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Balancing Exploitation and Exploration for Strategic Flexibility in IT-enabled Business Model Transformation of Traditional Enterprises: An Ambidextrous Perspective

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Abstract: There is growing recognition that information technology (IT)-enabled business model transformation is a distinctive source of sustainable competitive success for traditional enterprises. In this context, strategic flexibility is an important catalyst for IT-enabled business model transformation. During the process of strategic flexibility, a key challenge for traditional enterprises is to balance exploitation of current resources and exploration of future resources. In this article, we examine this balance through an ambidextrous perspective in order to understand how it is achieved in the development of strategic flexibility. A case study is conducted on a large-scale well-known clothing manufacturing company in China attaining success in IT-enabled business model transformation. In our study, a process model is proposed to depict an incremental and iterative development to achieve exploitative and explorative balance, which contains four stages based on business model life cycle. The study's theoretical and practical contributions and future research directions are discussed.

Keywords: IT-enabled business model transformation, strategic flexibility, ambidexterity, case study

1. INTRODUCTION

The current environment is characterized by globalization efforts, hyper-competition, rapid technological advancement, the emergence of turbulent strategic models, and regulatory changes with growing customer demands^{[1][2]}. As developing new business models to quickly and flexibly detect dynamic consumer trends and seize market demands, emerging companies can invade business territories that were originally occupied by traditional companies^[3]. Consequently, traditional companies need to transform their business models into the emerging companies' domain to remain competitive in the future^{[4][5]}.

A dominant framework in the strategy literature to address this issue has been strategic flexibility, which is a pillar strategic capability to adapt to environmental changes by pursuing firm's resource allocation and coordination^[5]. However, the overemphasis of strategic flexibility may forfeit existing advantages from current resource. It is necessary for an organization to make a balance between the exploitative use of current resources and the exploratory use of future resources in the process of strategic flexibility^[6].

However, there are several significant gaps in the previous studies. First, although strategic flexibility is required for IT-enabled business model transformation of traditional enterprises, knowledge of strategic flexibility in this context is limited. Most research focuses on antecedents of business model transformation development rather than the development processes^[7]. Second, recent studies focus on individual factors on strategic flexibility without paying adequate attentions to organizational ambidexterity (e.g. exploitation and exploration) and the practical actions of this kind of promotion in a real case.

To fill these research gaps and draw from relevant theories, our study attempts to provide a deeper understanding of the importance of strategic flexibility in IT-enabled business model transformation of traditional enterprises and how organizations develop strategic flexibility by balancing exploitation and exploration from an ambidextrous perspective. Using the case of M company, this research proposes a process

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model based on the life cycle of business model transformation to develop strategic flexibility, which shows how the organization embraces strategic flexibility with making the trade-off between exploitation and exploration in an interpretive manner. Based on this model, we discuss the theoretical and practical implications

2. LITERATURE REVIEW

2.1 IT-enabled business model transformation life cycle

IT-enabled Business model transformation is a fundamental shift in organizing logic, target markets, value offering, IT-related capability and economic factors^[8]. It is embedded in a life cycle of evolutionary organizational processes to guide organizational resource configuration and operational routines^{[9][10]}. The first stage in the life cycle refers to the variation stage, where organizations specify a set of new strategic logics on how to address business model in the novel way. After specifying variation, organizations can evaluate and refine proposed strategic changes on new logics. The third stage of the cycle is the set of organizational activities for newly approved changes. Then, firms would compete in the fourth stage.

2.2 Strategic Flexibility

A burgeoning body of research has started to theorize about the effect of strategic flexibility. The concept of strategic flexibility has been widely considered as a key organizational capability to respond to various demands from dynamic competitive environment with adaptive use of resources and process reconfiguration^[11]. As IT can be a powerful enabler to contribute to firm's sustainable competitive advantage by serving a platform, the potential of IT in enabling strategic flexibility has grown considerably.

