

# The Model for Development of Successful Textile Industry

**Nilawan Sawangrat**

King Mongkut's University of Technology North Bangkok. Rayong Campus, Thailand.

E-Mail : Nilawan.s@fba.kmutnb.ac.th

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## Abstracts

Objectives: 1) To study the general management of textile industry; 2) To study the factors of the model for development of successful textile industry; and 3) To develop a model of structural formula of the model for development of successful textile industry. This is a quantitative research. The sample groups consist of 500 entrepreneurs or business managers in textile industry; while 250 samples are from mid-size and small-size industry, and 250 samples are from big-size industry. Statistics uses are descriptive, inferential, and multiple regression statistics.

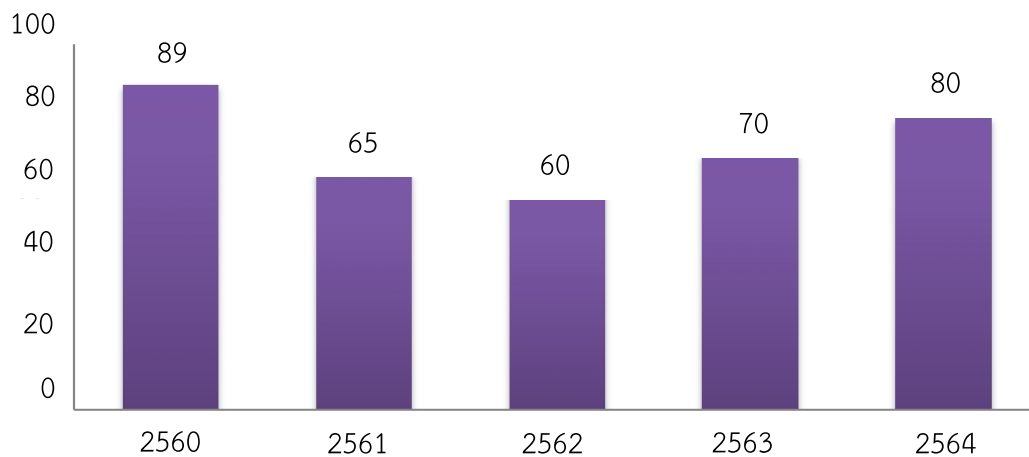
The research results reveal that: 1) The general management of textile business industries stretch from 10-20 years manufacturing goods for sale within the country, and the sources of funds used to support businesses are from banks or financial institutions; 2) Analysis results of the significant levels of the factors of the model for development of successful textile industry. In general, the significant level is at a high level. And when individual factors are taken into account, all factors are rated the significance at a high level; of which technology factor is the highest, second to that is marketing factor, follow by organizational resources factor, and organizational success, in that order; and 3) Analysis results of the developed model of structural formula reveal that the possibility value of Chi-Square Distribution is equal to 0.158, the value of Relative Chi-Square is equal to 1.220, the Conformity Index Value is equal to 0.960, and the Root Mean Square Error of Approximation value is equal to 0.016, considered passed according to evaluation criteria, and in consistent and in coherent to the empirical data.

