



PRIMARY RESEARCH

Innovation and evolution of business models in chemical industry

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Abstract

Besides, increasing competitive pressure has led many enterprises to shift their production to focus on low-cost areas. Therefore, it is critical if enterprises can continue to survive with sustainable developments by improving business profits. To this end, this study has explored the business model development of a chemical company. The business model comprises customer value proposition, key resources, key processes, and profit model. The study aims to appreciate the business model development, strategic choice, and future trend of the case from the initial innovation and expansion stages. Since secondary data collection cannot reflect deeper significance, in-depth interviews are conducted to find the findings show that the study, the case that triggers the development of its business models, has emphasized the key resources and key processes in the initial stage. In the innovation stage, the case that emphasizes profit orientation has created and upheld high profits as well as rapid growth and innovation. Finally, the case that stresses customer value proposition has strived towards the goal of factory integration and profit-sharing in the expansion stage.

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INTRODUCTION

Global footwear products are mainly concentrated in two major markets, namely, the economically developed countries, such as the United States, the European Union, Japan, Canada, etc., or the densely populated countries such as China, India, Vietnam, Indonesia, Cambodia, etc. By 2016, the total output of global output has reached 23 billion pairs, of which 87% are concentrated in Asia for production, while China ranks first in the world for footwear production. In addition, health awareness among people has risen with growing trend sport sports and leisure, so that it has not only enhanced consumers' demand for shoes, but also helped maintain the steady development for sports shoes industry. With the development of technology, shoe factories today are no longer chasing after low labor costs, but more focused on automation, customization, and speed of delivery.

For shoe factory, all kinds of raw materials have accounted for about 60% of its total cost, but the sole costs have already accounted for 25% of the cost. Therefore, the costs of

chemical plants are extremely liable to the impacts of fluctuating raw materials and labor costs. In addition, since living standards continue to rise and materials as well as technical operation advance forward, shoe features have developed from such a single function of protection to those that are both comfortable and conducive to health-care. Therefore, it is important for chemical plants to rapidly change the economic environment, improve the manufacturing process persistently, and introduce new production models to enhance the overall operating efficiency. In recent years, the market has turned to refined and advanced demands for sporting goods as of deepening awareness of sports safety, so that it is either to strengthen professional functions, or integrate fashion elements to increase the diversification and practicality of products. Therefore, the world's leading footwear companies have attached great importance to their research, design, and related theoretical exploration. At present, the rivalry in global footwear industry can be reflected in the competition between brand and Research and Development (R&D) design. Internationally renowned

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shoe companies have built up their international reputation with profound historical and cultural preservation, fashionable style, and comfortable wearing. As the concept of Industry 4.0 is being burned around the world, the advancement of technology of the has revolutionized the materials and manufacturing processes for sport shoe. As industry competition is winding into the new century, companies must adjust their business operations at any time so as to adapt to changes in the environment. Because of deepening awareness for of sports safety, personal demands for sporting goods on the market are increasing. As such, personalized product structure will increase the complexity of process and difficulty of management, while the flow of supply chain must be transformed to adapt to the new product structure and services. Therefore, footwear chemical companies must, aside from improving production technology, also introduce high-performance and automated production to enhance added value to their products. To sum up, the purpose of this study is to explore the business model innovation and evolutionary development regarding footwear industry to so as to appreciate the development trends of the industry in the future.

BUSINESS MODEL

The business model emphasizes how organizations use their resources to turn them into valuable outputs and make consumers willing to buy (Bilog, 2017; McGrath & Mac, 2002), a way to explain how companies make profits (Casadesus-Masanell & Ricart, 2010; Sundar & Al Harthi, 2015). Business models are a combination of value streams, revenue streams, and logistics flows between business and business partners and buyers (Mahadevan, 2000). A good business model has clearly unveil what kind of activities a company to carry out to create value, and how the company selects upstream and downstream partners in the value chain and formation of corporate structures and partners of the network to generate profit and maintain the capital of customer relationship (Dubosson-Torbay, Osterwalder, & Pigneur, 2002). Innovative business models can help companies develop new markets, improve business performance, and gain more market value (Giesen, Berman, Bell, & Blitz, 2007). Second, the business model is a kind of approach (Seelos & Mair, 2007), and this approach is made up of three dimensions respectively as strategy, operations and finance (Morris, Shirokova, & Shatalov, 2013). Among them, strategy refers to paying attention to the structure of t enterprise, operation emphasizes the process of creating value by enterprise, and finance is the value obtained for enterprise. Therefore, innovation of business model