Dealt with existing literatures, firms need to develop strategic flexibility by building product flexibility and IT-based coordination flexibility, which is consistent with elements of business model. Product flexibility enables the firms to increase the range of production species, and "reduces the cost and time required to switch production resources from one product to another". Variety, cost and time are three principal consideration elements in the process of product flexibility. IT-based coordination flexibility refers to an ability to increase specialization, cooperative control, and contacts with suppliers and customers for organizational development^[12].

2.3 Ambidexterity

Ambidexterity requires the trade-off between extending existing competences and innovating new opportunities in response to environmental changes^[13]. Exploitation and exploration are ambidextrous organizational knowledge learning processes which essential to determine organizational success in a dynamic environment. As pointed out by Koza et.al. (1998)^[14], exploitation is involved in the processes of "refinement, production, efficiency, selection implementation", while exploration enables the firms to capture the process of "innovation, invention, new capabilities, entering new lines of business" under uncertain risks and outcomes.

However, those two strategic logics are needed if the firm wants to gain success in dynamic environment. If only exploiting their current resource, an organization would sink into a "competency trap", which may die out in the market; If succumbing to explore external resource, an organization would a "failure trap" with constant shift in its structure, which may lead to failure because of inexperience.

3. RESEARCH METHODOLOGY

The case research methodology is appropriate for our study for two reasons. First, the research concerns 'how' strategic flexibility is developed in business model transformation of traditional companies from an ambidextrous perspective, which is suitable for inductive methods^[15]. Second, as strategic flexibility and business model transformation is complex in organizational context, the case method refers to the most appropriate method than an objective method to examine the phenomenon by interpreting the understanding of

interactions among them. M company is selected as a suitable case for this study because it has achieved success by developing strategic flexibility from an ambidextrous perspective without prior experience.

The study starts in early September 2014, and lasted four months. Before collecting onsite data, we spent two months on gathering archival materials in terms of various sources. Onsite data collection was granted in November, and a total of 10 interviews were conducted with middle and top management of M company, including CEO, vice president, CIO, manager and senior project managers of IT department. Data analysis was performed with the collected data to benefit from the flexibility of the case study method.

4. CASE DESCRIPTION AND ANALYSIS

4.1 Organizational background

M company is one of the famous large-scale clothing enterprises in China, of which IT-enabled business model transformation can be back to 2010, when public policy resistance occurred. Table 1 summarizes several differences among past and current business model of M Company.

Table 1 . Differences among past and current business model of M Company

Business model	Past: "Consumer-oriented high-quality product"	Current: "Fast, diversity and low-cost"
Business Model Representation	Traditional business model targeting offline suit customized production	Modern business model targeting online fashion diverse productions
Organizing logic	Conservative and closed-end	Innovative and open-end
Target market	Government organizations	Fashion market
Value offering	Poor product design level and unitary product brands	Highly fashion product design and production diversity
IT-related capability	Organizational Internal management (ERP)	(1) Merchant sales-tracking mode; (2) Short production and fast distribution; (3) E-commerce operation
Economic factors	Higher production cost	Minimal production
Competitions	Losing production competitiveness and market share	Achieving sustainable competences with sense of style

4.2 Attempts to devise flexible strategies in business model transformation

4.2.1 Development of product-based strategic flexibility

In Stage 1, senior executives recognized that the existing business model, which overly focus on one type of product (e.g. formal clothes), was no longer sufficient and that growth in diverse types should be incorporated into further business model and young people has becoming a new consumption source. Moreover, it was a great aspiration for senior executives to achieve maximum benefits with minimum investment by reducing the production cost. In Stage 2, new strategic changes were determined to realize the new logics. Among them, increasing the orders for small quantities in pursuit of personalization was evaluated to be a main strategic change, which strongly focus on young people; while, new strategies were mainly sponsored to produce other kinds of product in the purpose of production diversity and profit maximization.

In Stage 3, some actions were taken to implement the above two changes. Several young idols were invited to be the spokesmen, and various kinds of fashion suit with small orders were produced to fill the need of youngsters. Moreover, design capability was enhanced to facility product diversity, and many original equipment manufacturers were built at home in order to decrease the production and transport cost. As a result, M company not only kept traditional advantage, but also led the trend of resulting in the changes from "leading consumers" to "led by consumers" in production mode. Table 2 shows the developments of product flexibility.

