

# CORE BANKING SYSTEMS AND BUSINESS INTELLIGENCE FOR EFFECTIVE STRATEGIC DECISION MAKING

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## **Abstract**

*Considering about the nature of existing core banking systems the fundamental attribute is it can be identify as a transaction processing system. It means that the system is processing day-to-day banking business transactions and stored historical information. Core banking systems are playing vital role in any fully automated bank as an information system hub. But the basic question is raised when focus to the information requirement for strategic decision making process. Are core banking systems providing required information to make effective strategic decisions? Can core banking systems fulfilling the task as an alternative for the business intelligence system? When focus to the identified problems with core banking systems it can be separated in to two categories such as system operational issues and strategic decision making difficulties due to using core banking historical system information. System integration issues due to different database platforms, data processing issues due to using different front end applications, data mining and quarry limitation can be identified as System Operational Issues and above two questions can be review under the strategy issue. Review of literature and case study approach has been applied as a methodology with qualitative analysis. Conclusions and recommendations are based on the analysis.*

**Keywords:** Core banking systems, Transaction processing system, Business intelligences, System operations, Strategic decision making

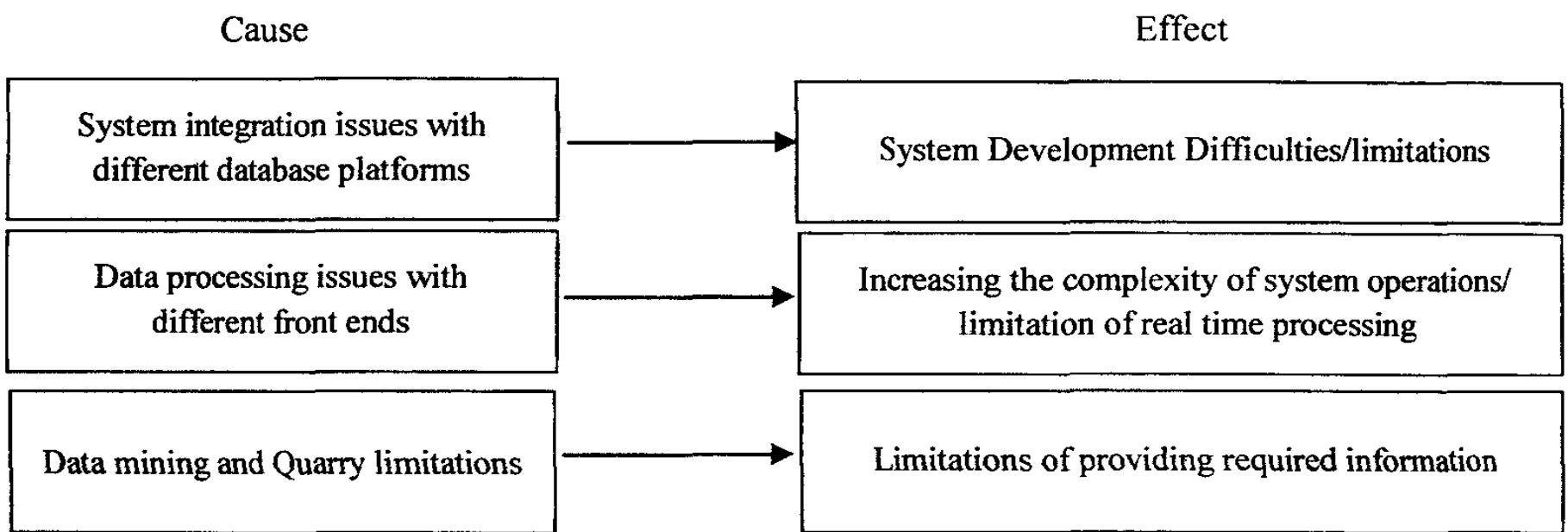
## **1. INTRODUCTION**

Considering about the financial sector in Sri Lanka the banking industry is giving significant contribution to the country's gross domestic product. According to the central bank annual report 2014 banking industry which comprised 33 licensed banks that is 21 domestic banks which include 9 licensed specialized banks in addition to 12 commercial banks, and 12 branches of foreign banks. This paper is basically focus to the licensed commercial banks segment only and the scope of the study can be identify as core banking systems which are using in licensed commercial banks as their main information system. When focusing to the core banking system it's supporting to performing day-to-day banking transactions including all banking business activities such as savings and current accounts operations, time accounts, loan products and general ledger accounts. The nature and the behavior of core banking system can be identifying as a transaction processing system. It means that core banking systems are specially designing to creating, maintaining and recording all business transactions in the relevant databases. Considering about the basic database structure of core banking system it's maintaining separate master files to each and every banking business transaction category with transaction history files and also all files are connected with primary key under the predefine database library. Core banking systems are integrated with many

front end applications according to the bank's business requirement for an example bank's treasury department, card center, internet banking division may use different specialized information systems. In such a scenario the system integration is taking place. This could be more challengeable because the developers need to extract, transformed and loading data in between two different systems. Other thing is core banking systems are only providing historical as well as internal information to the management. It means that the core banking systems are not capable enough to provide relevant information to make strategic decisions comparing with ever-changing external environment. This is the point when business intelligent is taken place. In the next chapters of this paper will discuss those matters in briefly under the two identified topics including core banking systems operational issues and core banking systems related strategic decision making issues.

