

Problem Domain

2.1 Introduction

The previous chapter discussed the background introduction of the organization and the neediness of a software system to handle tax-information received to the department which led the proposed system. The available software systems in the department and the background of requirement to a new software system will be described here.

2.2 Introduction to the available software system of IRD

The computer system called IRD and the network which developed on the database is the main component of the department. Annual returns, payment and refund details, history of the tax payer on corporate tax, value Added tax, Economic Service Charge, Payee tax and Social Responsibility Levy are stored in the current database except personal tax, processes on tax collection and audits. The system supports to search and store data to users.



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The existing IRD system uses Unix 5 operating system with servers of RS 6000 IBM x-70 AIX version. The reason for use UNIX is it provides more security. The system has two machines one of this is used for production system (IRD 1) and the other is used for development system (IRD 2). These two machines are linked by HACMP (high available cluster management program). The system has Informix 4 GL GUI based program and SQL database.

IRD has a Local Area Network (LAN) which is a network that is confined to a relatively small area. It is generally limited to the IRD building. In a typical LAN configuration, one computer is designated as the file server. It stores all of the software that controls the network, as well as the software that can be shared by the computers or terminals attached to the network. The network is connected to the system by RJ 45 cable and the server in each floor is connected with the terminals by twisted codes.



2.3 Background information to the proposed *IPS-IRD* system

On unsupported system for tax-information process according to the available system description on above, the need of a new system identified as proposed project.

So as the scope of this project highlighted in chapter 01 (Introduction), the existing process of handling tax-information can be described on following categories.

1. Collection
2. Keep records
3. Distribution
4. Feedback the Output of information
5. Progress

2.3.1 Tax-information collection

There are two ways of sources identified as tax-information collectible to the Department.

- **Internal sources**

1. Undeclared taxable income as per self assessed tax returns of registered tax payers or institutes.
2. Tax/ Sales invoices which produced indirectly by registered person for any tax purpose to the department.
3. Any desk audit/ field audit.

- **External sources**

1. Formal Transactions
 - Bank deposits
 - Land transactions
 - Import & Export figures from Custom Department
 - Registrations from RMV, Company registrar, Associations etc
 - Annual payments from Provincial councils, Insurance Corporations etc
2. Informal Transactions
 - Informal cash deposits
 - Informal money lending
 - Informal buying and selling

- High value transactions
- Other hidden activities like Smuggling / Prostitution

3. Personal Information

- Information given by the citizens who knew about internal activities and shady dealings of tax payers.

2.3.1.1 Internal tax-information

Internal tax-information should be originated on auditing processes of registered tax files on their self assessed tax returns using the checking variables such as profit ratios, trade mark-ups, comparative interest rates etc. It should be identified by the Assessor to whom the file has been allocated in the branch file allocation and he must check the database as to whether the source is relevant to any registered tax payer the said Assessor must send the tax-information by a hard document to the relevant Assessor. If it does not relate to any registered file, it must be sent to the Information Branch.

2.3.1.2 External tax-information

External tax-information is collected by the Information Branch directly by post. The staff in this branch should attend to that information and must check the database according to the process stated in last paragraph. If it is relevant to an existing file, it must be sent to the relevant branch as a hard document. If not, it can be identified as new information. So, then it should be sent to an Assessor in the Information Branch to ascertain whether the tax-information is true. He must call the details from the source, and on receiving reply he must analyze them and decide to call the relevant person for an interview. According to the interview the said Assessor can decide whether a tax file should be opened or if not, he can send the documents along with a minute to open a file as per the category to the relevant branch. The receiver must fill the specimen form of file opening and must send it to the computer division to issue a TIN (Tax payer Identification Number). If the file is opened for a company, it should be entered to the existing IRD database also.

2.3.2 Keep Records of tax-information Collected

Internal tax-information identified by an officer (Assessor) must be sent to the relevant file by a singed formatted paper. Then the receiver must attach this paper to the relevant manual file.

External tax-information, except custom details, directly collected by the Information Branch must be recorded in the registry books in the branch. But the custom data is collected by the Computer Division and they enter the data to the existing IRD system.

2.3.3 Distribution of tax-information

All tax-information are distributed by formatted paper by hand through the Senior tax officer (Admin) of tax branches and then it must be registered in the book of information registry in these branches and then the Senior tax officer (Admin) of the receiving branch must pass it to the relevant Assessor in the branch under the supervision of Deputy Commissioner. (Information related to any registered file can only be distributed under this procedure.) Any tax-information which is not related to a registered file must always be sent to the Information Branch.

