

Business Development Strategy for the Small Fully Office Supplies

Suwannee Adsavakulchai*, Anusorn Suwanphahu
School of Engineering, University of the Thai Chamber of Commerce
Thailand

Abstract

This paper aims to develop the strategy of the small fully office supplies business. This study is to analyze the current business processes including supply chain analysis and Fishbone diagram. The results demonstrated that the shop is very strength in the location nearby the schools and offices. However, the main problem is the office supplies overstock due to the lack of the information system to manage the overall data systematically. After improvement the business process, it helps not only to reduce the redundancy of counting the number of the office supplies but also to do stock monitoring easily. While Enterprise Resource Planning (ERP) can definitely improve performance and reduce of the human errors in purchasing order due to the accuracy of the number of the office supplies. Moreover, the number of the office supplies is enough to supply all customers' needs. Finally, the system will support for the fully operations in the future.

Keywords— office supplies, Enterprise resource planning, ERP, supply chain, fish bone diagram.

I. INTRODUCTION

Currently, almost business in Thailand established from the family business as a small entrepreneur business. The small fully office supplies businesses have recently expanded into related markets for businesses like copy centers, which facilitate the creation and printing of business collateral such as business cards and stationery, plus printing and binding of high quality and high volume business. The expansion of the regularly market their stores as a center for school supplies for school sales ().

The major problem of the small fully office supplies businesses suffered from inadequacies in information to enhance productivity and to facilitate market access - which is only available from stand-alone shop; is often slow and cumbersome to access; is limited in scope; and is not provided in an integrated manner (UNIDO 2005). They lack an awareness of important business information provision agencies. Access to information is insufficient. This is inconsistent with the requirement for effective competition in national market. Thus, the small businesses need tailor-made information solutions - i.e., business information services that assess, verify and apply information to a specific business problem. Moreover, the business opportunities, customer trends, methods of organisation, etc., are not communicated, effectively, to the SMEs (Ladzani, 2001)

This study aims to respond to the specific needs of the small fully office supplies businesses, business information services should create value by bringing together information from different sources. There is a need for collaboration between various industrial and trade organisations, private enterprises and school to provide a comprehensive range of business information, advice and facilities. To perform better in information-rich environments and to achieve quality within the information (Moyi, 2000 and Ladzani, 2001). The three core components i.e. information players, challenges faced and strategies (interventions) so as to achieve quality information. This document is a template. An electronic copy can be downloaded from the Journal website. For questions on paper guidelines, please contact the conference publications committee as indicated on the conference website. Information about final paper submission is available from the conference website.

II. METHODOLOGY

- A. To do cause-effect analysis using Fish Bone Diagram as a tool to demonstrate the relationship among the problems and possible causes
- B. To analysis the business As-Is and To-Be for business process improvement by creating the value by bringing together information from different sources.
- C. To study the supply chain of the small office supplies businesses to expand to the fully office supplies businesses in the national scale in next 5 years.
- D. To develop the information system for enhance the business administration in the small office supplies businesses efficiently using Enterprise Resource Planning: ERP as a tool to manage all information to support our digital economy in the future.
- E. To evaluation and forecasting of the amount of office supplies to purchase in the next following month. The forecasting model is based on the monthly total sales in 2014 to estimate the amount of office supplies for a week to prepare all requested by using Simple Moving Average (SMA) and Exponential Moving Average (EMA) including multiple regression.
- F. To recommend and business strategies for the small fully office supplies business in the next 5 years.

