

Management Strategy For Administration Of Textile Industries In A Developing Country: Case Study Thailand

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ABSTRACT

This paper will detail the significant problems with the management of the textile industry in northeast Thailand and suggest a management strategy that will solve those problems. The objectives of this study are to study the factors affecting the organizational development of textile industries and to explore the guidelines for development of the operation and management of textile industries. For this research, data were collected and analyzed, using both qualitative and quantitative methods. Researchers conducted interviews with 18 entrepreneurs in textile industries in northeast Thailand and analyzed the data by doing a content analysis. From the interviews, researchers discovered six influences on the organizational development of textile industries: 1) human resource management, 2) financial performance, 3) knowledge capital, 4) marketing management, 5) supply chain management, and 6) manufacturing management and technology. The quantitative research consisted of a questionnaire that was mailed to entrepreneurs. Multiple regression (SPSS) of this data was then performed. From this analysis, financial performance and human resource management were found to be the most significant issues that entrepreneurs should consider in the management of textile industries. To solve this problem, researchers suggest that entrepreneurs use strategic outsourcing to transfer part of their production to village enterprises. A coefficient of determination of $R^2 = 0.208$ and Durbin-W Aston = 1.903 was obtained in the study

Keywords: Textile industries, Management strategy, Thailand

INTRODUCTION

 Over two decades, developing countries are increasingly realizing that a rapid economic development cannot be achieved without scientific and technological progress. To establish a new international economic order through the gradual reduction of disparity between developed and developing countries, concerted efforts are being made to induct new innovations and modern industrial processing technology in a variety of sectors. Countries with centrally planned economies have been remaking themselves in the image of stronger market economies. With rapid changes in economic activity, technology and globalization, firms are competing in the world markets, especially those markets that were previously closed, and constantly trying to find new opportunities and solutions for all of their customers.

The knowledge and information of the supplier network and the ability to make fast and accurate decision often constitute a competitive advantage. The rapid advances in information technology are now deployed to improve existing operational effectiveness. The ability to learn and adapt to changes is essential. Consequently, the core activity of manufacturing is no longer just manufacturing, but also the systematic processing of knowledge to create value for customers. Manufacturing-related business services that capitalize on Internet and information technologies are rapidly expanding. As the manufacturing industry moves toward a borderless business

environment, new models for manufacturing co-operation and collaboration, though networks to meet the imminent challenges in the increasingly competitive marketplace, are on the horizon (Choy, Lee and Victor, 2002).

The textile industry is an important sector in developing countries and has spread across Asia because of the low cost of labor. In 2005, the labor wage in China was \$0.88 USD/hr., \$0.38 USD/hr. in India, and \$0.91 USD/hr. in Thailand (Abernathy et al., 2005). Viet Nam has more than 2,000 textile and apparel enterprises that are using more than two million workers, and that are producing 10,000 tons of cotton fiber, 50,000 tons of synthetic fiber, 260,000 tons of short staple fiber and yarn, 15,000 tons of knitted fabrics, and 680 million square meters of woven fabrics annually. With more than 1.8 billion of textile and apparel products, exports account for nearly 70%. Textile and apparel enterprises are centered in key economic areas of the South Viet Nam. In September and October 2007, the textile and apparel industry gained a record export turnover of 1.47 billion USD. In Cambodia, the textile industry has grown rapidly from 36 factories in 1997 to over 110 in the capital, Phnom Penh, employing more than 72,000 workers. Some 139 new factories are due to start up with licenses approved by the Hun Sen government to take advantage of low wages and poor conditions. The textile and garment industry earned Cambodian exporters nearly USD 308 million in the first 10 months of last year and constituted about one third of total exports. By October 1998, exports of textiles and apparel from Cambodia to the US had risen by 305% (Lopez, 1999)

In Thailand, the textile industry is important because 51.1% of those employees in the manufacturing sector are in businesses connected to the textile industry. In addition, Thailand's textile industry had 1.08 million employees, or 25% of workers (National Statistical Office, 2006). The structure of textile industries in Thailand is presented in Table 1.

