

5. Analysis & design

5.1. Requirement analysis

Out of many methods available for conducting requirement analysis, the method of interviewing was chosen as the preferred method for this project. The reason for doing so was because majority of the stakeholders identified for this exercise were from the higher and middle management and lengthy questioners were not their preferred medium to respond.

Name / Position	Suitability Criteria
Mr. Dinesh Fernandopullai / Chief Information Officer (CIO)	Most suitable candidate to be sponsor of the MIS project Highly knowledgeable in Technical areas of Banking Applications
 Mr. Neville Fernando / VP – Business Systems	Managed, DFCC Banks and DVB implementation of SYMBOLS Applications Presently has overall responsibility of DVB & DFCC Symbols. Highly knowledgeable in Functional areas of existing applications
Mr. Achintha Hewanayake / Head of Operations	Managed, DVB implementation of SYMBOLS Application Managed, DVB implementation of BANKTRADE Application Highly knowledgeable in Functional and Technical areas of existing Banking applications
Mr. Nishan Weerasooriya / Head of Operations – IT	Highly knowledgeable in Functional and Technical areas of Banking Applications

Table 5-1 : Stakeholders and selection criteria

They were interviewed initially and then some sample reports were also obtained as guidance.

5.1.1. Functional requirements

Mandatory:

- The system shall have facility for user log in and authentication.
- The system shall have the facility to let the user to generate predefined reports.
- The system shall have the facility to let the user to generate own reports depending on the user access rights.
- The system shall have the facility generate graphs, charts and other reports
- The system shall have the facility to create reports and the drill down to analyze the data.
- The system shall have the facility for an administrator log in.
- The system shall have the facility to grant the permissions by roles to the users.
- The system shall have the ability to stop any updates to the data by any users.
- Administrator shall be able to enroll new users to the system
- The system shall have rules to cleanse the raw data



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Optional:

- Administrator should be able to add more OLTP systems to the data warehouse.
- Administrator should be able to add new dimensions to the system

5.1.2. Non functional requirements

Mandatory:

- The system shall not upload the data to the data warehouse server without validations. Eg.
 - An individual, local customer should have a NIC number, a foreign customer should have a Passport number and a business should have a valid registration number.
 - Loan or a lease holder of the DFCC bank should have a savings or a current account in DVB.

- If a customer already opened a Letter of Credit (LC) he/she should have a retail banking account with DVB.
- Data in the data warehouse will be synchronized with the production data only up to the previous end of day position
- The system shall not upload the data to the data warehouse server while there is heavy I/O in the OLTP systems



