

CHAPTER - 3

METHODOLOGY

Sri Lanka Railway is currently facing the problem of extensive delays in procuring the required spare parts and other materials. The few general reasons that have been identified and that are being discussed in regular and high level meetings have been given in section 1.1.2 of this report. Table 1.3 shows how this problem has affected the train service. It is generally said that the procurement process of railways has not been geared in catering to the requirements of the maintenance departments of SLR and to address the current problems of the railway system.

The aim of the research is to identify the issues and problems in the railway procurement system and to explore whether implementation of electronic procurement within the railway would solve them.

At the outset, data was collected from Railway Reports (Motive Power Update and Minutes of Operating Review Conference), Railway Time Keeping Database and through discussions with officials of Railway Stores Department. The intention was to identify and explore the problem in details and to gather preliminary data required for the research. The existing procurement process in Sri Lanka Railway was studied and was documented as a flowchart

Extensive survey on literature was carried out to explore the following information.

- Procurement Processes used by organisations, Government procurement processes and the issues / problems that have been identified in them.
- The Electronic procurement processes, Electronic Government Procurement, Railway Electronic Procurement and the benefits and problems in them
- Other research carried out on same or similar subjects

Then a Conceptual Framework was designed, to elaborate the concepts of the research and the observations and measurements that were used for the research. This is given in section 3.1.

Based on the conceptual framework, a survey was carried out to identify other organisations which have adopted electronic procurement, at least to some extent. Three other service organisations (Sri Lanka Telecom. Ltd, Airport and Aviation Services Ltd. and Indian Railways) which are engaged in Maintain and Operate scenarios were selected and their procurement systems were studied with the intention of comparing with the manual process used by Sri Lanka Railways. Meetings were held with officers engaged with procurements in Sri Lanka Telecom. Ltd and Airport and Aviation Services Ltd.

Questionnaires were designed and the concept used, in designing the questionnaires is as follows.

Table 3.1 : Purpose of questionnaires

Questionnaire	Style	Scale Used	Purpose
Railway Procurement (Stores) Department Staff	Respondents were asked to give their rating with an open ended question at the end	Rating Scales with Likert Scale for the majority of questions	To identify problems caused by railway procurement system to User Departments and to Suppliers
User (Maintenance) Department Officers			To identify internal difficulties of the Stores Department
Railway Suppliers			To identify problems caused by railway procurements to User Departments
Officers of SLT, AASL and Indian Railways			To identify problems caused by railway procurements to Suppliers
			To identify whether these organisations faced existing procurement problems of SLR before e-P implementation and whether they got them solved with e-P

The questions in the questionnaires were focused to assess the following factors.

Table 3.2 : Factors evaluated by each questionnaire

Questionnaire to	Question No	Category	Factor
Stores Department Staff	4	Problems faced by user Departments	Delays, Value for Money, Complex Process, Difficulties of Stores Department, Difficulties in identifying Requirements, Quality of Items procured, Guideline as a barrier, Cancellations
	5	Difficulties faced by Suppliers	Supplier Registration, Informing potential suppliers, Transparency, Supplier awareness on procedures, Obtaining Clarifications, Carrying Documents, Supplier Relationships, Payment Procedure
	6	Difficulties faced by Stores Dept.	No past records, Document preparation, Tracking procurements, Communication with TECs, Manual Process, Lack of Skills, Departmental Transfer Scheme, Positioning of Stores Department within SLR
User (Maintenance) Department Staff	4	Problems faced by user Departments	Delays, Value for Money, Complex Process, Difficulties of Stores Department, Difficulties in identifying Requirements, Quality of Items procured, Guideline as a barrier, Cancellations
Railway Suppliers	4	Difficulties faced by Suppliers	Supplier Registration, Informing potential suppliers, Transparency, Supplier awareness on procedures, Obtaining Clarifications, Carrying Documents, Supplier Relationships, Payment Procedure
The Organisations which have adopted e-P	1	Problems faced by user Departments	Delays, Value for Money, Complex Process, Difficulties of Stores Department, Difficulties in identifying Requirements, Quality of Items procured, Guideline as a barrier, Cancellations
	2	Difficulties faced by Suppliers	Supplier Registration, Informing potential suppliers, Transparency, Supplier awareness on procedures, Obtaining Clarifications, Carrying Documents, Supplier Relationships, Payment Procedure
	3	Difficulties faced by Stores Dept	No past records, Document preparation, Track procurements, Communication with TEC, Manual Process, Lack of Skills, Departmental Transfer Scheme, Positioning of Stores Department within SLR

Questionnaires were distributed by selecting the appropriate samples as follows. This method was adopted due to the following reasons.