can increase the value added to companies and partners by reducing information asymmetry and transaction costs (Casadesus-Masanell & Ricart, 2010). To sum up, the business model of enterprise is how it effectively use its resources, to create better added value to consumer and render profit, in other words, organizational resources and capabilities are the major factors that create value (Brush, Greene, & Hart, 2001; Isada & Isada, 2017).

The essence of business model is to define the value of enterprise as it transmits the value to customer, and then induce them to pay for it. Therefore, business model is to grasp the opportunity and transform the potential of value creation into the intermediary mechanism of real value creation, that is, it is to emphasize the core function of value. Business model should cover the three dimensions as value structure, resource structure, and transaction structure (George & Bock, 2011). Second, business model is also an architecture structure that covers product, service and information flow (Amit & Zott, 2012), in a word, it is a conceptual tool that reflects how the company invest resources, creates, and profits. Based on this, (Johnson, Christensen, & Kagermann, 2008) believed that business model is composed of four key elements as customer value proposition, profit formula, key resources, and key processes, which must be combined to create value. Besides, value also includes the composition of four core components as customers, suppliers, competitors, and the complementary party, while their relationship is always changing. In view of what is mentioned above, even if previous literatures of past business model have been explored, still no universal definition and integral architecture have been reached. Nonetheless we can contend that business model mainly refers how a company invests resources onto the value chain of the target population of the value chain, how it creates, and how it achieves revenue. Therefore, it is why the business model by (Johnson et al., 2008) was used as the architecture of the study.

RESEARCH METHODOLOGY

Case

In 1989, the case was planned to set up in Guangdong, China, and this area is at the Pearl River Delta where it is a port a large amount of container import and export. Due to superior geographical environment of the case, the use of advanced production equipment and excellent management system, they provide the high-quality chemical industry with raw materials, re-product rubber, plastic particle foam material Economic Value Added (EVA) ethylene-vinyl acetate copolymer. The company's goal is to standardize

production processes to protect the rights of customers. In 2007, the Chinese company and the shoe factory jointly established a bottom rubber/EVA production subsidiary factory as the Chinese shoe factory. In recent years, the advantage of labor cost in Southeast Asian countries has gradually increased, and its industrial chain has become more and more comprehensive, reaching as much the level as in China. By 2015, the Chinese company and shoe factory have jointly established a bottom rubber/EVA production subsidiary factory of the shoe factory in Vietnam, and they have, in 2018, developed into a joint venture shoe factory. In 2019, the Chinese company participated in the investment on the acquisition project of US sports series brands. Since the establishment of the case, it has accumulated about 30 years of experience in the development and production of raw materials for chemical industry, providing assurance of product quality.

Data Collection and Analysis

This study is mainly to explore the business model of the case, including customer needs, production quality control methods, and methods to ensure the stability of EVA raw materials in order to refine plastic elastomer EVA process under the environmental protection and safety regulations. Since secondary data collection cannot reflect deeper significance, it is why in-depth interviews are conducted to discover more detailed and profound answers. In addition, the selection of interviewees is also an important key factor because suitable interviewee can not only provide effective information to help researchers and achieve the purpose of research, but also enhance information credibility. There-

fore, this study has chosen professional managers with actual management experience and power, that is, high-level executives or senior leaders of enterprises. The interviewees are respectively as customers, production plants, raw materials suppliers, and salesperson. For the design of interview questionnaire, this study has considered following items: 1. accommodation to customer needs : appearance, function, physical properties of the product, including delivery and follow-up required services. 2. Compliance with laws and regulations: the material and process of the product meet the requirements of relevant safety and environmental regulations. 3. R&D capability confirmation: the business department needs to confirm with the R&D department if of the factory has the ability to meet customer needs. 4. Provide solutions: resolve issues that are not in line with expectations until the customers has been rendered satisfied.