III. RESULTS AND DISCUSSION

A. The cause-effect analysis using Fish Bone Diagram for the small office supplies business as shown in Figure 1.

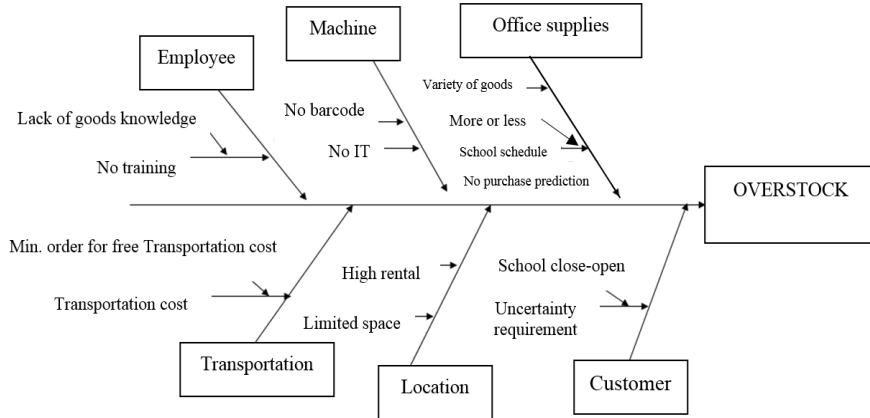


Figure 1: The cause-effect analysis for the small office supplies business

From Figure 1, the cause-effect analysis diagram showed the main effect of the small office supplies business by using Fish Bone Diagram as a tool is “OVERSTOCK”. There are 6 main causes: the office supplies, machine, transportation, location, employee and customers. The main causes are the variety of office supplies. In addition, there is not an information technology to manage all information related to the whole businesses. Moreover, the minimum order for free transportation is the other cause that make stock over.

B. The business As-Is and To-Be by creating the value by bringing together information from different sources in Table I.

TABLE I BUSINESS AS-IS AND TO-BE

| Topics | Before Business improvement As-Is Process | After Business improvement To-Be Process |
|---------------------------|---|---|
| 1. Information technology | 1. No Information technology | 1. To develop a small ERP for using in the office supplies business |
| 2. Employee | 2. Employee counts all goods that very slow and error | 2. To reduce the counting by using bar code that is more accuracy |
| 3. Customer | 3. Customers requirement differ from time to time 4. No customer records | 3. To search the data from the system and know the requirements differ from time to time 4. To record all customers information into the customer database |
| 4. Space | 5. Overstock | 5. To manage the stock better than the existing situation by using ERP |
| 5. Finances | 6. According to the purchasing order redundant, the working capital is reduced 7. Due to the administration is insufficient then lead to the financial problems. | 6. Reduce the redundancy of the purchasing order by using ERP to monitor stock 7. The working capital management is more cost effectively and most useful. |

C. The supply chain of the small office supplies businesses to expand to the fully office supplies businesses in the national scale in next 5 years is shown in Figure 2.

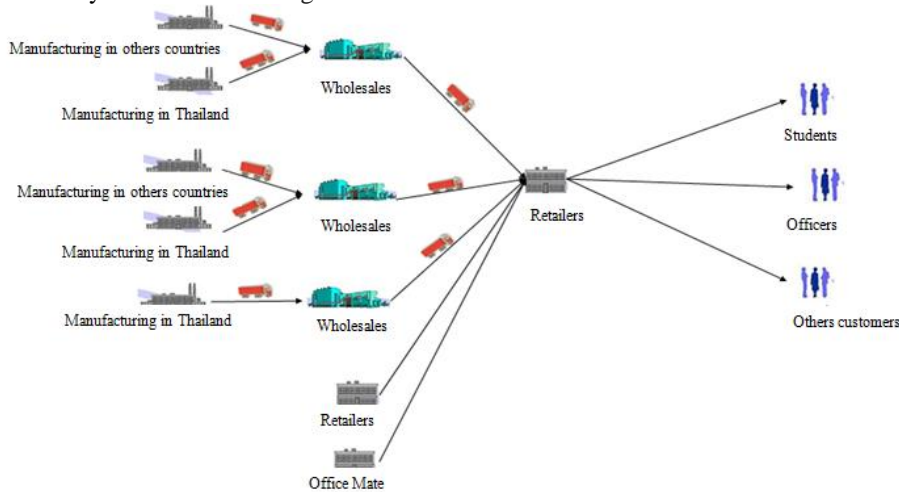


Figure 2: The supply chains in the office supplies business

In this paper from Figure 2, the office supplies business is one of the retailers that purchases the products from the wholesalers. There are 3 major customers that are students, officers and other customers. After operating the business,

the customers' requirements have become more diversified. Therefore, the wholesalers may have been imported from overseas or to order from the manufacturing both in the country and overseas. Moreover, some office supplies are in short supply. The office supplies as a retailer, it is necessary to purchase goods from other retailers. To develop the retail business as a wholesaler in the next three years in order to be prepared from the manufacturing directly, not through wholesalers.