**Keywords:** Textile Industry; Technology; Organizational Resources; Marketing and Organizational Success

## Introduction

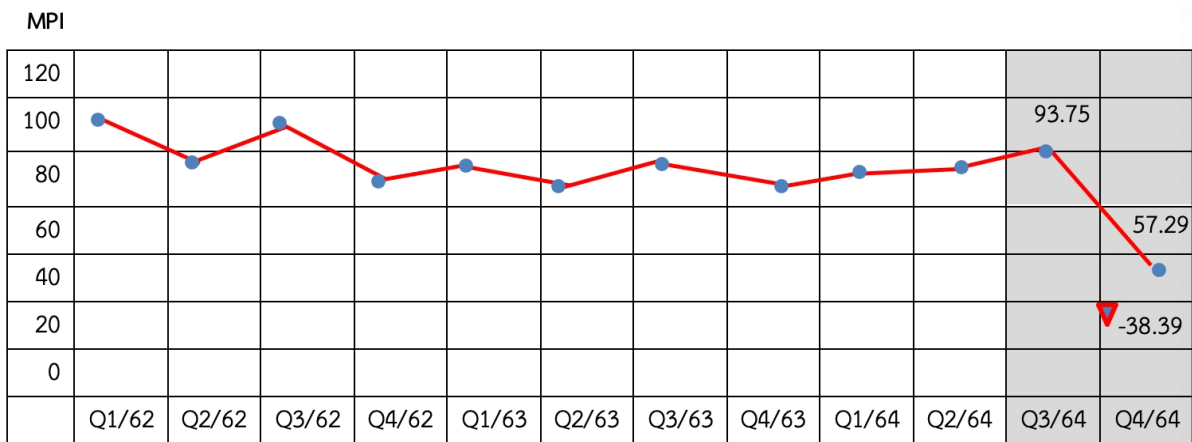
Textile and clothing industry has been very important industry for Thailand, in both earnings from export and resource for large number of labour. In the past year, manufacturers and distributors of such goods had to stop doing business temporarily, or decreased production capacity due to several surging problems, i.e. either war situation or various trade barrier measures, including the country's internal and external (partner country) economic conditions. These situations effected the decreased value of world's textile and clothing export. In Thailand, it was found that the general accumulative export value for the first half of the year 2563 was continuously decreasing at an average of 16.9 per cent, as resulted of manufacturers' purchase orders were cancelled by various merchandise brands which had to close their internet pages or shops in department stores, and the problems of untimely delivery of goods according to contract dates, impacting the whole system of world textile supply chain. (Office of Industrial Economics, 2564)

At present, the number of entrepreneurs in textile and clothing industry is around 163,827 in the country, while the proportion of entrepreneurs in mid-size and small-size enterprises is as high as 163,500 accounts, or 99.8 per cent. It derives employment number of as high as 666,092 workers or 66.6 per cent. Nevertheless, it derives added value only at 31.2 per cent or equivalent to around 78,000 million baht. At the same time, big-size enterprises, who consisted of only 327 accounts, or only 0.2 per cent, heaped up added value to more than 160,000 million baht. Therefore, important issue here is the effort to develop the potential of mid-size and small-size enterprises, to build more added value, to support the general economic development. (Office of Small and Medium Enterprises Promotion, 2564) Please see in Figure 1.



**Figure 1** Closing Number of Thai Textile Factories  
Source: Thailand Textile Institute

On the other hand, the export of Thai textile had faced up with severe competition gradually, especially competition in lower market. The problem of high wage effected the tendency of employment rate of textile industry to drop lower. Textile and clothing gross product gradually decreased. Factories gradually closed down from loss situations. Textile industry's product index statistics in 2564 was 57.29 per cent, decreasing at -38.39 per cent, which was the decrease of manufacturing in answer to the needs of the market, which decreased tremendously resulting from customers' purchasing power both domestic and foreign countries. (Government Savings Bank Research Center, 2564) Please see in Figure 2.



**Figure 2** Textile Industry's Product Index  
Source: Government Savings Bank Research Center (2564)

From the important events described, it was found that textile industry faced up with uncertain world economic factors and dragging economy of partner countries, which effected in decrease of customers' needs. Production costs in industries grew higher. The value of Thai baht was fluctuating effecting Thailand's exports. Moreover, there was the risk concerning the high cost of living which in turn effecting high cost of labour. These had effected textile industry which depended heavily on labour. From the study by Shanujas and Ramanan, (2021); Sharma et al. (2022); Borazon et al. (2021) revealed that textile industry could compete sustainably, could make profit, under changing environment. The organization had to emphasize on technology factor, organizational resources factor, and marketing factor, to build success for the organization in the long run.