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5.2. Design

5.2.1. Context diagram of the current architecture

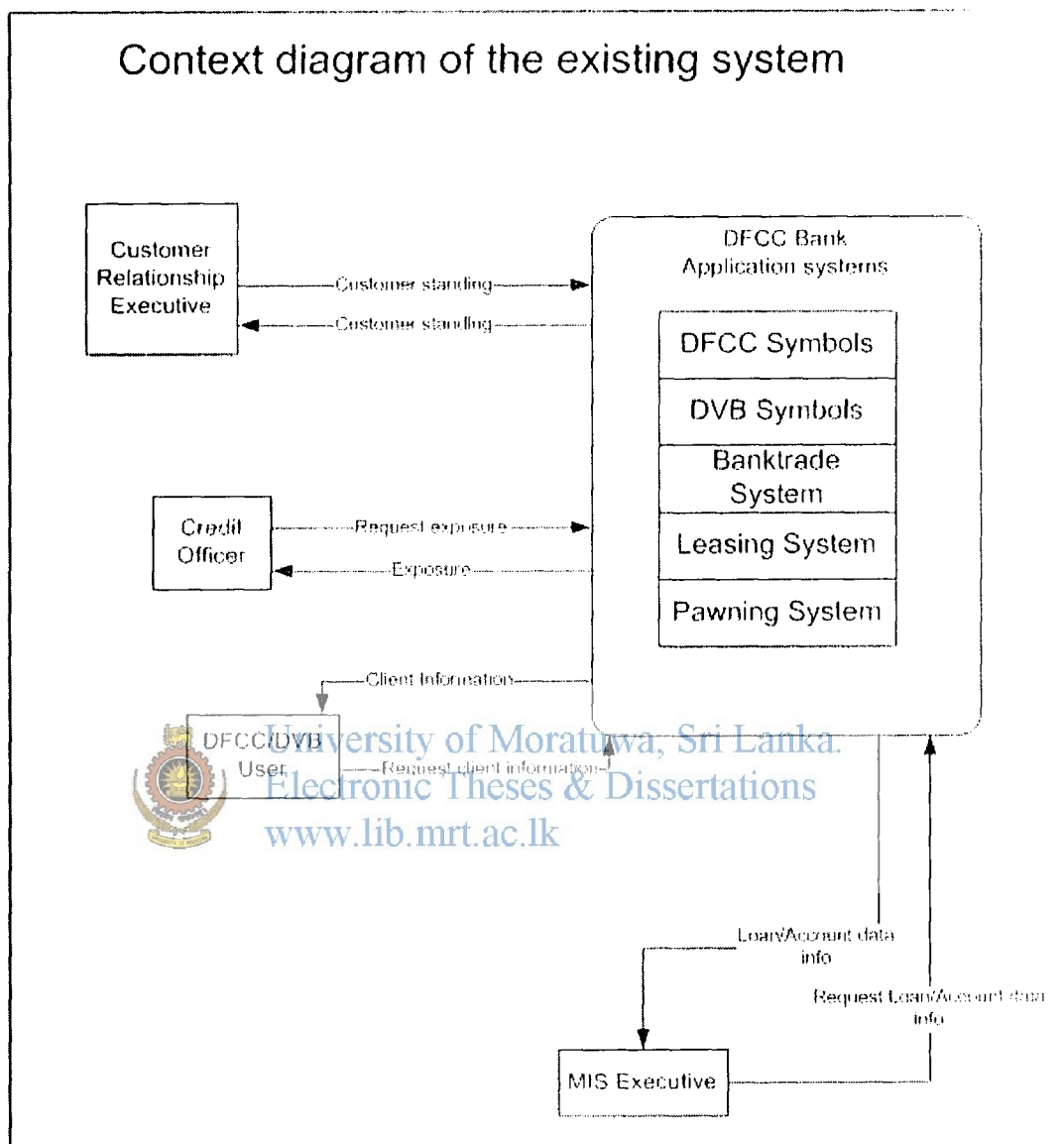


Figure 5-1: Context diagram for the current architecture

The above Context Diagram (figure 5.1) illustrates the interactions between the systems of the DFCC group and the entities external to its scope. When ever a user is in need of data from several systems they will have log on to different systems separately if they have access or request it from another user who has access. This can be very time consuming and erroneous.

