

**INTEGRATED SUPPLIER MANAGEMENT SYSTEM  
A CASE STUDY: PARL BONE MILLS**

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**A project report submitted in partial fulfilment of  
the requirements for the award of the degree of  
Master of Science (Information Technology - Management)**

**Faculty of Computer Science and Information System  
Universiti Teknologi Malaysia**

**APRIL 2007**

*Dedicated to Ammu and Abbu  
who always bring smile on my face...*

## ACKNOWLEDGEMENTS

In the name of Allah, Most Gracious, Most Merciful.

First and foremost I thank Allah for having finally made my ambition dream and humble effort in obtaining this Masters degree a reality.

I would like to express my sincere gratitude to my supervisor Dr. Othman Ibrahim; for the precious guidance, to all the lecturers of FSKSM; for the priceless knowledge and advice

I owe my deep gratitude to the Managing Director of Parl Bone Mills, Sk. Ali Ahmed, who showed me a high level of co-operation and support. Indeed without his co operation this study would not have been completed.

My deepest gratefulness also goes to my beloved mother, my father, my mother-in-law, father-in-law, my brother, sister-in-law, and my cousins for their huge encouragements

To my beloved husband, Mohammad Nazmus Sakeb, thank you for the encouragement, for being my inspiration and most importantly, for your endless love and co-operation

To my friends, thank you for sharing the experience; for all the motivation and encouragement.

And to my cute kid for keeping my mind off trouble time to time.

I thank you all.

## **ABSTRACT**

Effective supplier management is vital for successful business operation of any business organization. Supplier management is a technique and continuous activity that used to control and make decision about supplier management. Cooperative managers make wise supplier management decision by using supplier management strategy as part of an organized plan. Therefore the research is to implement IS in supplier management at PARL Bone Mills. The Management Information System (MIS) will propose a decision making process for the management at PARL Bone Mills. From the initial findings, the management often faces some problems in taking the supplier record where it is done manually. Therefore, the proposed MIS system will be able to choose a useful supplier who will make available of right product as per the organization's need. By implementing ICT strategy successfully at PARL Bone Mills, especially MIS system, it is hoped that it can bring some effective and efficient improvement to their supplier management system and this project will also help them to reduce their misuse of time.

## ABSTRAK

Pengurusan pembekal yang efektif adalah penting untuk kejayaan operasi perniagaan. Pengurusan pembekal merupakan satu teknik dan aktiviti berterusan yang digunakan untuk mengawal dan membuat keputusan mengenai pengurusan pembekal. Pengurus akan dapat membuat keputusan dengan cekap menerusi strategi pengurusan pembekal yang merupakan salah satu langkah dalam pelan pelaksanaan sesebuah organisasi. Oleh hal yang demikian, kajian ini adalah untuk melaksanakan Sistem Bantuan Keputusan untuk membantu membuat keputusan dalam pengurusan pembekal untuk Parl Bone Mills. Menerusi kajian literatur, pengurusan kerap kali berdepan dengan masalah yang melibatkan pengurusan rekod pembekal dimana sebelum ini ia diuruskan secara manual. Oleh itu, cadangan Sistem Bantuan Keputusan ini akan dapat membantu membuat pemilihan pembekal yang terbaik dalam memberikan bekalan tertentu berdasarkan permintaan organisasi. Dengan melaksanakan Sistem Bantuan Keputusan dalam Parl Bone Mills, diharap ia akan membantu aktiviti pengurusan ke arah pengurusan pembekal yang lebih efektif dan efisien

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## **CHAPTER 1**

### **PROJECT OVERVIEW**

#### **1.1 Introduction**

The Supply Management function of an organization is responsible for various aspects of acquiring goods and services for any organization. In many organizations, acquisition or buying of services is called contracting, while that of goods is called purchasing. Tasks associated with supply management include analyzing spending, strategic sourcing, obtaining and evaluating quotes from suppliers, negotiating, managing supplier performance, implementing technologies, processes, policies, and procedures to support the purchasing process (Supplier Relationship Management or SRM). Supply management is generally regarded as a systematic business process that includes more functions than traditional buying, such as coordinating inbound and internal pre-production logistics and managing inventory.