## Research Objectives

1. To study the characteristics of general management of textile industry
2. To study the factors of the model for development of successful textile industry
3. To develop the model for structural formula of the model for development of successful textile industry

## Research Methodology

**Population and Sample Groups** Population consist of entrepreneurs and business managers of textile industry in Thailand totaling 4,500 persons. (Thailand Textile Institute, 2564)

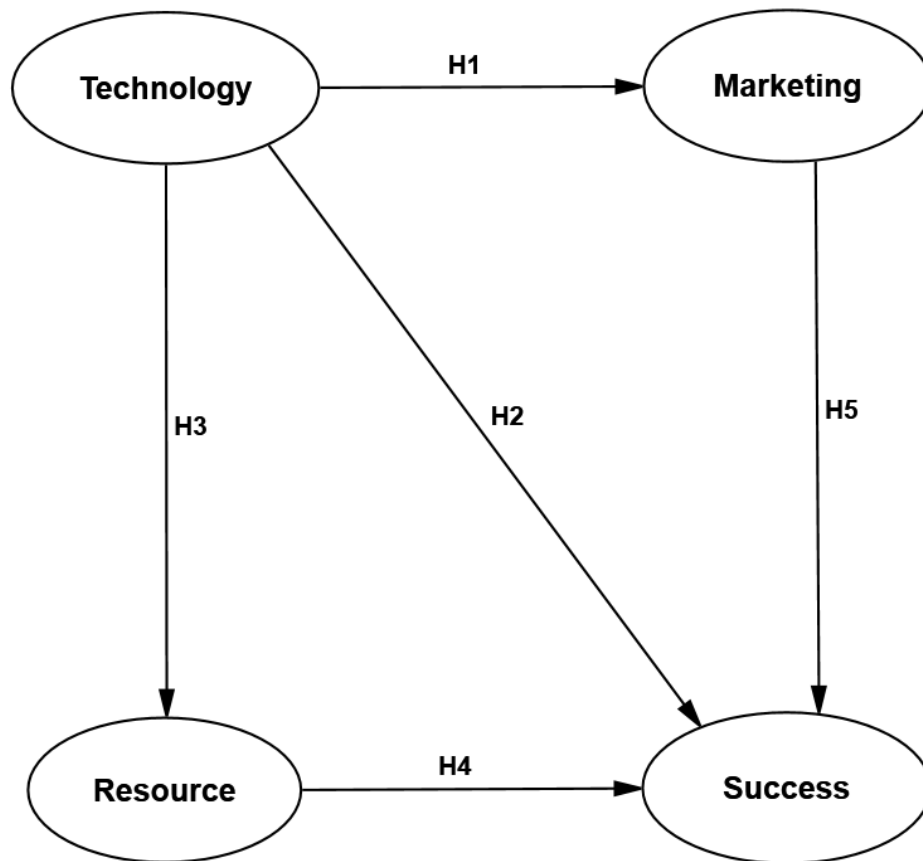
Verification of sample groups is done by following rules in the tables of Yamane (1973) with population size at 4,500 accounts and acceptable value of population statistical error is at 0.05, while the total samples are 354 accounts. The researchers would collect total samples of 500 accounts consisting of 250 accounts from mid-size and small-size enterprises, and 250 accounts from big-size enterprises, which should be at a very good level according to the thoughts of Comrey and Lee (1992) who believed that it was a suitable sample size for the analysis of the model for structural formula.

**Research Tools** This research is a quantitative research. Questionnaire is divided into 5 sections: The first section is a general inquiry on the industry and is a check list questionnaire; The second section is an inquiry on technology; The third section is an inquiry on marketing; The fourth section is an inquiry on organizational resources; and the fifth section is an inquiry on the organizational success. Questionnaire section 2 to section 5 are 5 points Likert's scale.

**Quality of Research Tools** The tools' quality was checked for Content validity by 3 experts who reviewed the questionnaire and administered for the finding of the quality of the tools by testing of Index of Item Objective Congruence, which revealed a value of 0.89, which was more than 0.50, indicating that the questionnaire items validly measured according to the objectives and the content, successfully passed according to the criteria of Rovinelli & Hambleton (1977); and a test for reliability by trying-out the questionnaire with 30 accounts (not those of the sample groups), then ran a test for the value of Cronbach's Alpha Coefficient, which revealed a value of 0.85, which was more than 0.70, indicating that the reliability was high according to the acceptable criteria of Nunnally and Bernstein (1994).