D. The Enterprise Resource Planning: ERP in the small office supplies business is developed by using ERP open source. There are 4 modules :

1. Distribution Module – to do the Sales Management (Customer Master Database), Sale Analysis, Forecasting, Purchasing (Vendor/Supplier Profile) and inventory control including an alert system. This module is the main part for the small office supplies business.
2. Manufacturing Module – to do the Product Data Management that concerning only delivery time from factory to shop.
3. Account/Financial Module – to do the General Ledger, Accounts Payable, Fixed Assets, Cost Accounting, Cash Management, Budgeting and Financial Reporting. This module is very important for the small office supplies business.
4. Human Resource Module – to concern only Personnel Management and Payroll Management.

The program demonstrates the office supplies inventories that contains the information i.e. product code, product name, unit, price, sales price and alert as shown in Figure 3. The list of office supplies is sorted by the recently order date. To search the office supplies, the program is defined to search by product name or product code.

From Figure 3, the alert means the amount of each office supplies less than safety stock. The program will appear the red color to alert for purchasing the new order of that office supplies. The others detail in this screen shows the insertion of the new office supplies directly from barcode or excel files. In addition, the program can delete the old office supplies.

For security purpose, during insertion and deletion, the program set up the user name and password for all users to access the database. Concerning with the forecasting, the detail in distribution module explains in the next section.

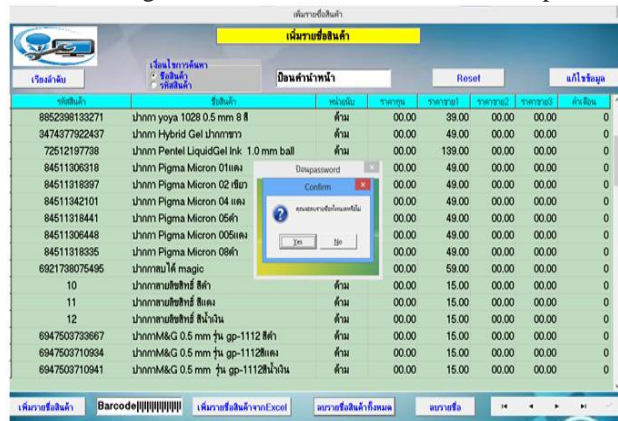


Figure 3: The office supplies database

E. The forecasting of the amount of the office supplies to purchase in the next following month is shown in Table II. The forecasting model is based on the monthly total sales in 2014 to estimate the amount of office supplies for a week to prepare all requested by using Simple Moving Average (SMA) and Exponential Moving Average (EMA) including multiple regression.