- To maintain consistency of the received data and to obtain constructive answers by making use of the experience of the respondents..
- Procurement is a subject which many officers are reluctant to discuss and only the officers having authority will provide direct and impartial answers
- Respondent's understanding on the subject of procurement will affect the quality of the data gathered

Table 3.3 : Method of sampling

Questionnaire to	Sample selected	Response Rate
Railway Stores Department Staff	Head, Deputies and the Assistants Stores Superintendents of the Stores Department - SLR	100 %
User Department Officers	General Manager, Head of Planning, Heads, Deputies and the next senior officer of sub Depts.	91%
Suppliers	A convenient sample was selected but from both local and foreign suppliers	20%
Officers from other organisations	Officers who were involved from the time of the manual system	72%

The answers to questionnaires were evaluated statistically to identify,

- The procurement problems (and the seriousness of them) actually faced by the User Departments.
- The issues (and the seriousness of them) faced by railway suppliers
- The difficulties (and the seriousness of them) experienced by the Stores (procurement) Department
- The situation in other organisations and to identify whether they could solve those problems / issues / difficulties by implementing electronic procurement

3.1 Conceptual Framework

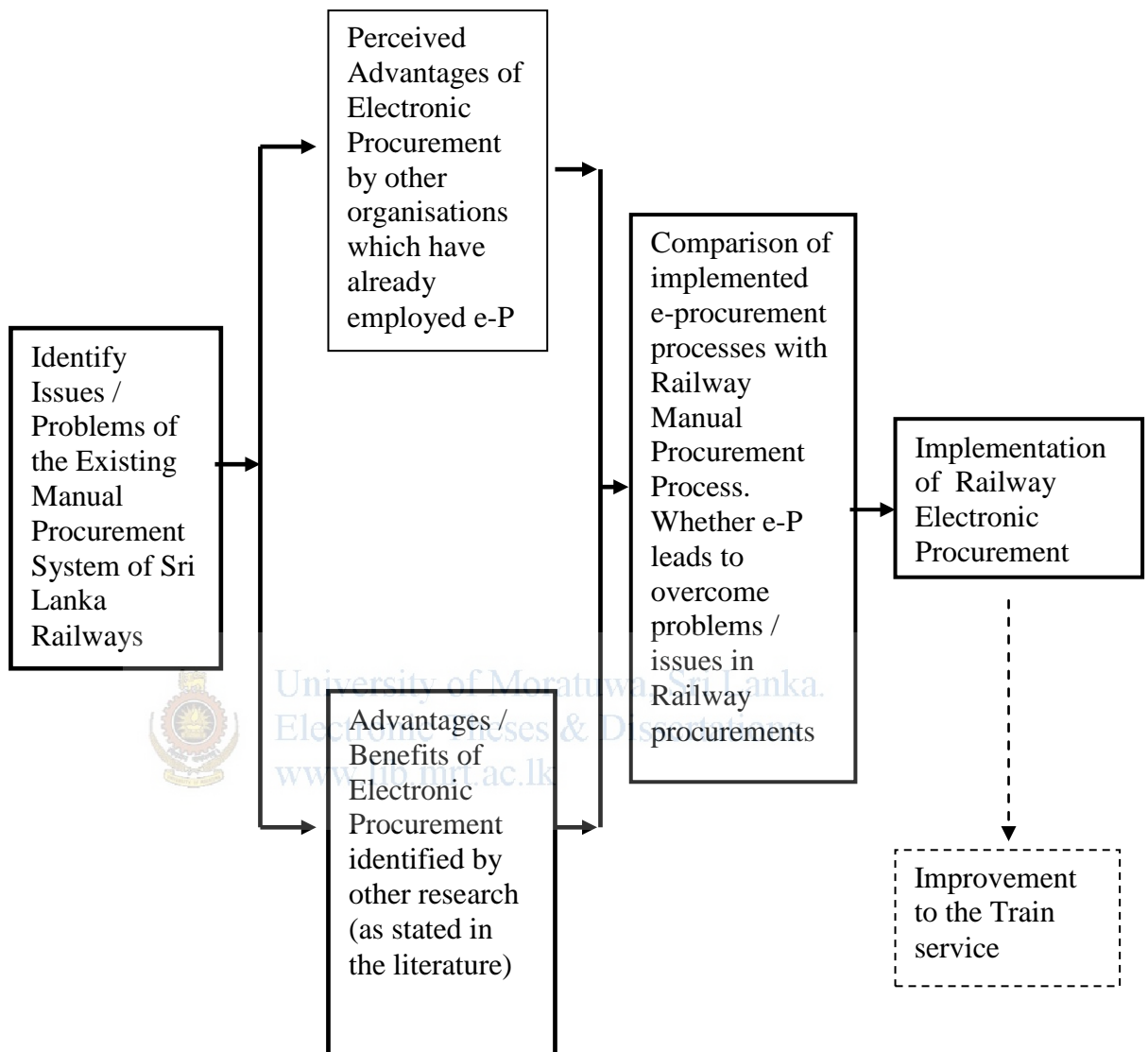


Figure 3.1 : Conceptual Framework