**Data Analysis** Both descriptive statistics and inference statistics were used in SPSS statistical package and develop the model for structural formula using AMOS statistical package; using Evaluating the Data-Model Fit selecting only 4 values for consideration, which were: (1) the possibility value of Chi-Square Distribution of more than 0.05, (2) the value of Relative Chi-Square of less than 2, (3) the Conformity Index Value of more than 0.90, and (4) the Root Mean Square Error of Approximation value of less than 0.08.

## Research Framework



**Figure 3 Research Framework on the Model for Development of Successful Textile Industry**

## Research Results

### Analysis Results of General Management of Textile Industry

On the general management of textile industry, it was found that 50 per cent of questionnaire respondents were mid-size and small size enterprises, which was equal to big-size enterprises ( 50 per cent); duration of business was 10-20 years ( 40.20 per cent) ; manufacturing for domestic market ( 72.40 per cent); and the financial sources to support businesses were banks or financial institutes (53.20 per cent).

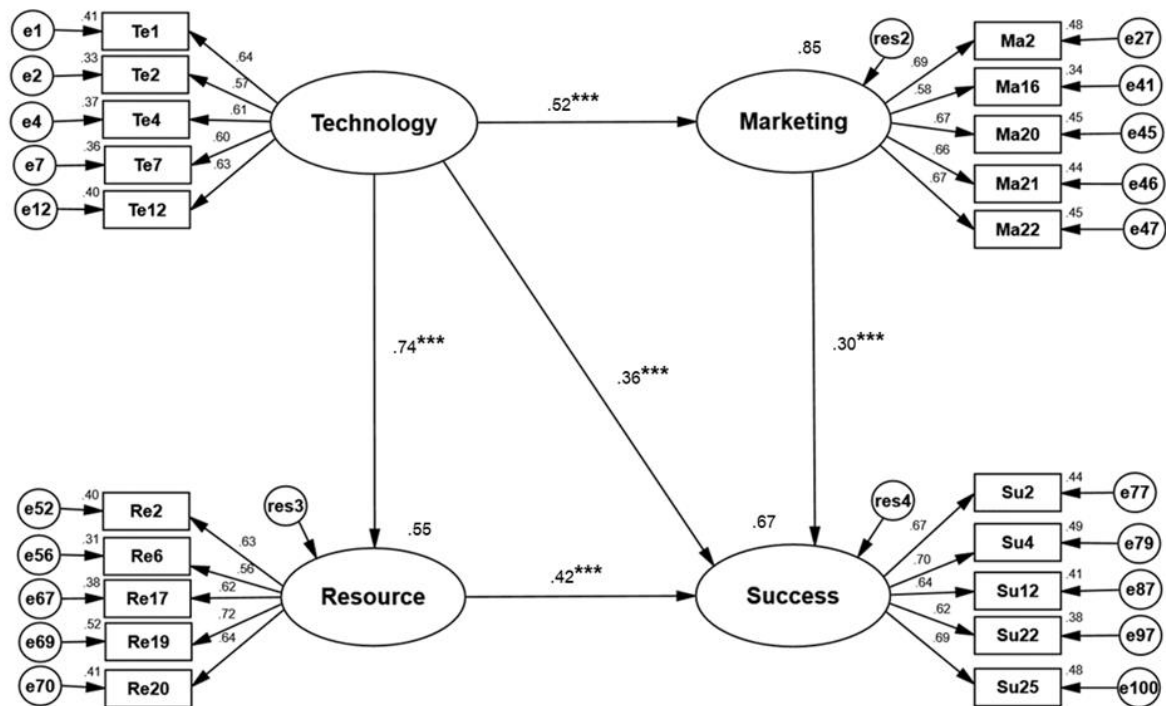
### Analysis Results of Levels of Significance of the Factors

The significant levels of the 4 factors of the model for development of successful textile industry. In general, the significant level was at a high level at an average of 4.00. And when individual factors were taken into account, all factors were rated the significance at a high level; of which technology factor was the highest at an average of 4.06, second to that was marketing factor at an average of 4.00, follow by organizational resources factor at an average of 3.96,

and organizational success at an average of 3.91, in that order.