TABLE III THE FORECASTING OF OFFICE SUPPLIES PURCHASING IN THE NEXT MONTH

| month | Total sales in 2014 | Total sales in 2015 | Simple Moving Average | | Exponential Moving | | Multiple Regression |
|-------|---------------------|---------------------|-----------------------|---------------|--------------------|---------------|---------------------|
| | | | n = 3 | n = 5 | n = 3 | n = 5 | |
| Jan. | 299 | 294 | | | - | - | 230.53 |
| Feb. | 300 | 275 | | | 299 | 299 | 232.46 |
| Mar. | 179 | 189 | | | 299 | 300 | 234 |
| Apr. | 159 | 167 | 259 | | 264 | 240 | 236 |
| May | 187 | 199 | 213 | | 173 | 169 | 238.25 |
| Jun. | 298 | 300 | 175 | 224.80 | 167 | 173 | 240.18 |
| Jul. | 198 | 211 | 215 | 224.60 | 220 | 243 | 242 |
| Aug. | 218 | 250 | 228 | 204.20 | 268 | 248 | 244.04 |
| Sep. | 275 | 301 | 238 | 212.00 | 204 | 208 | 245.97 |
| Oct. | 199 | 189 | 230 | 235.20 | 235 | 247 | 248 |
| Nov. | 287 | 302 | 231 | 237.60 | 252 | 237 | 249.83 |
| Dec. | 295 | 299 | 254 | 235.40 | 225 | 243 | 251.76 |
| Jan. | | | 263 | 254.80 | 289 | 291 | 228.6 |
| | | | MAD = 53.11 | MAD = 56.83 | MAD = 62.13 | MAD = 60.82 | MAD = 64.07 |
| | | | MSE = 4185.60 | MSE = 4136.89 | MSE = 5272.37 | MSE = 5034.91 | MSE = 2486.49 |
| | | | MAPE = 21.53 | MAPE = 19.13 | MAPE = 26.51 | MAPE = 25.94 | MAPE = 20.16 |

From TABLE III, the comparison among the three forecasting methods, the multiple regression is the least error with MAD = 64.07 and MAPE = 20.16 then

$$\text{Total sales in next month} = 1.9301 * \text{month} + 228.62$$

F. The business strategies for the small fully office supplies business in the next 5 years.

The competitiveness advantage for the small office supplies business is to develop the full ERP for better customer services and more convenience. In addition, to improve the forecasting model due to the data is only 1 year. Moreover, the new entrepreneur would like to set up the products standard and more service mind including reasonable price. At the end, you will be grow up your business to wholesales in the next 5 years.

IV. CONCLUSIONS AND RECOMMENDATIONS

Enterprise Resource Planning: ERP can be used to the office supplies operations both retail and wholesale trade goods with many different types of product groups. ERP can handle a variety of procedures performed from ordering to delivery of the replacement of the change and return back to lend support to manage their business operations more efficient and competitive as following:

1. To reduce the steps to check the stock of employees that made more accuracy. Then to reduce the cost of hiring staff.
2. In the purchasing, ERP can calculate order each time by priority the necessary order in individual should purchase what types and how much that will contribute to reducing the purchasing problem effectively.
3. To reduce the insufficient the office supplies to meet the customers' requirement that lead to the more satisfied customers all the time.
4. To assist the capital management and cost-effectively,

The recommendation in this study, the design and development systems should be designed and developed to be flexible in their work and respond to the users requirements by studying and understanding, including planning, design for all process steps in order to work more efficiently. Enterprise Resource Planning: ERP assists in the management and operations of the office supplies business. The information has been stored or handled by this system should have been used to advantage in the areas of strategic business planning. Finally, to provide the training to use the system for all involved to provide comments or suggestions to the user or users involved are seen and want to be able to handle.

REFERENCES

- [1] Chen, J. (2006). Development of Chinese small and medium-sized enterprises. *Journal of Small Business and Enterprise Development*. 13(2):140:147. Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/2710130201.html> [accessed 12th October 2006].
- [2] Chiware, E.R. & Dick, A. L. (2008).The use of ICTs in Namibia's SME sector to access business information services, *The Electronic Library*, Vol. 26, No. 2, pp: 145-157, available at: <http://www.emeraldinsight.com/Insight/ViewContentServlet?contentType=Article&Filename=Published/EmeraldFullTextArticle/Articles/2630260201.html>, (accessed 28th January 2010)..
- [3] Corps, M. (2005). *Information and communications technologies in small and medium enterprise development*. Available: www.globalenvision.org/library/7/698 [accessed 15th December 2005].
- [4] Daniels, L & Ngwira A. (1993). Results of a Nation-wide Survey on Micro, Small and Medium Enterprises in Malawi. *GEMINI Technical Report*, 53. New York: PACT Publications
- [5] Duangpun Kritchanchai and Pranee Chawan (2011).The study of ERP implementation for SMEs in Thailand The 4th EAN/TLPS/Thai VCML Industrial-Academic Annual Conference on Supply Chain and Logistics, Mahidol University Salaya
- [6] Eurostat (2008). Final Report – Information Society: ICT Impact Assessment by Linking Data from Different Sources. Luxembourg.
- [7] Finnegan, G. (2000). Micro and small enterprise development & poverty alleviation in Thailand: Project ILO/UNDP. *Working Paper2*: ILO. Available: <http://www.ilo.org/public/english/employment/ent/papers/thai2.htm> [accessed 4th March 2014].
- [8] Freund CL and Weinhold D (2004). The effect of the Internet on international trade. *Journal of International Economics*. 62 (2004): 171–189.
- [9] Henriques, M. nd. Business Development services for SMEs: Preliminary Guidelines for Donor-Funded interventions. Washington: World Bank
- [10] Kinnell, M, Feather, J, & Matthews, G. (1994). Business information provision for small and medium-sized enterprises in China: the application of marketing models. *Library Management*, Vol.,15, No.8, pp: 16-23. Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/0150150802.html> [accessed 1st September 2013].
- [11] Kirk, J. (1999). Information in organisations: directions for information management, *Information Research*, Vol, 4, No.3. Available: <http://informationr.net/ir/4-3/paper57.html> [accessed 12th December 2013].