Table 1: Number of industries and labor in textile industries in Thailand in 2005

Industries	Number of Employees	Number of Industries
man-made fiber industry	14,430	17
spinning industry	61,100	153
weaving and knitting industry	116,040	1,320
dyeing and printing industry	46,770	409
clothing industry	825,650	2,541
Total	1,063,990	4,440

Source: Department of Export Promotion, Ministry of Commerce, Royal Thai Government.

Textile production creates employment and generates more than 10,000 million baht of income for the government to spend on economic and social development each year. In 1999, the Customs Department received 6,135.9 million baht from corporate income taxes and value-added taxes and 10,200.1 million baht in 2005. The corporate income tax was excluded because the form was due in May 2006, so only value-added tax has almost doubled in the past seven years. When corporate income tax is considered, the Customs Department received 2,635 million of income from textile import taxes in 1996 and 3,118 million baht in 2005. Therefore, only corporate income tax, value-added tax and revenue tax have produced 13,798 million baht of income in 2004 (Thailand Textile Institute, 2008). The export of Thailand's textile products between 2004 and 2007 is shown in table 2.

According to Table 2, the expansion rate to major markets such as the USA, EU and Japan decreased; however, there was an increase in Asia's market. In 2007, Thailand exported USD 332.5 million of home textiles, a 17.3% increase over 2006. During the first seven months of 2008, its exports increased 15.2% over the same period in 2007. Last year, USD 127.1 million home textile products were exported to the United States, a 4.1% increase over 2006. In addition, exports to ASEAN increased 44.4% to a value of USD29.6 million, exports to China increased 2.3% to USD 9 million; and exports to Vietnam increased 60% to US\$2.4 million. On the other hand, exports to Japan decreased 2% to US \$44.3 million and exports to the EU decreased 0.5% to USD 19.6 million. And then, from January to July 2008, Thailand increased its exports to all these countries as indicated by the following percentages: ASEAN, 23.9%; EU, 16.4%; U.S., 27%; China, 51.2%; Vietnam, 66.7%; and Japan 8% (Sangwatanaroj, 2008). Between January and July of 2008, Thailand exported USD 280.8 million worth of textiles

and garments, such as woven fabric and knit clothing to Japan. This was a 31.58% increase over the previous year. In 2008, Thai exports decreased 0.6% to the U.S. market and 2.4% to the European market, while increasing 16.8% in the Asian market.

Table 2: Thailand's textile exported value to major market between 2004 and 2007

Export market	exported (Million US Dollar)					Expand rate (%)			
	2004	2005	2006	2006 (January-May)	2007 (January-May)	2004	2005	2006	2007 (January-May)
USA	2,083.2	2,111.1	2,088.5	813.4	774.8	11.48	1.34	-1.07	-4.75
EU	1,194.9	1,210.5	1,317.5	517.9	515.7	187.53	1.31	87.84	-0.42
Asian	657	775.7	803.4	308.1	358.7	21.62	18.07	3.57	16.42
Japan	429.7	412.5	395.5	170.5	157.2	15.32	-4.00	-4.12	-7.80
China	266.7	282.5	251.9	107.6	112.9	47.83	6.16	-10.83	4.93
Others	1769.0	1,907.3	1,985.3	770.5	824.0	18.95	7.82	4.09	6.94
WORLD	6,399.9	6,699.6	6,842.1	2,688.0	2,743.3	14.10	4.68	2.13	2.06

Source: Information and Communication Technology Center with Cooperation of the Customs Department;
Compiled by the Thailand Textile Institute

However, factors greatly affecting the textile industry are globalization and the borderless economy. Society has made many governments face more difficulties. A borderless culture, investment, and freer movement are the result of information technology, transportation and financial developments. The value of the baht went from 44.5 baht/U.S. dollar in 2001 to 37.9 baht/U.S. dollar in 2006. This has affected the capital from exports that Thai entrepreneurs must consider in multi-dimension comparisons with entrepreneurs in other countries. 2) The parliament was dissolved in 2006 and the political situation remains unstable. 3) Socialist countries such as Russia, Eastern European nations, and China entered the market. 4) India became receptive to market mechanisms. 5) China became a member of the WTO in 2001 (Thailand Textile Institute, 2008).