#### Analysis Results of the Model for Structural Formula

For the model for development of successful textile industry, the researcher had improved the model in line with suggestions from Arbuckle (2011) by considering the results from the statistical package to delete some observable factors which were not appropriate out one by one. After the improvement of the model, it was found that the possibility value of Chi-Square Distribution was at 0.158, which was  $> 0.05$ , the value of Relative Chi-Square was at 1.220, which was  $< 2$ , the Conformity Index Value was at 0.960, which was  $> 0.90$ , and the Root Mean Square Error of Approximation value was at 0.016, which was  $< 0.05$ . In conclusion, the model had passed the evaluation criteria and was consistent and in harmony with empirical data. Please see in Figure 4.



**Figure 4** The Model for Structural Formula of the Model for Development of Successful Textile Industry

### Analysis Results of Direct and Indirect Influences

The analysis results of direct influence revealed that the technology factor influenced directly on the marketing factor, (0.52). The technology influenced directly on the organizational success factor, (0.36). The technology factor influenced directly on the organizational resources factor, (0.74). The organizational resources factor influenced directly on the organizational success factor, (0.42). The marketing factor influenced directly on the organizational success factor, (0.30).

The analysis results of indirect influence revealed that the technology factor influenced indirectly on the organizational success factor through the marketing factor, (0.16), and the technology factor influenced indirectly on the organizational success factor through the organizational resources factor, (0.16).

### Results of Hypothesis Test

The Model for Development of Successful Textile Industry was according to the preset hypothesis. Please see in Table 1

**Table 1** Hypothesis Test Results

Research Hypothesis	Test Results
H1: The technology factor influences directly to the marketing factor	accept
H2: The technology factor influences directly on the organizational success factor	accept
H3: The technology factor influences directly on the organizational resources factor	accept
H4: The organizational resources factor influenced directly on the organizational success factor	accept
H5: The marketing factor influences directly on the organizational success factor	accept

### Discussion

#### Technology Factor Influences Directly on Marketing Factor

Technology is a tool used for development of competition potential which induces economic added values. Due to the advancement of technology, entrepreneurs can receive required information quickly, thus creating channels for a strong organizational culture, since they will be able to approach targets worldwide. In the same way, Thai government emphasizes the significance of the promotion and development of mid-size and small-size enterprises at top priority since they are important bases for the country's economy, and the growing tendency of the world's community has changed to living more in digital environment opening new opportunity for successful textile businesses which accumulate value and worthiness by bringing technology into business management. Technology is the basic structure of storing knowledge from within and from outside of the organization to support the work of the whole system of the organization. Technology can evaluate and retrieve quickly the storing data for utilization. Technology can effectively assist in distributing knowledge from within and outside of the organization. Moreover, effective technology plus good management of knowledge will increase success to the organization (Ting et al., 2021). In addition, Technology can help in the development and design of new various commodities

into the market. Furthermore, manufacturing industries depend on the marketing development to respond to customers' needs, which leads to the maintenance of customer base and the profits of the industry through manufacturing that mainly emphasizes the customers' needs for the organizational success (Royo et al., 2021).

#### **Technology Factor Influences Directly on Organizational Success Factor**

Technology affects the organization in the ability to adapt itself to be ready to cope with future crisis by increasing its working potential in all levels from practical level to entrepreneur level. Technology assures every employee that he or she can equally access the same existing knowledge. Especially, working knowledge and expertise affect organizational success. Moreover, leadership affects organizational success also, according to a study by Latif et al. (2021), which was a study on the leadership of successful entrepreneurs. The study found that bringing in technology was a significant tool in the management of the organization since technology helped in good management of the business. In another study, it found that employees were ready to use technology effectively and continuously (Abbas & Sagsan, 2019). Additionally, changing internal and external environment affected the organization so that it adapted to such change and technology would also help decrease the risks effectively.