## 2. THE ILLUSTRATION OF CORE BANKING SYSTEMS RELATED OPERATIONAL ISSUES

The above topic can be discus under three main identified core banking system operational issues and the following diagram will support to understand those different scenarios and its impact.



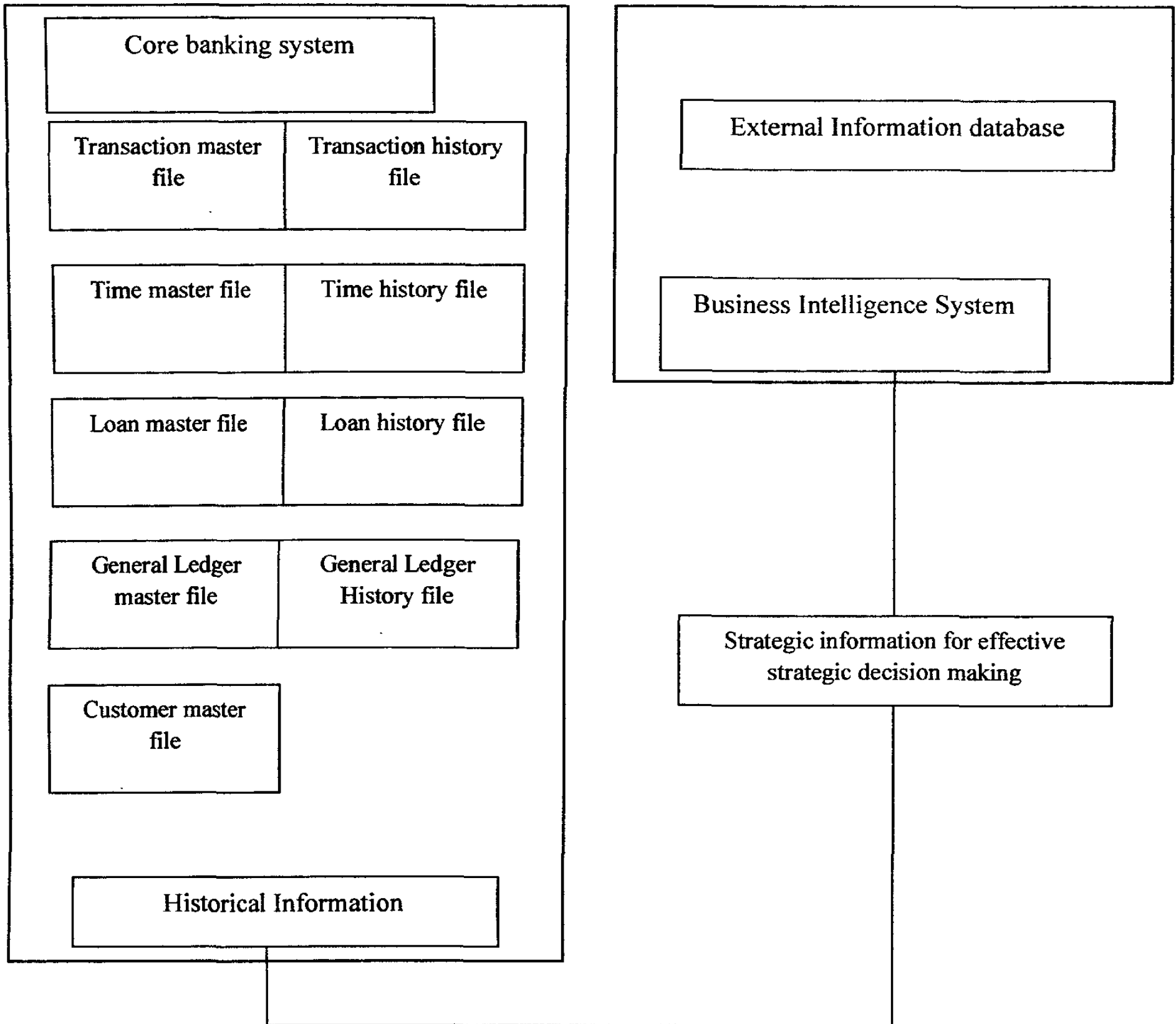
**Figure 01: Cause and effect relationship of core banking system operations**