2.3.4 Feed back the output of tax-information

The Deputy Commissioner must pay his attention on the tax-information received to the officers in the branch. But there is no properly stated procedure to report the output of the activities done on received tax-information.

2.3.5 Progress

There is no proper way to get progress report on new information received from any tax branch to the Information Branch.

The *figure 2.1* shows the information handling flow in the department.

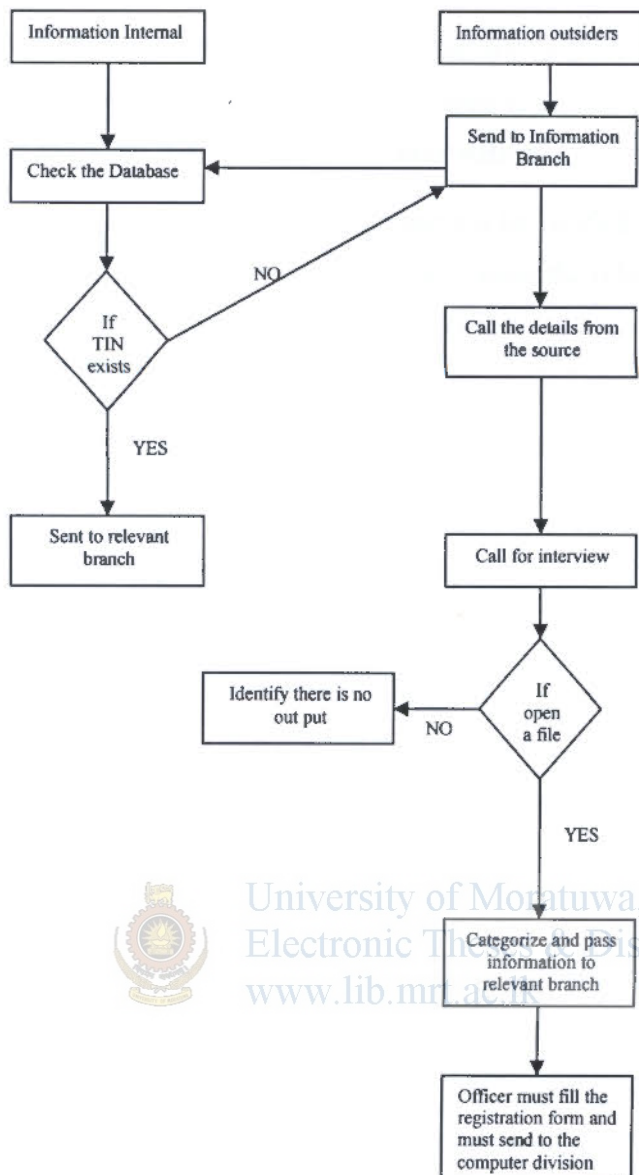


Figure 2.1 : Existing work flow of tax- information processing.

2.4 Problems & weaknesses of the existing process

According to the background information mentioned above, problems and weaknesses in the existing manual process were identified as follows.

1. In the process of maintaining records of collected tax-information, information can be missed or destroyed because all records are entered manually in books.
2. Allocation of files can not be identified in relation to specific Assessors. Therefore we can't identify the officer in-charge of information to be sent directly.

3. All the information is distributed to the relevant branches by hand by using of opened hard document. It takes more time to deliver tax-information to the end user and there is no secrecy of the information.
4. The output of the tax-information can not be verified in a better way. Because, there is no process to know feed back whether the relevant officer has taken any action on the received tax-information or not.
5. There is no better way to check progress of all tax-information received, especially regarding internal information which is distributed within tax branches.

Because of those problems and weaknesses identified, the automation of tax-information system must be with high efficiency, quality and productivity.

However the scope of the project is limited to communication between Information branch and corporate tax branches in the department because the proposed IPS-IRD network does not cover personal tax branches or any other special tax branch at initial stage.

2.5 Available systems similar to proposed IPS-IRD system

A literary survey on the similar approaches to tax-information processing system, failed to find projects similar to proposed IPS-IRD system. Many systems were implemented to collect tax-information received from outsiders as PDF documents [1] and e-filing return systems [2]. There was no LAN network to distribute tax-information within the Department. As such, any comparison was not done with other projects.

2.6 Summery

This chapter described the problem domain and the existing system of tax-information handling process. Problems and weaknesses of the system were also discussed in this chapter.

The next chapter will discuss the technologies and methodologies that can be adapted to such a project.