Framework

The main purpose of this study is to explore the innovation and evolution of the business model in footwear manufacturing industry, and the analysis is conducted through the four respective dimensions as customer value proposition, key resources, critical processes, and profit formula of the business model (see Figure 1). First, collect the secondary data of current status from industrial development, and then interpret and construct the data. At the end, data is combined with in- depth interview information to come up with the trend of industrial development, and finally a new model of corporate development is put forth.

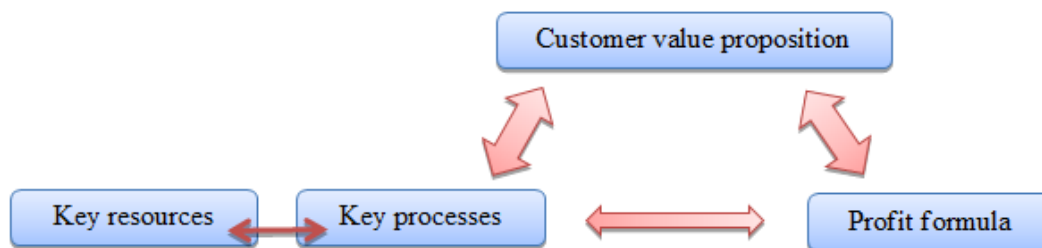


FIGURE 1. Analysis framework (Johnson, 2008)

RESULTS AND DISCUSSION

Initial Stage

From the 80 's, most people have become interested in sports beneficial to health movement as of their health awareness and change with ideas. Millions of people have jogged for exercise because jogging does not only help legs but also and health to circulatory system. To the 90 's, the theory of jogging has become comprehensive, so that peo-

ple began to pay attention to the importance of sports shoes. For sports shoes, it matters not just to wear with comfort, it also stands as a symbol of being healthy and young. As such, a growing number of youths have taken the consumption of sports shoes as a fashion sports shoes, and it is why sports shoes has become popular. The case was found with its origin from the management of plastic particles of chemical raw materials, and was later on recommended by whole-

sale importers and it had then participated in the establishment of a plastic elastomer production plant. Of plastic elastomer EVA, it is a revolutionary polymer material used primarily for sports midsole. The highly elastic EVA material can create a comfortable and comfortable feeling to foot, plus its light material relationship, the movement of step can also be very light, so that EVA is very suitable for casual running shoes. After occasions of understanding, the case believes though there are many choices of sports shoes, however, the awareness of general public is still weak in terms of brand awareness for sports shoes. Based on the notion, the case chose to use "differentiated" business model to push for high-end brands, and the following is the analysis of a business model. First of all, although there is a common philosophy of customer value proposition with brand customers, it does not mean that cooperation can be carried out immediately. As an opportunity to build up and establish clientele, the case must start from fundamental research and development, design, development, and sampling until physical property test has met the requirements of brand customers. Take the brand customer as Brooks as an example, its dedication to research and design meets the high-end functional shoes that runners need. Therefore, the brand requires that the middle and bottom of jogging shoes must have the effect to support the arch and enhance shock absorber as well as cushioning. Secondly, the thick outsole of jogging shoes is the best protection for runners, and a pair of good jogging shoes will not only to protect the runners, but also be to be very comfortable. Therefore, the brand requires a soft touch at the root and palm of the foot. Third, the sole must not suffer from fatigue easily when running, so that the ideas as to save more effort, and to be comfortable and safe no matter how far the distance of jogging is stressed. Hence, the brand demands the increased cushioning effect of springing-back.

