the Company. The Managing Director is the Chief Executive and is assisted by the Executive Director (Finance) and the Executive Director (Promotion). There is no separate IT Department; the ED (Promotion) is in the charge of IT activities.

Objectives of computerisation

2.3.3 The Company, started computerisation in 1992-93 with an initial investment of Rs 5.95 lakh. To facilitate e-governance, it took up (August 2000) the computerisation of Shilpa Bandhu¹ workflow application, Financial Accounting and Loan Accounting at an estimated cost of Rs 1.07 crore. The total IT investment stood at Rs 1.52 crore as on 31 March 2004.

While Shilpa Bandhu workflow application was developed in Lotus Notes², Financial Accounting was developed using DB2³ and Loan Accounting System Software (LASS), which is web-based, was also developed with DB2 as its relational database, with the following objectives :-

- E-governance project aimed at SMART (Simple, Moral, Accountable, Responsive & Transparent) governance, facilitating transparent interface with the customers and sharing industry-related information with all concerned.
- Computerisation of Shilpa Bandhu work flow application, Financial Accounting and Loan Accounting, as a part of the e-governance project aimed at user-friendly access to clients, increased transparency, accountability and efficiency, faster data retrieval and decision making, efficient MIS and setting a benchmark in the State Government for IT enabled management.
- Boosting the confidence of the public and prospective clients, which was likely to impact the investment scenario in West Bengal, through Client Interaction System (CIS).

Scope and methodology of audit

2.3.4 The present and first IT audit of the Company, conducted during April to June 2004, covers and encompasses the analysis of the IT environment under e-governance project for computerisation which includes Shilpa Bandhu work flow application (renamed as Client Interaction System), Financial Accounting and Loan Accounting System Software (LASS). Since there was no separate IT department in the Company, audit was conducted mainly using the internal control questionnaire (ICQ). Further, Audit requested the Company to generate specific reports based on certain audit criteria.

¹ A single-window agency to assist entrepreneurs set-up by the State Government in 1984 and revamped in 1994, renamed as State Investment Facilitation Centre (SIFC)

² A **proprietary**, **client-server collaborative software** and **email** system owned by **Lotus Software**.

³A Relational Database Management System, developed by IBM

Audit findings

Audit findings are discussed in the succeeding paragraphs.

Acquisition and implementation of the e-governance initiative

Time over-run and non-completion of software development

2.3.5 The Company sanctioned (August 2000) the development of e-governance project at a cost of Rs 1.07 crore in three phases. Webel Informatics Limited (WIL), a State Government company, was initially selected (October 2000) as a consultant. Subsequently, a new company called Webel Technology Limited (WTL) was formed (February 2001) to deliver the complete range of IT services of WIL. WTL in turn selected Web Development Company (WDC), a private sector company, to develop the entire application software without specifying any time for completion. Incidentally, WDC had taken a loan of rupees two crore from the Company in six instalments from September 2001 to September 2002. The Company started placing orders on WTL from 20 October 2000 without specifying technical details, date of commencement, period of completion, supply of documents etc. Even after a lapse of over 40 months (December 2001-March 2005) and incurring of an expenditure of Rs 83 lakh, the development and successful implementation of the most crucial component *i.e.* LASS, had not been completed (March 2005).

After a lapse of 40 months and expenditure of Rs 83 lakh even LASS had not been developed.

Critical milestones at different stages of the project lifecycle were not set up.

The Company has no IT department to oversee a project of this magnitude. It was seen in audit that the e-governance project suffered from ineffective control procedures. Assessment of cost, schedule and performance lacked proper co-ordination. Moreover, critical milestones at different stages of the project lifecycle were not set up and the project became open ended.

Faulty design of the website

2.3.6 The Client Interaction System (CIS) was developed by WDC (March/April 2001) at a total cost of Rs 13.95 lakh. Due to persistent problems the Company undertook (February 2002) an exercise for re-construction of the website and selected (March 2002) Nicco Internet Ventures Limited (NIVL) for the work at a cost of Rs 1.34 lakh. The scope of the work included interfacing of CIS with the re-constructed website under “Contact Us” option. It was not clear why the corrections were not got carried over from the original firm (WDC) at no cost to the Company.

A review of the website revealed the presence of CIS under “Contact Us” option with the message “You plug in to SIFC from here...” {Shilpa Bandhu renamed as State Investment Facilitation Centre (SIFC)}. The option “Click here to submit application”, however, leads nowhere and displayed “Page cannot be displayed” message.

Website having been developed at a cost of Rs 32 lakh, the application was not operational due to faulty design.

Though the website provides for contacting the Company under “About SIFC” the option, audit scrutiny revealed that any information submitted therein goes to the e-mail id- wbidc@vsnl.com being operated by the Company on Outlook Express. Interestingly, the query on “feasible projects (rupees one crore to Rs 1.25 crore)” by Audit found its way to the ‘Deleted Items folder’. Even the re-designed website does not interface with the CIS and hence is not being used in the Company.

Thus, even after spending Rs 32 lakh (Rs 13 lakh on the development and Rs 19 lakh on the maintenance of the website) the project was still not able to qualify as a true e-governance initiative whereby applications could be submitted online.

Improper functioning of the Loan Accounting Software System

2.3.7 Loan Accounting System Software (LASS) is a web-based software. Since a large part of the revenue being the interest on the loan is earned through the operation of LASS, it is critical to credit and risk management. Any malfunctioning of the system may lead to under or over payment and has financial implications.