As stated above, Thailand's textile industry encourages economic growth and employs thousands of Thai people. Although textile industries offer many advantages, its disadvantages include sale function, competition, increased responsibilities, financial losses, employee relations, human resource management, laws and regulations and the risk of failure. In addition, textile organizations in Thailand face a problem with internal and external environment such as competition with textile industries from other regions and most companies operating in it lack effective management skills. This paper will describe the serious problems in the management of the textile industry in northeast Thailand. The objectives of this study are to study the factors affecting the organizational development of textile industries and to explore guidelines for the operation and management of textile industries. This study proposes a strategic and management plan to textile organizations in developing countries like Thailand.

RESEARCH METHODOLOGY

The study was conducted in the northeast region of Thailand. A mixed qualitative and quantitative methodology was employed to ensure that no single aspect biased the data collection. In-depth interviews lasting 45 minutes to two hours were conducted with 18 entrepreneurs in the textile industry in five categories: 1) man-made fiber; 2) spinning; 3) weaving and knitting; 4) dyeing and printing; and 5) clothing. The answers were analyzed to synthesize the data. Content analysis was obtained through face-to-face interviews and 59 variables in the management of the textile industry were identified.

Factors and variables drawn from interviews were compiled in a questionnaire that was administered to 30 entrepreneurs to test its reliability. A reliability analysis resulted in an alpha coefficient of $\alpha = 0.9032$. In using the quantitative method, sample size was estimated using Yamane's (1973) formula. So, the sample size is 84 entrepreneurship with probability = 0.10. Questionnaires were mailed to 524 entrepreneurs in 19 provinces in

northeastern Thailand. One hundred and twenty questionnaires were returned. Data was analyzed by multiple regression (SPSS) to study the significant factors in textile industries.

RESULTS

We interviewed 18 entrepreneurs in the textile industry in small- and medium-sized enterprises in ten provinces of northeast Thailand. The sample was selected by purposive sampling with three case studies in Khon Kaen, two in Chaiyaphum, two in Sakon Nakhon, two in Ubon Ratchathani, two in Maha Sarakham, two in Kalasin, two in Nongkhai, one in Roi Et, one in Buri Ram, and one in Loie. In accordance with business and research ethics, the interviewees' names are withheld from this report. In addition, this paper does not present all 18 cases studies. Rather, we present the five most interesting case studies.

The most interesting case study from Khon Kaen province was a company in the Ban-Phai district. According to the interviewee, the company has three significant problems: personnel management, technology development, and marketing. Because most employees must work on farms or plantations in addition to the factory, the company has serious difficulties with personnel management. During the agriculture season, employees often leave the factory to work on their farms. At these times, the factory cannot produce or send goods to customers on time. The second problem was a lack of technology. Innovative machinery and new technologies are expensive, especially if they are imported from overseas. This slows the development of the organizations and prevents increases in production. Third, the company's competitors, especially in China, had lower sales prices.

The case study of a jacket manufacturer in the Tao-Ngoiy district of the Sakon Nakhon province was interesting. Like the Khon Kaen case study, this company had problems with personnel management. Many citizens in the northeast region of Thailand consider working at factories a secondary choice to working on their own farms. The second barrier encountered was marketing competition. Because the factory was located in a region where hundreds of other companies produced similar products, it struggled to sell locally.

The third case study was that of a garment manufacturer in the Lam-Praymat district of the Buri Ram province. This company lacked skilled employees. The company found it especially difficult to recruit full-time, skilled employees who were capable of operating of the production line. Many people in rural villages worked from home by subcontracting part of production from large or medium companies. In addition, many workers had commitments to their own farms and could only work part-time at the factory. These part-time workers often lacked the technical skill required to maintain textile machinery. Since no technical training was offered in the public schools, this company had to spend time and money on training. Lack of knowledge could be addressed by educational programs funded by the government; however, such programs were not readily available. The company was forced to learn on its own, and this process took a long time and cost a great deal of money.