Furthermore, the case has carefully studied the production process and strictly controlled the quality in terms of key resources and processes, aside from changing the composition of ingredients. First of all, EVA is a material, as viewed from the formula and so it is the key resource, that is waterproof and has good elasticity. The components of EVA is mainly based on the ethylene vinyl acetate resin plastic (resin copolymer of ethylene-Vinyl acetate Copolymer Resin) as its main raw materials, but it is with limitation, and when it requires rubber is needed to improve product performance. After a long period of research and development as well as testing of special EVA elastomers and proportions of rubber, the case has successfully developed Substance 257. It is thus named because it takes 75 percent of

EVA elastomer + 25 percent of rubber, whereby when the whole is obtained from the formula its wearing property can be strengthened the power of use with the finished product can be enhanced.

Third, the early midsole of running shoes, in terms of manufacturing process and that is the key process, from EVA products is first foamed into large pieces by EVA, and the cooling of large pieces of cooling takes 12 hours before the midsole can be use. After that, large pieces of foamed EVA are then based on the correct size and bevel angle to carry out cutting, trimming, and forming. Therefore, the case adds an additional process to the above-mentioned finished product and places the finished product into a mold, and then cools it by heat compression. The finished product is then covered by a comprehensive film as to hot melt, and the finished grain is more refined and presents higher quality. In this way, the case has, after efforts and changes, obtained the recognition of the brand company, and the two sides began a long-term cooperative relationship. Therefore, the case only, for its company revenue at this stage, supply midsole of running shoes and comprehensive solutions as its model of operation profit.

In summary, when the case has just been established at the initial stage, it is very clear about its micro-environment and has effectively exerted its own competitive advantages. In terms of customer strategy, the case has locked on the trend of brand development for it to get into the market. Therefore, high-end brands are seen as its target market. In this period, the case is driven by key resources and key processes to carry out the development of their business models. The above-mentioned content is integrated in Table 1.

Innovation Stage

At this stage, the footwear industry remains an industry that pursues low labor costs because the shoe is displayed in 3D status and are three-dimensional and it require a lot of manpower to complete the assembly process. Everything from pin-up, bottom, molding, warehouse packaging, to shipping has a very complex and cumbersome process. The following is a business model analysis. First, new source of profit-making, in terms of customer value proposition, opens up for a new customer base, while new customers will focus more on the quality of manufacturing, especially the process of new product development. Therefore, it is an important to consider how customer requirements can be achieved, and the physical requirements of regular customers for shoes are very high because it is necessary to ensure that shoes are not liable with functional defects in customer. Therefore, the case pays much atten-

tion to every development step so that it can achieve the required physical properties of the shoe, while there are 20 to 30 various tests, such as scratch resistance, winding resistance, dry and wet rubbing, sand wheel anti-wear, tear test kinds, aging, pulling, sweating, and other extensibility tests, and so on. All of tests are employed to ensure that all tests meet the standards before mass production can be started. Further, sports shoes not only require, in terms of key resources, light weight and high elastic EVA outer midsole, it also needs the outsole structure as it conducts direct contact with the ground, while the outsole is generally attached with the basic requirements as slip resistance, being wearable, and elastic and others. Therefore, natural rubber or synthetic rubber is widely used for sole materials. In order to achieve the market research and development and patents for high-quality sports shoes of the brand, the case established a rubber production factory in 1999, and it has specially developed 30% of the surplus material produced from the original high-quality material as rubber for raw material process, and then re-modulated it through special processes and formulas. Afterwards, original rubber is added, that is, mix the natural rubber and synthetic rubber in different proportions according to different functions of shoes. With such a formula, this would uphold favorable slip and wear resistance in face of different situations. All physical properties are tested to confirm all standard tests. Third, typical shoe production line is found, in terms of key processes, with three production areas, namely as cutting, sewing and forming packaging. Therefore, it relies on the subjective work experience of site manager or level setting of material handling based on old rules as how on-site production status of shoe factory achieves a certain stability and smooth flow. In view of the fact, the case has introduced a new concept of production model, namely, the fine solid Lean Production. Of the lean production line, it is reckoned as a systematic production method, and its objectives are to promote timely supply of raw materials and zero inventory so as to maximize value.