- [12] Ladzani, W. (2001). Small business development in South Africa under the majority rule: *14th Annual Conference of Small Enterprise Association of Australia and New Zealand*. Available: http://www.tsa.ac.za/corp/research/papers/wladzani2001_small.doc [accessed 13th March 2013].
- [13] Mellor, N. (1998), "E Commerce and the way forward", University of Wolverhampton., E-Business Seminar.
- [14] Meyer, H.W.J. (2005). The nature of information, and the effective use of information in rural development. *Information Research*, 10(2). Available: <http://InformationR.net/ir/10-2/paper214.html> [accessed 3rd January 2014].
- [15] Moyi, E. (2000). *An analysis of the information-search process in micro and small manufacturing enterprises*. Available: <http://www.ipar.or.ke/dp15.pdf> [accessed 5th July 2014].
- [16] Neelameghan, A. (1992). *Information for small enterprises*. Bangalore: Sarada Ranganathan Endowment for Library Science.
- [17] Robson G & Gallagher C. (1993). The Job creation effects of small and large firm interaction. *International Small Business Journal*, 12: 23-37.
- [18] Schiffer, M & Weder, B. (2001). Firm size and the business environment: worldwide survey results: discussion paper 43. Washington: World Bank.
- [19] Shokane, J.K. (2003). The use of business information by small and medium-sized enterprises in Acornhoek. *South Africa Journal of Library & Information Science*, 69(1). Available: http://web23.epnet.com/citation.asp?tb=1&_ug=sid+74A65B14%2D2BA5%D402E%2DB1C7%2D5 [accessed 1st August 2013].
- [20] Soontiëns, W. (2002). Managing international trade: an analysis of South African SMEs and regional exports. *Management Decision*, 40(7): 710-719. Available: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/0010400709.html> [accessed 6th July 2013].
- [21] Tetteh, E.O & Burn, J.M. (1999). Enabling Electronic Commerce: Lessons from National Information Infrastructure Strategies in Australia and Ghana. *10th Australasian Conference on Information Systems*.
- [22] UNCTAD (2004). UNCTAD's E-commerce and Development Report (2004), available at: www.unctad.or/en/docs/ecdr2004_en.pdf (accessed 4 April 2014),
- [23] UNCTAD (2008a). Measuring the Impact of ICT Use in Business: the Case of Manufacturing in Thailand. United Nations publication. New York and Geneva.
- [24] UNIDO. (2005). Available: www.sme.gcn.gov.hk/smeop/english/service.cfm [accessed 4th January 2014].
- [25] United Nations Conference on Trade and Development (UNCTAD) (2008). Measuring the impact of ICT use in business: the case of manufacturing in Thailand, New York and Geneva: United Nations.
- [26] United Nations Conference on Trade and Development (UNCTAD), (2009). *Information Economy Report 2009: trends and outlook in turbulent times*. New York: United Nations.