The fourth case study was a weaving and knitting factory in the Maha Sarakham province. The company had difficulties with personnel management and the local culture. Again, during the agricultural season, many employees left the factory to work on their farms. Furthermore, during the New Year and Song-Kran festival, workers disappeared to celebrate. This diminished production and interfered with planning. The local culture also affected business. The rural people took a casual approach to factory work, often taking several days off for funerals and weddings.

The fifth case study was that of a garment manufacturer in the Muang district of the Sakon Nakhon province. This company had 52 employees and suffered from problems with personnel management. Depending on the time of year, employees often quit to work on their farms. This created an extremely high employee turnover rate. In addition, this company had a problem with economic reform. This affected logistics because of the increase in gasoline prices.

We found six impediments to the management of textile industries.

- 1) Knowledge is a necessary and sustainable source of competitive advantage. Knowledge allows the organization to solve problems and seize opportunities (Earl and Scott, 1999; Zack, 1999). Organizations

- that manage knowledge can evaluate core processes, capture insights about what they find, combine their skills and experiences as well as innovate and apply new ideas quickly. However, most entrepreneurs in northeast Thailand learn the management of textile industries by themselves and gain knowledge from their experience; this is an obstacle to the development of textile industries and competition to large enterprises. Therefore, knowledge capital is important to business quality and capacity (Spagat, 2005). In addition, higher education is likely to lead to improved managerial skills and better understanding of market opportunities (Rizov and Swinnen, 2004).
- 2) Supply chain management considers both inbound (upstream) and outbound (downstream) flow of materials, services and goods to the firm (Lambert, Stock and Ellram, 1998:506). Entrepreneurs in northeast Thailand lack coordination and cooperation on the supply chains, making production difficult. This lack of teamwork along the supply chain increases costs and delays delivery of final products.
 - 3) Financial performance is important to all businesses. Having a higher financial contribution position means more power on the board of directors (Mjoen, 1993). However, from empirical study we found that entrepreneurs in northeast Thailand often lack the ability to secure loans from banks. Without loans, it is difficult for these companies to extend their businesses or develop their organizations. In addition, interest rates are high, there are a lot of conditions and it requires that a lot of documents be submitted to the bank.
 - 4) Marketing management, a valuable trademark, and brand are crucial for firms' survival and success (Luo et al., 2001). Management know-how alone such as marketing skills is often consistent with minor ownership (Blodgett, 1991). However, most entrepreneurs in northeastern Thailand work as sub-contractors, not under their own brand name. Such a sub-contractor position is an obstacle to marketing development because they are not interested in creating competitive product designs. The Thai textile industry insufficiently promotes itself and seems incapable of adopting market and brand strategies. This means that a large amount of the income from the industry goes to foreign countries.
 - 5) Textile industries lack skilled employees, because most factory employees in northeast Thailand also work on their own farms. Another problem is the rural culture of Thailand. During festival periods, many rural workers take extended vacations that interfere with factory production and deadlines. In addition, Songkran festival is a Thai traditional New Year which starts on April 13 and lasts for three days. Vacation times and personal days off can disrupt a factory's ability to generate revenue. Furthermore, religious ceremonies, such as weddings and funerals, can also interfere with production, making it difficult for a company to survive. Stearns, Reynolds, Carter and Williams (1995) suggest that the business environment is not limited to the physical environment, but changes in business may be caused by political, social, and cultural factors.
 - 6) Manufacturing management and technology also negatively affects the Thai textile industry. From our study, we found that entrepreneurs use old machinery, and they not use technology for management such as internet and website between them, customers, and suppliers. So, the industry in northeast faces problems with competitors such as China, Vietnam, and Pakistan that have lower labor costs. Related problems are production lot size, production order change to low cost country, and adaptability. Technology can greatly benefit small enterprises. Kiyota and Okazaki (2005) suggested that technology acquisition improves a firm's performance. They also found that firms with acquired technologies accumulate capital much more quickly than firms without such technologies during regulated periods. These results imply that in technology acquisition licensing, the government screens a firm's application based on (a) the industry to which the firm belongs and (b) its experience with technology acquisition. Furthermore, part of the investment-enhancing effect of technology acquisition might be due to first-mover advantage or rent based on restricted access to foreign technologies, as the benefits of technology acquisition have disappeared since deregulation.