According to the figure 2.1 when the bank needs to develop its information systems connecting with core banking systems the first occurring issue shall be mapping relationship in between the different database formats. For an example if the bank has AS 400 core banking system with DB2 database and need to be link with newly developed Oracle based credit management system or financial accounts reporting system then the major task is mapping data in a hundred present correct way. This could be more challengeable to the system developers and also it's not creating smooth and easy future system operations because this will lead to create more running bugs as well as high development and system maintains cost. Consider about the banking operations as a whole front line applications are playing vital role to provide effective customer services. For an example automated teller machines, internet banking applications, mobile banking applications, card management applications, treasury applications and front line teller applications. Whatever the front end application all must properly connected with the core banking system to smooth functioning. In this case most common issue can be identifying as a data communication failure in between

the front end application and the core banking master database. This would create difficulties to reconciling general ledger accounts and also users need to putting extra effort to doing day-to-day accounts balancing and reconciliation. At the same time this practices not supporting to perform real time data processing. For an example if the bank's card management system is differ to the core banking system the automated teller machine transactions and card payment transactions are not updating real time basis. Moreover the same scenario is applicable to the internet banking transactions as well. Therefore as an alternative banks are using batch processing method to above type of combined transactions. When focus to the core banking system master files the system maintain separate master files and transaction history files for different type of transactions. In order to analyzing some information to take decisions most of the times they need to run a quarry. But there are many practical limitations participating to run a most appropriate quarry. Those limitations can be list down as data unavailability, complexity of making file to file relationship due to many primary keys and data format mismatch and system assess limitation due to the level of authority. Then the outcome of those mentioned limitations could be the management of the banking firm is fails to take right decision at the right time.

### **3. THE ILLUSTRATION OF CORE BANKING SYSTEMS RELATED STRATEGIC DECISION MAKING ISSUES**

Considering about the rational decision making process the fundamental requirement should be the most appropriated information. Simply that the quality of information is the foundation for quality decision. Focusing to the core banking system it's consist plenty of transaction based historical information but the question would be weather the set of available core banking information are very much significant to the strategic decision making parties of the banking firm. This may be doubt full since the argument would be, can only the internal information providing the bigger picture to make effective strategic business decision? According to the available literature and the generally accepted management practices the answer also should be absolutely no. The strategic decision maker needs more external information and the decision maker should be able to matching that external information with internal information considering the similar dimensions. For an example when plotting the strategic position of bank market share in terms of current and savings accounts, the decision maker need internal information as well as external information. In this case the internal information can be directly extract from the core banking system but the question is how and from what source the bank extract external information related to that strategic positioning task. To overcome this complex business scenario the bank has to create, record, maintain and continuously update another database for external information apart from the core banking information. This is the point when the concept of business intelligence coming to the action. Moreover core banking systems are not providing forecasted information's, business trends and also its not automatically generating consumer behavior tracking information for an example expenditure patterns of particular customer segment, customer need identification and many more. The figure 1 illustrates the big picture of core banking information, business intelligence information and the strategic information.



**Figure 02: Relationship and output between core banking historical information and business intelligence**

#### **4. CONCLUSION**

Core banking systems are very much essential as well as very much significant to the overall success of the banking business in the contemporary environment. In order to achieving sustainable business results the individual banks has to pay much more attention to its existing core banking system and need to develop it according to the competitive requirement. Since core banking systems can be consider as a competitive advantage to the banking firm. When focus to getting competitive advantages, according to the theoretical explanation in the monopolistic competitive market the firm has to consider non price competitive strategies. Therefore the information system development can be considered as a sharpening powerful tool towards reach business vision. Considering about the nature of the core banking system is it designs to perform day-to-day business transaction in an effective way. But those transaction based information systems are not sufficient to make more rational strategic decision in order to winning the competitive as well as ever changing external environment. Therefore it is contemporary requirement to linking the core banking system with business intelligence system or developing business intelligence system component within the core banking system in order to generate more accurate, rational and timely information to make effective strategic business decision. This concept would be complex due to the available technologies and other limited resources including the top management awareness regarding this matter. But anyhow this concept can be transforming to the practical scenario and also can be expect to get more and more competitive advantages to the banking firm in the long run.

#### **ACKNOWLEDGEMENT**

I am taking this opportunity to express my gratitude to Department of Public Administration, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura Sri Lanka. Faculty of Graduate Studies, University of Colombo Sri Lanka. Institute of Personnel Management, Sri Lanka and Institute of Human Resource Advancement, University of Colombo, Sri Lanka.

#### **REFERENCE**

Central Bank of Sri Lanka. (2014). *Annual report 2014*.

David, F.R. (2011). *Strategic management concepts and cases (thirteenth edition)*, PHI Learning (pvt) Ltd, New Delhi, India.