Table 2. Attempts to develop product flexibility in business model transformation

Stage 1: Specifying new strategic logics	
Extending current product brand to the trend of young people	“Previously, half of our sales were the uniforms and suit sold to the government organizations; however, the amount had a rapid decrease in terms of new public policies. Nowadays, fewer and fewer people wear formal clothes, especially the young. They prefer stylish small-size suit.”—CEO
Expanding fashion brand market with production diversity	“Picky customers and growth in product species are already familiar features in today’s market. We should not only product uniforms or suit, but also produce other kinds of clothes with high fashionable product design.”—CEO
Stage 2: Refining Strategic changes	
Refining Small quantities with personalization and fashionable strategy	“The teens will become our main consumption groups. So, our development goal is to increase the orders for small quantities in pursuit of personalization in terms of the young’s demand...This proposal can bring a lot of benefits for us.”—CIO
Innovating production variety and profit maximization strategies	“Learning from Fast Fashion, we should enhance product innovation capacity and launch diversified branding. The emphasis is on how to do more incomes with less cost. We also ought to reduce the cost of production in order to realize profit maximization.”—Vice President of Consulting Company
Stage 3: Carrying out emerging changes to adapt new strategic logics	
Promoting young and fashion production	“Young idols were invited to be the spokesmen of our uniform. We also designed and made various kinds of fashion suit for young people. But, the amount of each style is limited.”—CIO
Cooperating with excellent design and fashion organizations	“We integrated resources vigorously, and collaborated with some international design studios, design teams and external special category brand designers to develop different brands. Like in 2009, we expanded a new kind of fashion brand—XLMS.”— Vice President of Consulting Company
Stage 4: Competing in industrial and market context	
Keeping industrial traditional advantage	“We have kept traditional advantage in the apparel industry with rapid increase in the sales of our suit and uniform.”—CEO
Leading business fashion trend in the market	“Based on some strategic changes, our production model has been transformed from ‘leading consumers’ to ‘consumers leading’. By this way, we have lead business fashion trend in the market.”— CIO

4.2.2 Development of IT-based coordination strategic flexibility

In Stage 1, the existing functions of information system were recognized as neither sufficient nor competitive in the light of sustainable development. An explorative function on “speed” of supply chain system and Internet resources was called for. In Stage 2, those strategic logics were transformed into three new initiatives, two of which centered on technology innovations in supply chain management and e-commerce platform. These initiatives were focus on integrative or unified perspective rather than delicate one.

Official implementations were started in Stage 3 with three initiatives. The formal scheme necessitated M to revise the original order model by tracking merchants’ sales based on bands and categories. The latter innovated several kinds of supply chain software to facilitate contacts and enhance distribution capability in supply chain system, and established the e-commerce company to promote e-commerce operations. As a result, the number of merchants of M company has increased, and M was better able to increase productivity and responsiveness for itself and its partners. Table 3 shows the developments of IT-based coordination flexibility.

Table 3. Attempts to develop IT-based coordination flexibility in business model transformation