#### **Technology Factor Influences Directly on Organizational Resources**

Technology factor supports the effective utilization of organizational resources, beginning from the promotion and supporting personnels in the organization to learn technological knowledge. The organization can start by systematically distributing technological knowledge from small spots and spread it wider to the whole organization. By then, technology is utilized effectively and the organization would have effective personnel recruitment and selection process for able and knowledgeable personnels. The organization can promote employees' positive attitude towards the organization by encouraging, cultivating awareness of ownership, and creating strong values that are consisting with the organizational cultures to be withheld firmly in the organization. Moreover, the organization can arrange trainings of various curricular to develop certain knowledge and ability to apply in organizational development, such as the ability to make profit, consisting with the study of Shanujas and Ramanan (2021). Similarly, the design of training programs and personnel development programs in various aspects would help employees to work with high efficiency. Besides, the organization has supported employees to be able to use various technology to utilize new innovation in their effective decision making and planning of manufacturing and creating added values for the organization Sawangrat (2020).

#### **Organizational Resources Factor Influences Directly on Organizational Success Factor**

The organization has effectively managed financial resources by selecting low-interest source of funds to support the expansion of future businesses, to invest in modern manufacturing system, to use modern materials and tools, and to manufacture in environment friendly way, with good maintenance. The emphasis is to increase efficiency in manufacturing; to have a control, checking, and timely maintenance warning systems for tools and machines; and to develop personnel for needed skills and expertise, in consistent with the study of Sharma et al. (2022). The organization has become sustainable by increasing employee efficiency in core skills, technical skills, and good personal personalities, by developing from first employment so that employees could enhance their skills to sufficient ability to work; and the study by Lee and Meng (2021), revealed that organizational success derived from the preparation for employee development to high capacity in professional performance



### **Marketing Factor Influences Directly on Organizational Success Factor**

The organization accepts a customer center concept and has a positive attitude beginning from manufacturing to delivery of goods and services to customers. The organization communicates with customers that the organization is responsible in doing business with the society, by avoiding destroying natural resources and practicing environmental friendly. The organization manufactures goods in consistent with customers' present behaviors and values; makes differences or advantages for the commodities; including developing different usage for the commodities according to customers' needs, which is consistent with the study of Borazon et al.(2021). The study revealed that marketing was very important to the conditions within the organization, for example, employees, shareholders, and entrepreneurs, since marketing was the factor that brought success to the organization and derived efficiency for economy, i.e. alleviating pressure from competitors, customers, and business rules and regulations very well. And the study done by Akgun and Polat (2021), revealed that the emphasis on marketing for brand establishment, customer relation management, price management, and distribution channel management, helped in delivering goods out to the market rapidly and effectively, Sawangrat, (2020).

### **New Knowledge**

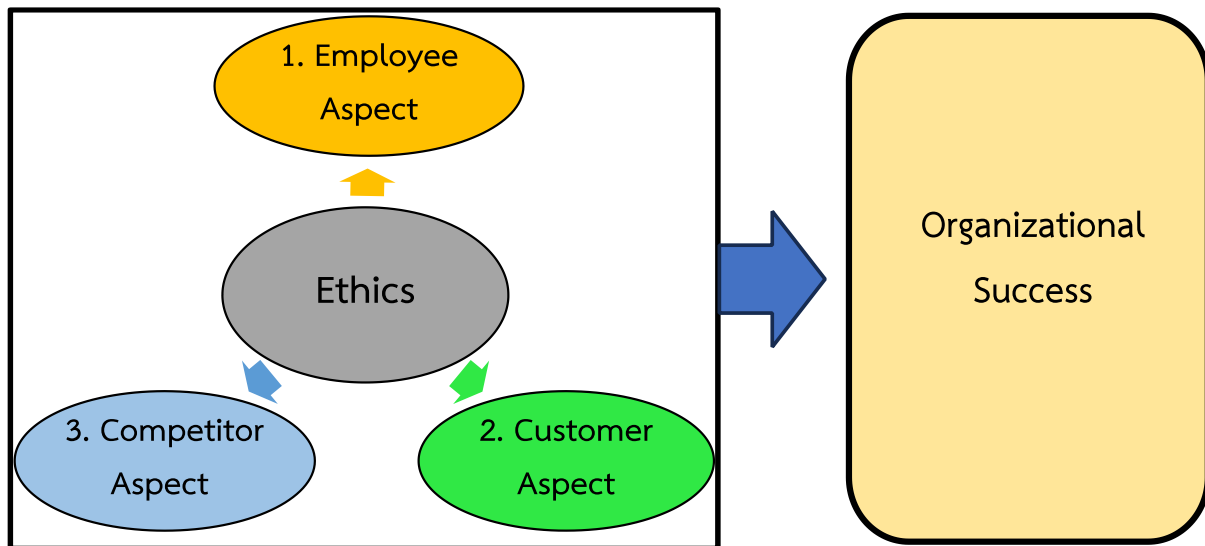
The research results on the model for development of successful textile industry revealed that technology factor, organizational resource factor, and marketing factor, influenced organizational success of textile industry. It was also found that business moral and ethics factor effected the success of textile industry as well. Successful textile industry is as follows:

**1. Employee Aspect** Employees are important resources that effect organizational success. Therefore, entrepreneurs have to pay their wages, provide services, and provide fair and equal benefits for all employees. Responsibilities and obligations are divided appropriately according to their knowledge and ability as well as provision of health and hygiene services when they are sick. Moreover, appropriate working environments and safety of employees' lives and assets are provided for. Additionally, employees are supported or developed in knowledge, ability, and high capacity, so that they can bring success to the organization.

**2. Customer Aspect** Customers bring success to the organization so the organization has to propose goods and services that are consistent with customers' needs, manufacture safe and harmless commodities and standard guaranteed by Food and Drug Administration Office, Thai Industrial Standard Office, and International Organization for Standardization Office. Besides, correct and complete information on the product must be provided. Moreover, the product and services have to be improved to be modern and respond to customers' needs and satisfaction. Pricing must be fair and suitable with the quality and quantity of the product. Customers must be served equally and customers' information must be kept secret. Customers' information must not be disclosed without prior approval by customers.

**3. Competitor Aspect** At present, business competition is high effecting entrepreneurs' various planning and strategy to win over competitors, and to save themselves. Therefore, entrepreneurs must build business allies to rely on each other; have ethics for competitors; not infringe intellectual property; observe laws, rules and regulations under good competition practice; operate in fair competition; not involve in trade barrier; and co-operate in protecting and preserving environment and assist and take care society as appropriate.

From the above findings, it can be concluded that entrepreneurs' moral and ethics are the bases to sustainable success. Such findings can be presented in the following model Figure 5.



*Figure 5 New Knowledge from the Research*

### Suggestions for Future Research

The researcher suggests that the model for development of successful textile industry consists of 4 factors as follows:

**1. Technology** An organization should invest and develop textile industry by bringing in modern technology to use more in manufacturing process, as well as developing modern working techniques, so that new working techniques would decrease steps of work process, decrease time, and save costs. Besides, there are exchanging and learning of modern technology usage from related industries and studying of technology management both domestic and foreign countries on textile manufacturing.

**2. Organizational Resources** Utilization of materials and tools, and manufacturing procedure, is friendly to environment. Tracking of information, news, and new Government's rules and regulations, is done to adapt for more consistency of use with the organization. Moreover, there are modern investment in textile manufacturing procedure; increasing of skills and expertise in skilled labor of textile manufacturing business to continue new knowledge for the development of product with modern characteristics and use domestic raw materials to save costs and promote domestic industry.

**3. Marketing** There should be good business control system and effective risk management in parallel with management with responsibility to society; bringing in modern machinery for manufacturing in consistent with customers' behaviors and values at present and in the future; bringing customers' suggestions or instructions to more thoughts on making products with high quality and efficiency, and popularity; managing with customer center in

mind, establishing positive attitude, building differences or advantages for textile products; and preparing relationship building activities between the organization and the customers.

**4. Organizational Success** Textile industry is in lack of business circulation capital and access of technology; lack of knowledge on marketing; and has limitation on resources. Therefore, all parties namely Government, private, and business sectors, should support and prepare strategic plan for textile industry development, through the integration of co-operation by every sector for the development of textile industry to have competitive potential.