Supply management deals primarily with the oversight and management of materials and services inputs, management of the suppliers who provide those inputs, and support of the process of acquiring those inputs. The performance of supply management



departments and supply management professionals is commonly measured in terms of amount of money saved for the organization. However, managing risk is one of the other critical aspects of supply management; especially the risk of non-availability at the required time of quality goods and services critical for an organization's survival and growth.

Besides, many factors, external and internal, wield strong influence on business organizations and thus conflict with the desired corporate profit objective. The external factors and the problem of organizational culture and politics are not the main focus of this study. As it could be accepted, inadequate attention given to factors that directly affects corporate profit often has indiscernible impact on corporate profit if it is let loosed. In this study one of such factors which captured the interest of the researcher and informed this study is improper supplier selection management in small and medium-scale enterprises. It is apparent that many small and medium-scale businesses do not give pay attention to adequate supplier selection management even though they desire to maximize their profit. This is evidence given that many organizations in this class of enterprises do not use supplier selection management software, analyzing and reporting their inventory status on timely basis only.

In this study the developer proposes an easy-to-use Supplier selection analysis tools and flexible reporting capabilities that deliver rich access to detailed, consolidated useful supplier selection as well as raw material stock information. The Management Information System approach and other related information science theory form the main theoretical foundation behind the development of this supplier selection management tool. This tool is not only expected to solve the problem of selecting a supplier, it would also give the useful, quality and cost-effective and product to the organization.

The case study approach is adopted at PARL Bone Mills in Bangladesh. The remaining part of the study is divided into six more chapters. The second chapter presents the Literature Review; the third presents the research Methodology. The Initial Findings, Analysis and System Design is discussed in chapter four, chapter five discussed about

Design Implementation and Testing. In chapter six is Organizational Strategy and finally in chapter seven we will discuss about Discussion and Conclusion.

## **1.2 Problem Background**

PARL Bone Mills, the case study organization in Bangladesh, is mainly an export oriented business organization that engages in exporting goods like Crash Bone, Bone Meal, Bone Grist and Crushed horn and hooves etc. Given the stock varieties required in exporting foreign countries, the organization necessarily maintains various sources of supplies. It retails these goods to numerous customers from all works of life. Certainly, PARL Bone Mills is an export oriented business organization, so they have a number of buyers all around the world and also the organization need to meet adequate inventory mix and stock management through selecting a supplier who will provide the best quality products to achieve customer's satisfaction and loyalty.

However, selecting a supplier is hardly achieved through manual process. Manual system has imbedded problem of selecting supplier who will provide a better service for management. More often than not, these problems can cause the organization to lose its customers. This happens because a buyer that having a demand on particular product that an organization has forgotten to replenish can not be a loyal customer. Perhaps, it is hard to believe that most export oriented business organizations like PARL Bone Mills, under hyper-competitive environment, still select the suppliers manually despite all the associated problems. Without doubt, the decline in profit could not be avoided if an export oriented organization is not be able to decide on a better supplier who will make available better quality products for the organization to export. Such decline invariably has a negative impact on gross profit of an organization.

The management often face some problems in tracking the supplier records where it is done manually. In which case they depend on the bills and the physically count of items when they want to track out. This in most cases causes stock prediction and order

problems, given that the procurement and warehouse officers need to consider and analyze some important factors such as buying rate, quality of the items, and the demand for items before they make order. The officers also have some problems in determining the quantity of the item to be ordered at a certain season where the customer demands varies from season to season. The officer needs a lot of time to take decision who will be the best supplier for a particular product before the product is being ordered and sometimes they receive the supply of product very late. Therefore they fail to maintain the shipment schedule and the stock prediction is most often done with high level of uncertainty and sometimes they purchase the product with high cost as they do not have other choice for meet the shipment on time. In practical sense, this problem will decrease PARL Bone Mills deal with their buyer as well as their good will.