Stage 1: Specifying new strategic logics	
Extending scientific and delicacy management for distributors	“When realizing product competitions, we also face intense challenges on managing distributors. We should study out a kind of scientific and delicacy management method. In the past, merchant orders are only based on previous experience to make variety and quantity. It is likely to result in inventory.”—CIO
Exploring “fast” competitive capabilities and Internet various resources	“We felt that our previous supply chain system was relatively closed, and it was difficult to acquire core competence in the market. However, two of the core competences of Fast Fashion are short production and “fast distribution. So, in order to survive in the competitive environment, we should gain success from supply chain system. If we don’t act “fast”, we will be exceeded and defeated.” —CEO
Stage 2: Refining Strategic changes	
Refining the revised order model	“One initiative is to optimize the original order model based on information system....some of advantages are to make warehouse not be very large and save inventory cost.” —Manager of IT department
Innovating extensive connections in supply chain system and e-commerce platform	“In order to operate the supply chains quickly, we ought to make extensive connections with the upstream and downstream supply chains. Once the upper fabric supplier offers a new kind of fabric, garment sector can promptly get the information online, and apply this material in production right away. This contributes to ‘short production’ and ‘fast distribution’.” —CEO
Stage 3: Carrying out emerging changes	
Promoting merchant’s sales-tracking mode in terms of bands and categories	“We have deployed a new tracking mode in original information management system in the terminal stores. So we could track each day’s sales, and timely and accurately grasp the critical data in the process of enterprise operation. At the same time, we used these data to analyze each merchant’s purchase amount per year. Then, the merchants saw and compared the actual orders with estimated standard orders.” —CIO
Facilitating contact and distribution capabilities in supply chain system	“Based on Baison (a software company in distribution industry), we can realize collaborative management more quickly than Kingdee(a ERP software company) we used before. So, we applied Baison’s distribution software and warehouse management software to intergrate ERP system.”— Manager of IT department
Stage 4: Competing in industrial and market context	
Encouraging more cooperation merchants	“By tracking merchant’s sales, we helped merchants increase capital turnover, and improve their capital to maximize utilization. More and more merchants are joining our team.” —CEO
Increasing productivity and responsiveness	“We have guaranteed the new rate of twenty five kinds per week, which satisfied most of demands from consumers. It increased productivity and responsiveness for us, and for our partners.” —CIO

4.3 Strategic ambidextrous process for developing strategic flexibility

From analysis of the above data, a strategic ambidextrous process for developing strategic flexibility is revealed in IT-enabled business model transformation (Figure 2). In Stage 1, the exploitative logic is generated. It is represented by the extended vision to improve efficiencies in existing courses, while the explorative logic is also maintained to identify new opportunities for organizations. In Stage 2, two parallel strategies are evaluated and determined to make these logics concrete. This stage juxtaposes these strategies, presenting their differences more obvious and delimiting clear strategic objects to avoid confusions among them.

In Stage 3, these strategies are ready for formal implementations. To break inertias caused by the incumbent strategies, a support-and-stretch context is built. The support context promoted by the demands of existing customers serves to create a conductive method for organizations to take competitive moves, while stretch context supported by the high-standard social and technical aids compels the organizations to move out of their current domain. Then, outcomes naturally appear in the competitive industry and market. An organization would not only gain a great success in its traditional zone, but also build new strengths for itself.

As a result, the organization succeeds in transforming from a traditional business model targeting offline suit

customized production to modern one targeting online fashion diverse productions. It must be noted that once losing competitive advantages in the market, the organization need to recombine its resource to generate novel strategic logics with response to various demands from dynamic competitive environment.