## References

- Abbas, J., & Sagsan, M. (2019) Impact of Knowledge management Practices on green innovation and corporate sustainable development : A structural analysis. *Journal of cleaner Production*, 229(2019), 611-620.
- Akgün, A. E., & Polat, V. (2021). Strategic orientations, marketing capabilities and innovativeness: an adaptive approach. *Journal of Business & Industrial Marketing*, 37(4), 918-931.
- Arbuckle, J. L. (2019). *IBM SPSS Amos 22 user's guide*. Amos Development Corporation.
- Borazon, E. Q., Huang, Y. C., & Liu, J. M. (2021). Green market orientation and organizational performance in Taiwan's electric and electronic industry: The mediating role of green supply chain management capability. *Journal of Business & Industrial Marketing*.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Lawrence Erlbaum Associates.
- Latif, K. F., Afzal, O., Saqib, A., Sahibzada, U. F., & Alam, W. (2021). Direct and configurational paths of knowledge-oriented leadership, entrepreneurial orientation, and knowledge management processes to project success", *Journal of Intellectual Capital*, 22(1), 149-170.
- Lee, J. J., & Meng, J. (2021). Digital competencies in communication management: A conceptual framework of Readiness for Industry 4.0 for communication professionals in the workplace. *Journal of Communication Management*, 25(4), 417-436.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed). New York: McGraw-Hill.
- Office of Industrial Economics. (2564). *The Future of Thai Textile Industry to the era of "New Normal"* Retrieved from [https://www.oie.go.th/assets/portals/1/fileups/2/files/Articles/Analysis/Textile\\_industry\\_NewNormal.pdf](https://www.oie.go.th/assets/portals/1/fileups/2/files/Articles/Analysis/Textile_industry_NewNormal.pdf)
- Office of Small and Medium Enterprise Promotion. (2564). *Operation Plan on Small and Medium Enterprise Promotion by Branch*. Retrieved from [https://www.sme.go.th/upload/mod\\_download](https://www.sme.go.th/upload/mod_download)
- Research Center, Government Savings Bank. (2564). *Industrial Manufacturing of Textile and Clothing*. Retrieved from [https://www.gsbresearch.or.th/wp-content/uploads/2020/09/IN\\_textile\\_8\\_63\\_detail-1.pdf](https://www.gsbresearch.or.th/wp-content/uploads/2020/09/IN_textile_8_63_detail-1.pdf)
- Rovinelli, R. J., & Hambleton, R. K. (1977). *On the use of content specialists in the assessment of criterion referenced test item validity*. *Dutch Journal of Educational Research*, 2, 49-60.
- Royo-Vela, M., Salazar, J. C. A., & Blanco, F. P. (2021). Market orientation in service clusters and its effect on the marketing performance of SMEs. *European Journal of Management and Business Economics*, 31(1), 1-21.

- Sawangrat, N. (2020). Model Development Analyzing Casual Affecting the Effectiveness Logistic Industry Organization in the East Economic Corridor Area of Thailand. *Journal of Psychology and education*, 57(9), 6955-6963.
- Sawangrat, N. (2020). Organizational Success from the Perspective of the Learning Organization and Innovative Organization. *Journal of Industrial Business Administration*, 2(1), 35-47.
- Shahzadi, A., Li, S., Sahibzada, U. F., Malik, M., Khalid, R., & Afshan, G. (2021), "The dynamic relationship of knowledge management processes and project success: modeling the mediating role of knowledge worker satisfaction" *Business Process Management Journal*, 27(6), 1657-1676.
- Sharma, M., Luthra, S., Joshi, S., & Kumar, A. (2022). Analysing the impact of sustainable human resource management practices and industry 4.0 technologies adoption on employability skills. *International Journal of Manpower*, 43(2), 463-485.
- Thailand Textile Institute. (2564). *Thai textile Statistics. 2553/2554*. Thailand Textile Institute.
- Ting, I.W.K., Sui, H.J., Kweh, Q. L., & Nawanir, G. (2021). Knowledge management and firm innovative performance with the moderating role of transformational leadership" *Journal of Knowledge Management*, 25(8), 2115-2140.