Finally, the shoe factory has, in terms of company profit-making model as well as the long-term relationship between the case and shoe factory, integrated with the case in order to effectively control the entire production process and timeliness. The specific case and the shoe factory set up another sole making sub-factory, namely, the out-sole factory. When EVA midsole and rubber outsole are completed, they can directly work as sole-assemble. Thus, the shoe factory can not only completely control the physical integration of the vamp and entire sole, but also solve the inventory problem of warehousing. As viewed, the integra-

tion of the case with shoe factory has further indicated the change of the business model of the case. As such, it shifts from supplying midsole in the past to the focus on both supply and production, and from the support of a single technical project-based program to high-end quality control of the industry. From the past, it operates in the form of a one-way supply model, and provides the overall performance of shoe-making business to strengthens the synergy of vertical integration through close integration of shoe factories. The new operating model brings a new profit-making structure. Therefore, the source of the profit-making model of the case at this stage includes the production supply of midsole and outsole, and the establishment of another sole sub-factory with the shoe factory.

In summary, in the innovation stage, the case and shoe factory are integrated in the innovation stage, while another sole sub-factory is set up together. In addition, LEAN line production is introduced to perform shoe-making operation with the concept of total quality management. Therefore, in terms of company profit, the sources of revenue generation, in terms of profit-making of the company, for the case are found in streams, respectively, they are the midsole and outsole sub-factories. For the case in this stage, profit-making model is gearing towards to program, create, and maintain high profit rapid growth, and innovation. The above-mentioned content is integrated and summarized as found in table.

Expansion Stage

Due to the continuous revision of China's policies, changes in tax incentives, rising wages, and overall increase in labor costs and manufacturing costs, the case has encountered significant obstacles in their overall production operations. For the survival and sustainable development of enterprises, it is an important choice to transfer production to countries with tax incentives. In contrast, in recent years, Southeast Asian countries are, in recent years, experiencing rapid development with their industrial economy, especially in Vietnam, the Vietnamese footwear industry has been constantly making development. Because footwear industry is a labor-intensive industry and the low labor costs in Vietnam, shoes made in Vietnam are extremely competitive in price. Coupled with Taiwan's long-term investment in Vietnam, Vietnam's shoe-making technology has become more and more sophisticated. Therefore, the case established a joint venture with partners in Vietnam in 2015 to establish a new shoe factory and a bottom rubber and so as an EVA production sub-factory. The following is our analysis of the business model. First, the case has, for cus-

customer value proposition as it penetrates into a new market, planned well with its comprehensive products and market development strategies, and deeply cultivated customer relationship management to create value for customers. All of the well-known sports shoe brands on the market have their own unique patented features and representation, while business would emphasize greatly about the confidentiality of customer product formulas.

From product design to product development, they are part of the company's confidential information, while the operation philosophy of the company means significantly to it. Hence, the case offers unique design and patent towards each of the major brand customers, and the formula recipe cannot be reproduced to any third party so that the greatest integrity trust can be earned from the customer.