5.2.2. Proposed system architecture

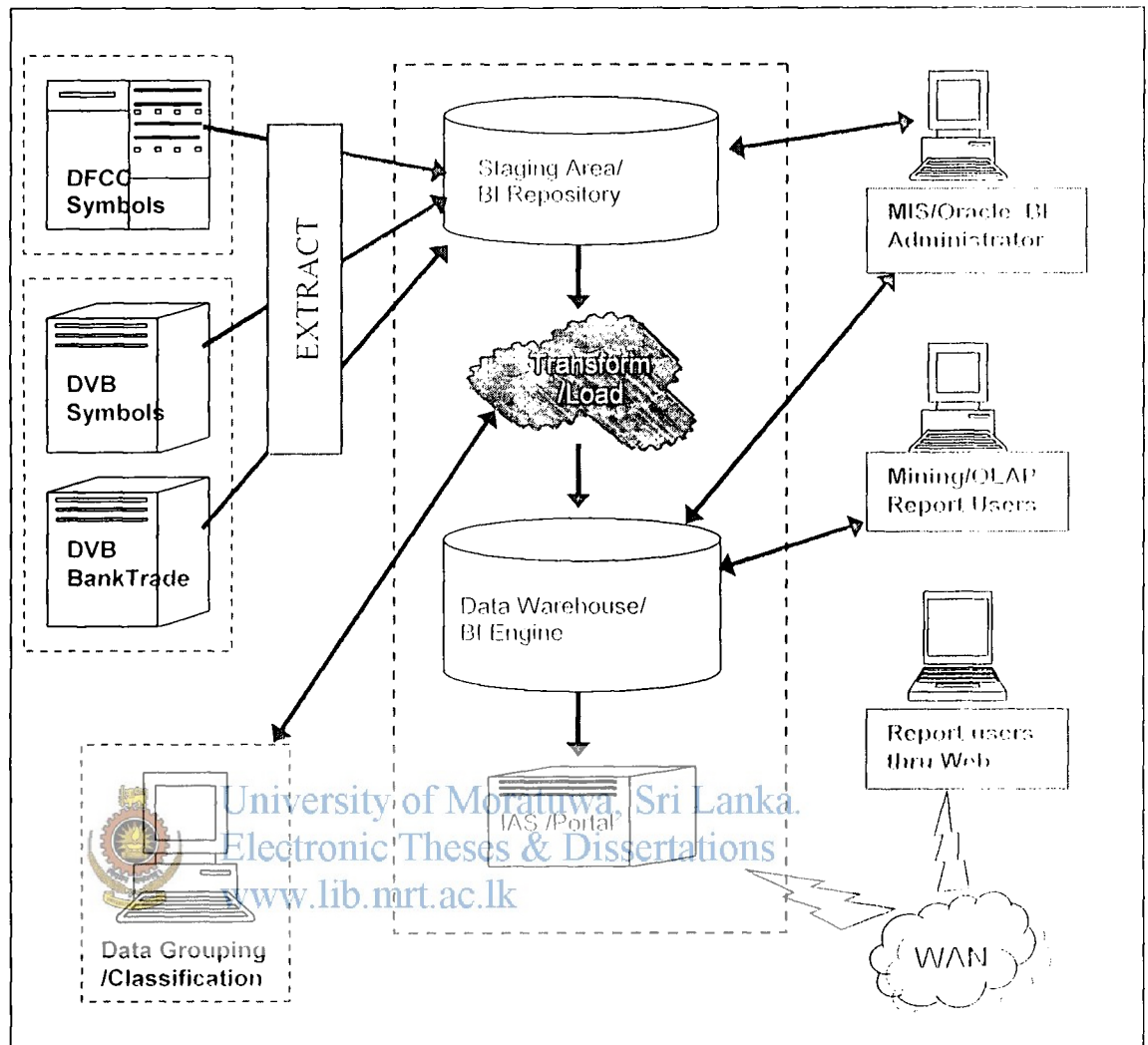


Figure 5-2: Proposed system architecture

The above diagram (figure 5.2) illustrates the system architecture of the MIS system. Text files or from direct SQL scripts generated from the three transactions systems are transported to the MIS server. The data is loaded from text files or the SQLs to tables of the staging area where the Transformation process takes place. When alerted Data grouping/classifiers need to intervene in the transformation process. On completion of transformation process the data is loaded to the Data warehouse.

Browser based reports are deployed using application server.