In the quantitative study, six factors gathered from the qualitative data gained in interviews were compiled in a questionnaire consisting of 59 closed-ended questions. Multiple regression (SPSS) was used to study the factors affecting entrepreneurs (Table 3).

Table 3: Multiple regression used to study management issues affecting textile industries

Variables	Unstandardized Coefficients		Standardized Coefficients (Beta)	t	Sig.
	B	Std.Error			
(Constant)	.554	.591		.938	.350
X1	.105	.178	.069	.591	.556
X2	-.002	.195	-.001	-.009	.993
X3	.343	.192	.195	1.784	.077*
X4	-.121	.145	-.078	-.834	.406
X5	.529	.218	.277	2.431	.017*
X6	.058	.097	.054	.597	.551

R = 0.456, R Square = 0.208, Adjusted R square = 0.166, Durbin-Watson = 1.903, P < .10

In Table 3, X1 = factor of knowledge capital, X2 = factor of supply chain management, X3 = factor of financial performance, X4 = factor of marketing management, X5 = factor of human resource management, and, X6 = manufacturing management and technology. In addition, Table 3 shows that only two of the six factors is a major influence on management of textile industries.

The factor of financial performance (X3), financial is an important for business, without financial performance, it is difficult for entrepreneurs to extend their businesses, such as they can not build new factories, buy new machinery and create new production line, they also can not development their industry such as employee training and marketing administration because financial institution lost faith in their potential. From empirical study, we found that entrepreneurs often lack the ability to secure loans from banks, and have high interest rate more than their ability to pay back by installment payment. In addition, entrepreneurs often lack the source of data for financial plan; there is lack of knowledge to calculate the actual manufacturing cost. So, financial performance affects the ability of management to make decisions, sales representatives cannot respond to their customers' needs, and product managers cannot quickly adapt product designs and distribute product to fit market demand, increase product sales and reduce idle inventory.

The problem of human resource management (X5) is the most significant issue facing the textile industry in northeast Thailand. Every company in the interview process mentioned this problem. There are two factors that textile factory managers in northeast Thailand must consider: workers' farming responsibilities and the local culture.

DISCUSSION AND CONCLUSION

From our study, we found that financial performance and human resource management interfere with the administration of the textile industry. To solve this problem, management should outsource. We suggest that, entrepreneurs should send some part of production to sub-contractor in rural village. By using this strategy, entrepreneurs can expand their production without investing much money in the construction of new factories, buying new machinery, and taking out loans. In addition, this can solve the problem of human resource management since sub-contractors can work in factories when they are free from farm duties. Entrepreneurs will not have to worry about labor turnover and factories will be able to fill their orders.

Entrepreneurs must study the traditions of subcontractors because in the northeast region there are many holidays, and people usually work in the fields during the rainy season. If entrepreneurs study the situation thoroughly, they will determine an appropriate production schedule. In addition, entrepreneurs should consider which processes should be outsourced. They should outsource those that are unnecessary, wasteful, or that need the effort of many employees when the end result is a low-quality product. Moreover, outsourcing should use skill rather than technology because subcontractors in the northeastern region are skilled but lack money. They cannot subcontract production using high-tech machines.

Factories that adopt an outsourcing strategy can reduce the cost of buildings for employees. Labor law requires employers to pay high wages and provide housing and medical care. However, with this outsourcing

system, employers need not do so. This strategy also benefits villagers who work as subcontractors, allowing them to continue working agricultural jobs while also working for factories when they are free from farm work. In addition, subcontractors can reduce their costs of living because they do not have to pay for transportation, allowing them to earn more income and improve their quality of life.

Outsourcing is one option that entrepreneurs should use in management. Managerial efficiency in these industries is extremely important. This strategy requires close coordination of research and development, manufacturing, and marketing activities. These seem to work best with a supply chain management strategy. If entrepreneurs can integrate all aspects of this management strategy, it will enhance the performance of the textile industries and drive the industries toward more sustainable business models.

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