TABLE 1. Evolution analysis of business model of the case

Business Model	Initial stage period: Manufacturing running shoes midsole EVA	Innovation period: Manufacturing running shoes midsole EVA + outsole Rubber + Industrial enterprise alliance	Expansion period: Manufacturing running shoes midsole EVA + outsole Rubber + Industrial enterprise alliance
Customer value proposition	- Have the effect of arch support and enhance shock absorber with buffer - A soft, elastic touch provided to tarsal and foot Request for effect of shock-buffer of spring-back	The physical properties of the shoes are required	Increase of new brand customers increase and approval for the objective of physical properties : Increase in elastomer by 40% Softness reduction by 33% Increase mileage extension by 40% Reduce aging by 33% Increase stability by 40% Increase comfort by 40%
Key resources	Developed the high-performance Substance 257 EVA	- High performance anti-slippery rubber, and HPR rubber - 30% recycled rubber for re-production - HPR rubber	A. Midsole of running shoe midsole with EVA technology B. Outsole of running shoes with rubber technology
Key processes	Traditional large-piece foaming mold cutter process, developed into 3D pre-mold instead directly to produce a finished midsole part	- Simultaneous production of EVA midsole and rubber outsole. - Corporate alliance and factory integration - Introduction of Lean production line	- Simultaneous production of EVA midsole and rubber outsole - Corporate and industrial alliance in China - Corporate and industrial alliance in the third country as Vietnam - Introduction of Lean production line
Profit formula	Supply high grade midsole for running shoes and a full range of solutions	The main shoe bottom factory and the shoe factory (the midsole and outsole factory) place equal focus on both supply and production, so that the industrial and enterprise alliances mutually benefited	- China main shoe bottom factory - China sub-factory in shoe factory (the midsole and outsole factory) - Vietnam sub-factory in shoe factory (the midsole and outsole factory) - corporate and industrial alliance integrates with factory, and it is further expanded to the third country as Vietnam - Vietnam shoe factory - place equal focus on Production and supply, and with innovation it expands industrial and corporate alliance for multiple channels of profit-making

Secondly, the sole is the life for shoes in terms of key resources. is the sole. Generally, the common characteristics of sole materials should encompass following features as wear resistance, water resistance, heat resistance, pressure resistance, oil resistance, impact resistance, and elasticity. After years of research and development and as well as production experiences for brands of various professional jog-

ging sports shoes, the case has been able to accommodate and meet the special research and development requirements of each brand. Furthermore, the case has come to appreciate the market opportunities and grasp business opportunities of innovation through competitive product analysis, customer experience research, and trend research. In fact, the design of outsole is to disperse pressure and en-

hance the flow of running. In view of the fact, both plastic and rubber manufacturing of the case are gearing towards the goal of precise quality for development, such as improving the wearing comfort, flexibility, enhanced increase stability than the previous standard, and extended mileage. As such, it strengthens durability, and can be in line with the needs of different workplaces, thus reducing aging and increasing softness than previous standard.

Third, it has shifted, in terms of key flow process, from such industrial structure of simple manufacturing and product orientation to that of customer value that it facilitates the case to re-position itself. Only it can introduce products that are in line with customer demands before it can control the market and promote business. If the company like to launch products that meet customer needs, it must constantly develop new formula and adjust production processes, that is, the company must transform towards improving quality and technology, producing high value-added and cost-effective products. It is our hope that we should head towards creating a chemical engineering team to work advanced R&D, and it will deal from raw material search, mold improvement, to product development process to meet the front-end market developments of customers. Take for instance, the small foam is placed into the mold for foaming, and the product is placed into the mold directly after granulated, eliminating the needs for many process steps and timing. Finally, the case has, for its profit-making model after a long period of cooperation, achieved a good reputation and customer recognition. Similarly, the company has a good interaction with the factory and sharing of profit performance. Therefore, the case has shifted its developments from the supply and manufacturing midsole and outsole supply manufacturing in the initial stage, to the bottom sole sub-factory in the innovation period, and then to its development to the emerging market in Vietnam; ultimately, the case has achieved multiple facets of profit-making through multiple allocations of diverse assets.

In summary, the case and shoe factories are re-integrated and the expanded to the shoe factories in Vietnam during expansion stage, so that it can develop new markets and attract new customers. With years of R&D and production experience, the case has come up with a professional chemical research and development team, a production process control team, and a quality progress control team that can accommodate to the special R&D requirements of each brand. In this stage, the case is oriented towards customer value, and will work through the factory to move towards the goals of joint control for cost as well as profit sharing. The above-mentioned content is summarized and integrated in

in Table 1.