Audit scrutiny revealed that a structured methodology was not followed for the development of the applications. Procedures like User Requirement Specification, User Sign-off specifications, testing and post-implementation review were not adopted. Parallel run continued for 40 months due to the complexity of loan accounting and failure to design the software comprehensively and properly. There was a lack of documentation of the dataflow diagrams of various applications, program source code, control instructions and job specifications making future modifications, maintenance and troubleshooting very difficult.

Though LASS was completed in December 2001, Audit scrutiny revealed many defects in the system, as detailed below :

LASS was deficient due to data inconsistencies, generation of defective and misleading figures, failure to meet user requirements etc.

- ✘ Data inconsistencies were noticed due to fluctuating principal, calculation errors in “interest calculator”, erroneous voucher generation, malfunctioning of “One Time Settlement (OTS) module”, non-provision of “modify sanction module”.
- ✘ Moreover, interest calculator module used at the time of payment by the loanee generated defective and misleading figures.
- ✘ Business logic was poorly defined as some essential requirements such as re-phasing of loan account; simple interest calculator, interest advisor *etc.* were not included.
- ✘ The software failed to meet the user requirements, since design of the software was deficient. Thus, a facility for the re-phasing of loan repayment was ignored at the design stage. This resulted in denial of the option to the loanee, till such time full amount of the loan was disbursed. Further, as the repayment schedule for the entire term of the original phase

of a loan is prepared by the software, the provision 'Latest Position Box' in respect of a terminated loan showed some incorrect balances as outstanding as per the repayment schedule. Though individual errors in the re-phasing module were reportedly rectified, the software could not be considered reliable.

- The Company was duplicating work due to reconciliation of the output, with manual records. This shows that the Company was not relying on the data generated by the system.
- No MIS reports were generated, though included in the original scope of the work. The same was transferred to the maintenance stage which lacked justification.

Since LASS was yet to stabilise, its linkage to the Financial Accounting package suffered, thereby causing duplication of work. Thus, rupees seven lakh paid to the vendor of the software proved unfruitful.

WDC intimated (May 2004) that "bugs and problems" might crop up in the initial phases in such a large and complex system. This contention regarding is not tenable, as the problems persisted for a long period of 40 months, thus affecting data integrity and reliability of the software. This was also substantiated by the senior officials of the Company who felt the need to engage a vendor of proven track record in banking solutions to put in place a user friendly LASS that can conform to the industry norms and guidelines (August 2004). Further developments are awaited (September 2005).

Security of IT Assets including data

2.3.8 Users' access privileges/ rights were neither restricted nor documented. No logical access policy had been formulated. Presently, the annual maintenance contract (AMC) vendor controls the issue of passwords. Apart from three laptops, there are 32 internet connected workstations and internet facility is available round the clock through leased lines (64 kilobytes per second) from Videsh Sanchar Nigam Limited (VSNL). Users' access to the Internet was neither restricted nor monitored making the system susceptible to viruses and misuse. The log features of installed NT system log, DB2 etc. were not being used. Though IBM Firewall and Tivoli Netview were installed but an instance of Firewall crashing was noticed. One of the essential features of the IT environment is security of IT assets against fire and theft, which subsumes insurance. The Company did not insure its IT assets valuing Rs 1.47 crore but insured the computers costing rupees five lakh only

Deficient Change Management Control

2.3.9 The LASS system required amendments from time to time to accommodate changes in the business rules/ orders and to make improvements in the existing version. There were, however, different versions of the software and no master copy of the same was maintained to ensure that the amendments to the software were authorised, tested and accepted. The various components of the program, program/data flow chart and system/ user

requirement specification were not documented to identify and reduce the errors *vis-à-vis* early completion of the software development while there were frequent changes in the software development personnel.

Conclusion

The organisational objectives could not be achieved despite investing Rs 1.52 crore in IT and even after a period of 40 months due to lack of a structured IT strategy and organisational oversight. The e-governance initiative did not fulfill important functionalities like submission of online application. The system suffered from lack of controls in the IT environment coupled with lack of IT security. Moreover, the Company could not rely on the data generated by the system leading to duplication of work by reconciling the system generated output with the manual output.

Recommendations

- ⇄ It is strongly recommended that the management frames and documents its IT strategy, IT policy and IT security policy after due approval. Organisational structuring with clearly identified roles and responsibilities of the IT personnel needs to be done.
- ⇄ A structured methodology must be adopted while developing any future applications.
- ⇄ The Company should try to obtain from the AMC vendor who maintains the web and the systems, all documentation like User Manual, Program Manual *etc.*
- ⇄ Proper procedures may be evolved to regulate access to the applications, with segregation of duties among staff. Adequate controls are needed for physical and logical access to the data and the systems. Further, the present practice of unrestricted and undocumented users' access privileges/ rights must be discontinued and data entry should be done only by the authorised personnel.
- ⇄ Business continuity planning controls like back up of data and programs, back up frequency, back up location (offsite) and log book of media movements, with appropriate documentation must be introduced.
- ⇄ The deficiencies in the LASS application such as data inconsistencies, wrong interest calculations *etc.* must be rectified.
- ⇄ The facility of online submission of application must be provided after putting the controls in place to ensure true e-governance.

The matter was reported to the Government/ Management (September 2004), their replies had not been received so far (September 2005).