5.2.3. Data flow diagrams

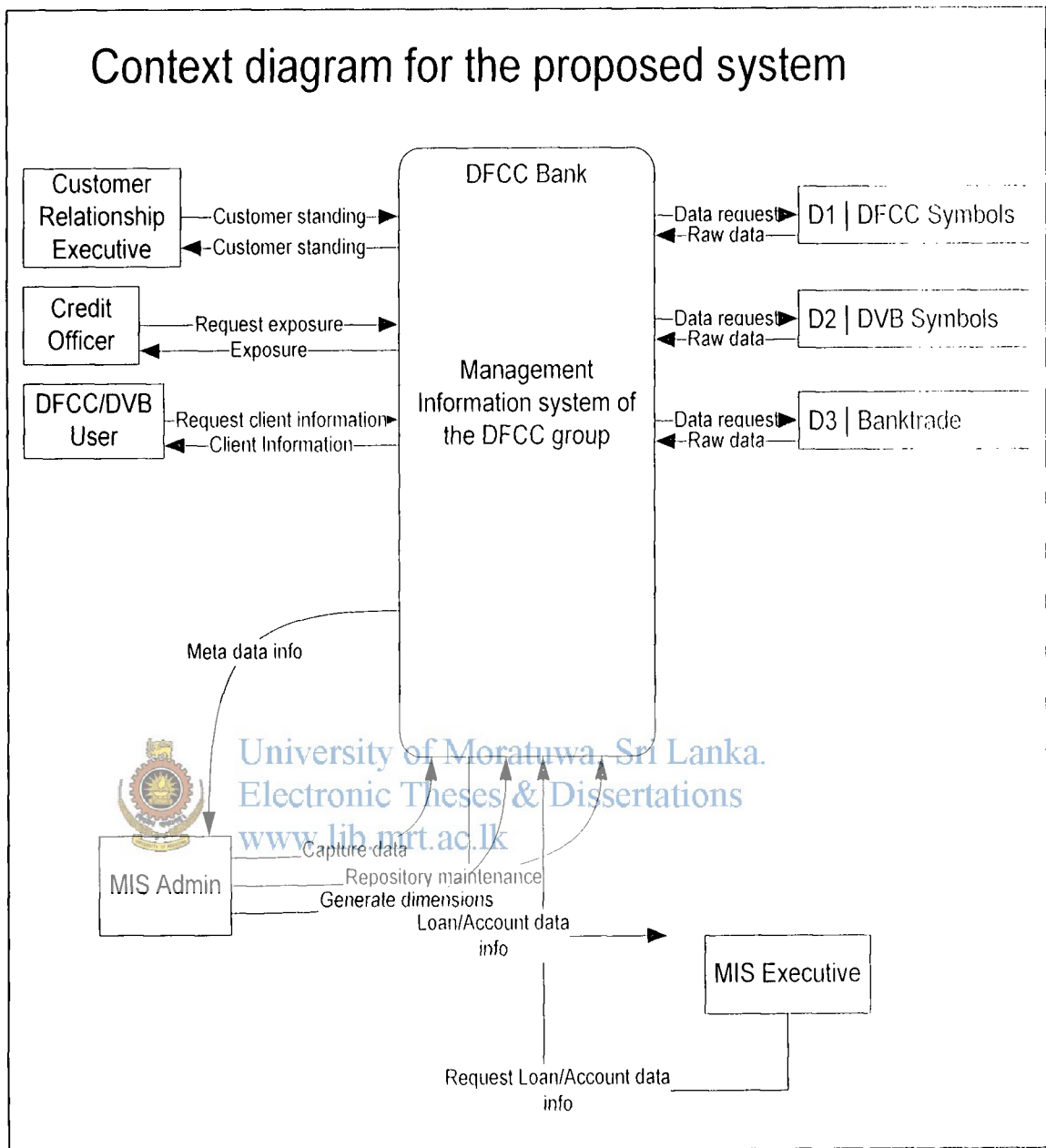


Figure 5-3: Context diagram for the proposed system

The above figure (figure 5.3) describes the data flow in the proposed system.

The required data is very easily accessible to any authorized person unlike the current scenario.