CONCLUSION AND IMPLICATIONS

The case working with manufacturing EVA-based midsole, and it has gradually expanded the operation scale, stepped into shoe business, and developed the new business model after many years of cooperation with international brands as well as up and down the vertical integration of the experience. The new factory planned by the case in Vietnam, along with Vietnam's preferential tariffs and Vietnamese footwear industry furnished with complete upper-stream and downward-stream industrial chain, is quite complete. As viewed, the factory in Vietnam is also an important locomotive for profit-making in the future. The specific conclusions are found as follows.

Firstly, the shoes of the case in the earliest are mostly made according to materials and rarely divided according to purpose, while the heel and forefoot with sports shoes in the early days are basically horizontal. With increasing number of midsole materials and changes of sports concept and the rise of sports boom, it becomes critical as how a pair of shoes can be rendered to have the ultimate cushioning so that athletes can play better. Shock absorption technology generally covers two approaches. The first is material damping, that is, the deformation and rebound of elastic material so that it absorbs the shock cushioning and restore the shape. The second is the absorption of physical shock absorption, that is, it plays the role of damping through the deformation of midsole structure. However, physical shock absorption is basically applied simultaneously with material damping as of the ups and downs of physical shock absorption. In addition to the development of ever more new materials, which is lightweight and found with durable performance, while EVA is reckoned as the main material for manufacturing insole and midsole. Since the case also masters the key EVA midsole formula and key manufacturing processes, so that it quickly becomes the leading EVA midsole manufacturer and supplier for major sports brands around the world. In summary, the study has concluded that the case has based on key resources and key processes as its primary drive during the initial stage, which triggers the development of its business model.

Moreover, the fast-paced market demand shift has brought enormous challenges to traditional footwear industry, while continuous increase in manpower, material costs, and operating expenses has brought higher cost pressures to traditional footwear industry. Besides, there will always be too much inventory, and abnormalities and losses often occur, which also causes unnecessary waste of manpower man-

agement in traditional shoe-making process. Due to the long-term relationship between the case and the shoe factory, the shoe factory integrates has integrated with the case to jointly set up another sole bottom sub-factory in order to effectively control the entire production process and timeliness. Therefore, the case has shifted from the past as mere working on EVA midsole supply to shoe production. In summary, the conclusion obtained in the study is that the case at the innovation stage has based on profit-making as orientation for planning to create and maintain high profits, rapid growth and innovation.

Finally, traditional mode of production is mostly based on the manner of fewer choices but large number of quantity, so that it must rely on a lot of manpower. However, when there is gradual increase for human resources, industry must be transferred to less expensive areas of human resources for change. Among them, human resources in Vietnam are relatively cheap, so that it is a good place for the case to transfer for relocation. Moreover, the case has worked integrate factories to customize products for it can not only reduce labor costs, reduce production time, but also create consumer demand, and such customized chemical-engineering plants are expected to become more popular in the future. In summary, this study has obtained the conclusion that the case faces customer value proposition during the expansion period, and it is moving towards the goal of joint control for and profit sharing through factory integration.

In recent years, automation has already become a development trend as of changes in international economic environment, drastic increase of wages and shoe materials prices, and expensive labor costs. Traditional footwear industry has developed automatic shoe-making machinery from manual production of shoes in the past, and factory can quickly switch production lines to meet the expectations of brand manufacturers. Therefore, management implications are found as follows. First, it is necessary, in