The proposed system will help the management to choose a useful supplier who will make available of quality and cost-effective product regarding of each order as per the organization's need. This MIS system will be helpful for other export oriented organization similar trade. This system will show all the previous records regarding all suppliers, like: the product cost, quality, size, quantity, delivery cost, for each item in each order. In this case the quality of the product is very important because the organization PARL Bone Mills will export the product and all the products will go through a survey process to recognize that the product is really maintaining the export quality or not. As the organization is doing business for profit, so their main goal is to get high quality but cost-effective product.

### **1.3 Problem Statement**

- a) How do small and medium-scale export oriented organizations that involve in collecting raw materials from suppliers as well as exporting goods to other countries bring their inventory cost to optimum level?

- b) How do they keep track of numerous supplier records to collect quality product in their possession with the aim of avoiding export poor quality products, overstock or stock-out problem?
- c) How do they keep track of choosing a reliable, cost-effective supplier?
- d) Can Management Information System enhance selecting supplier management and thus provide means of sales analysis and forecasting?
- e) How can effectiveness of such system be evaluated in order to encourage its usage?

This study attempts to provide answers to these questions and other related ones. The researcher intends to use a relevant system development methodology to develop a Management Information System (MIS) which would enhance selecting supplier management and control. The tool will be tested practically at PARL Bone Mills, the medium-scale business organization chosen as a case study.

#### **1.4 Project Objective**

The main objective of the study is to design and develop a Management Information System, which will be enable :

- To select the best, effective and useful supplier for the management regarding each order to get quality and cost-effective product to export.
- To track out all the supplier's information and their status for the management.

## **1.5 Project Scope**

This project will cover four main scopes as highlighted below:

- i. The analysis will be conducted at PARL Bone Mills.
- ii. The system that will be analyzed is, to select the best supplier on basis of some certain criteria of their product.
- iii. The developed system will be used by the Management, Accounts department, Procurement department and also by Warehouse department
- iv. The analysis report includes cost, quality, size, quantity and delivery cost on different products and demand statistic for each item.

## **1.6 Importance of project**

The useful supplier selection problem remains one of the central barriers to improving profits and margins for medium-scale organization. Therefore, PARL Bone Mills as well as other medium-scale organization has similar problem.

By implementing ICT strategies, specifically MIS system, in PARL Bone Mills, it is hoped that it can bring some effective and efficient improvement to their supplier management and stock record management. Hence, this project is expected to overcome the 'useful supplier selection' problem for the organization. This supplier selection management system implies efficient management skills in the organization and the MIS technique gives some intelligent and expert skills to the organization staff. Some benefits of the system are :

- i. Propose effective decision making strategy for the management to choose useful supplier.
- ii. Propose easy-to-use supplier record analysis.
- iii. Allow employees with advanced search capabilities that provide quick, easy access to the supplier information they need, and one-time stock and pricing entry that provides accurate and timely information throughout the system.
- iv. Generate efficient report and statistic of supplier and raw material records.
- v. Offer better service and improve service to the organization so that they can improve customer satisfaction by doing perfect shipment.
- vi. Offer a useful stock record so that the organization can retrieve any information about raw material as per their needs.
- vii. Give the organization a competitive advantage in the market with easy-to-use supplier record and of course select the right supplier on-time.
- viii. Propose a time constrain Management Information System for the management.
- ix. Pervade Information and Communication Technology (ICT) concept in the organization.

## **1.7 Summary**

In this chapter, introduction of the project, project objective, project scope, problem background and statement of problem background have been discussed. A short idea of the organization where the project is going to be implemented and why this project will be valuable for them also pointed out. As currently the organization is doing their internal organizational work manually, so it is very time consuming and hard job for them to select the right supplier on-time. By implementing this project successfully to the organization they will be able to choose the right supplier who is useful for them and this project will also help them to reduce their misuse of time.