5.2.4. Star schema of DFCC bank – phase I

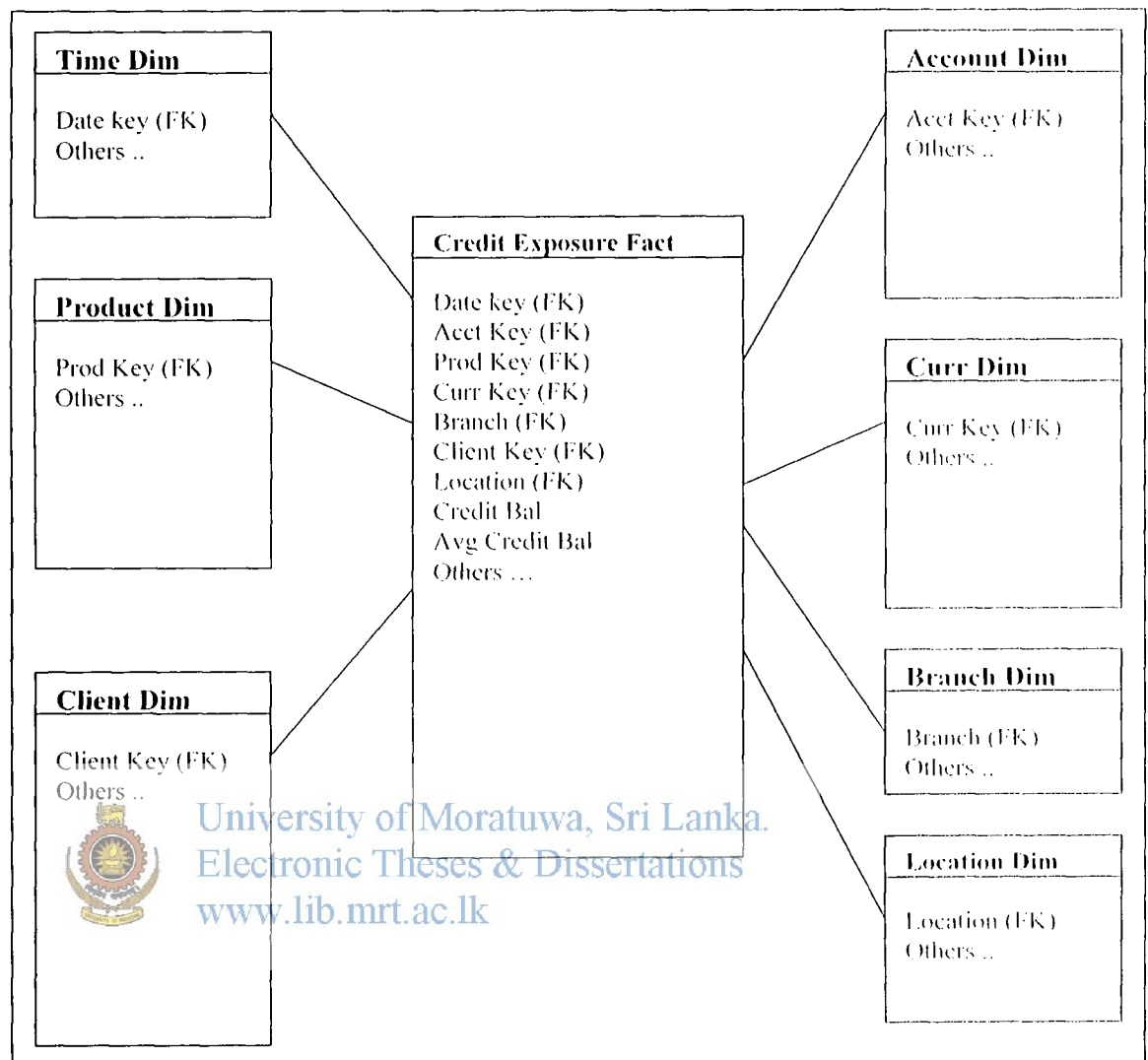


Figure 5-4: Star schema of DFCC bank – phase I

The above Star schema was derived from the data gathered from the interviews but with the fact that when it is shown the business users will tend to changed to have more fields.

The design of the MIS was discussed in this chapter. As the GUI being used is Oracle Business Intelligence Answers and Dash boards those were not discussed.