terms of key resources as aside from basic traditional practices, to continuously conduct material research and development, strengthen research and development capabilities, and improve resource allocation to research and development system. Furthermore, companies are recommended, in terms of key processes, to enrich the information system, introduce mechanized or automated production processes, and reduce unit price to market business in order to meet the demands of high production capacity of shoe factories and avoid stagnation of production lines due to the lack of materials. Third, the supply chain model of traditional chemical-engineering industry lacks, in terms of customer value proposition, the features of flexible manufacturing production and fast customization, so that it is easier for them to lose market opportunities. Hence,, it is suggested that companies should attempt towards the development of personalized products without disrupting traditional manufacturing process to provide increasingly customized and suitable products for it is the trend in the future. Finally, companies are suggested, in terms of profit-making model, to integrate upper-stream and downward-stream key resources to form a complete industrial supply chain through investment or industry alliance in relation to supply chain so as to grasp key resources from the upper-stream and downward-stream to further improve the overall quality and stabilize supply sources. As such, it can have successfully combined the upper-, mid-, and downward-stream of the shoe-making industry to form a complete industrial supply chain and create a unique and irreplaceable competitiveness. In addition, we will continue to cultivate and enhance creative design capabilities of footwear industry, and establish a close partnership with international brands. Most of all, we will also persist to explore new markets by establishing long-term partnerships and alliances with the Group's supporting policies, helping to establish co-brands and own brands in order to open up new markets.

REFERENCES

- Amit, R., & Zott, C. (2012). Creating value through business model innovation. *Sloan Management Review*, 53(3), 41-49. doi:<https://doi.org/10.2139/ssrn.1701660>
- Bilog, D. Z. (2017). Investigating consumer preferences in selecting buffet restaurants in Davao region, Philippines. *Journal of Administrative and Business Studies*, 3(5), 221-233. doi:<https://doi.org/10.20474/jabs-3.5.2>
- Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of Management Perspectives*, 15(1), 64-78. doi:<https://doi.org/10.5465/ame.2001.4251394>
- Casadesus-Masanell, R., & Ricart, J. E. (2010). From strategy to business models and onto tactics. *Long Range Planning*, 43(2-3), 195-215. doi:<https://doi.org/10.1016/j.lrp.2010.01.004>

- Dubosson-Torbay, M., Osterwalder, A., & Pigneur, Y. (2002). E-business model design, classification, and measurements. *Thunderbird International Business Review*, 44(1), 5-23. doi:<https://doi.org/10.1002/tie.1036>
- George, G., & Bock, A. J. (2011). The business model in practice and its implications for entrepreneurship research. *Entrepreneurship Theory and Practice*, 35(1), 83-111. doi:<https://doi.org/10.1111/j.1540-6520.2010.00424.x>
- Giesen, E., Berman, S. J., Bell, R., & Blitz, A. (2007). Three ways to successfully innovate your business model. *Strategy & Leadership*, 36(6), 27-33. doi:<https://doi.org/10.1108/10878570710833732>
- Isada, F., & Isada, Y. (2017). An empirical study of standardisation, open architecture, and profitability in an internet of things business. *International Journal of Business and Economic Affairs*, 2(4), 253-259. doi:<https://doi.org/10.24088/ijbea-2017-24004>
- Johnson, M. W., Christensen, C. M., & Kagermann, H. (2008). Reinventing your business model. *Harvard Business Review*, 86(12), 57-68.
- Mahadevan, B. (2000). Business models for internet-based e-commerce: An anatomy. *California Management Review*, 42(4), 55-69. doi:<https://doi.org/10.2307/41166053>
- McGrath, R., & Mac, M. I. C. (2002). *The entrepreneurial mindset: Strategies for continuously creating opportunity in an age of uncertainty*. Cambridge, MA: Harvard Business School Press.
- Morris, M. H., Shirokova, G., & Shatalov, A. (2013). The business model and firm performance: The case of Russian food service ventures. *Journal of Small Business Management*, 51(1), 46-65. doi:<https://doi.org/10.1111/j.1540-627x.2012.00377.x>
- Seelos, C., & Mair, J. (2007). Profitable business models and market creation in the context of deep poverty: A strategic view. *Academy of Management Perspectives*, 21(4), 49-63. doi:<https://doi.org/10.5465/amp.2007.27895339>
- Sundar, C. S., & Al Harthi, F. N. S. (2015). Impact of capital structure on firm's profitability with reference to companies listed on MSM (Muscat Securities Market). *International Journal of Business and Administrative Studies*, 1(1), 23-28. doi:<https://doi.org/10.20469/ijbas.10004>