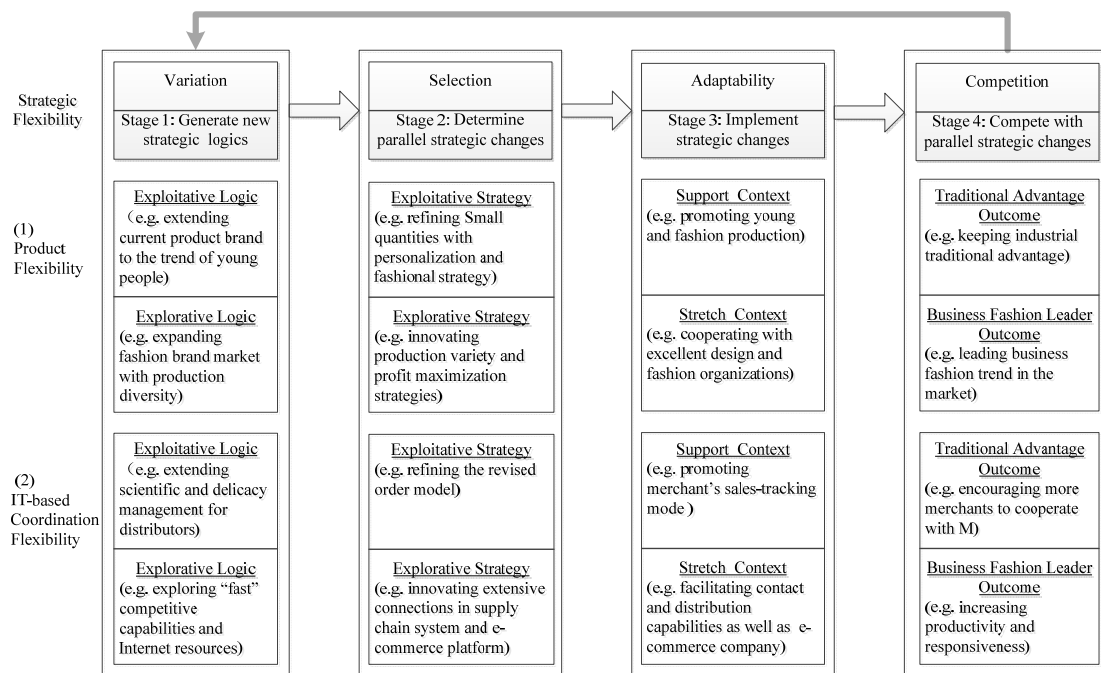


Figure 2. Strategic ambidextrous process for developing strategic flexibility in business model transformation

5. DISCUSSION

5.1 Strategic flexibility in business model transformation: Deconstruction of Organizational inertia

Organizational inertia refers to the stability in production and processes with inappropriate adaptation to changing environments^[12]. In particular, traditional companies embrace high organizational inertia in terms of mechanization management mode and closed supply chain system with low level of information technology.

In our study, we view strategic flexibility as an ability to overcome organizational inertia by making efficient use of IT. This process occurs through the interactions among the developments of strategic flexibility in business model life cycle. The variation process in the life cycle can be considered as a cognitive map to guide the development of strategic flexibility for the deconstruction of organizational inertia. Moreover, the selection is an organization's operational script and the adaptability provides concrete practices of the cognitive map, reflecting innovations in business model transformation. Especially, under the influence of IT, strategic flexibility reduces organizational resistance to change and lessens structural complexity to facilitate attentions to new opportunities with outstanding outcomes (e.g. e-commerce).

5.2 Ambidexterity in strategic flexibility: Efficient resource deployment

Strategic flexibility leads firms to adjust its business model to environmental preferences based on the coordination of various product-creating and IT resources. Although overcoming organizational inertia means removing existing resources, strategic flexibility should be built on available resources that can be deployed according to emerging needs^[13]. During this process, both exploitation and exploration are important.

We argue that ambidexterity is helpful to efficiently and flexibly deploying resource in the development of strategic flexibility. By balancing exploitation and exploration on product and IT-based coordination flexibilities in business model life cycle, a model of the underlying process through which ambidexterity fosters the

deployment of organizational resource is inductively derived (Figure.1). In variation process, organizations combine their existing resource with external stimuli to generate flexible and innovative ideas. According to these ideas, the selection analyzes the characteristics of the composition of existing resources to exploit existing fittest resources and explore new resources. By facilitating this ambidextrous logic, the heterogeneity in resource deployment turns to be conformity in the adaptable process. This conformity, in turn, helps organizations keep more competitive advantages in the industrial competitions.

5.3 Theoretical and Practical Contributions

This study makes several important theoretical and practical contributions. First, it fills the gaps in the literature of business model transformation by emphasizing the importance of strategic flexibility in the context of business model transformation. Second, by examining how ambidexterity can be aligned with the strategic changes of an organization and influences the development of strategic flexibility, this study opens up the “black box” of the relationship between ambidexterity and strategic flexibility.

In terms of contribution to practice, our study provides a comprehensive and empirical framework for business model transformation. Especially, practitioners who have difficult in advancing strategic flexibility to realize IT-enabled business model transformation could utilize this process model to identify the applicable actions, so that they can make best efforts in the management of business model transformation.

5.4 Limitations

Despite several theoretical and practical contributions in our study, findings are considered in light of limitations, which offer potential future research directions. First, since our study is based on the single case research methodology, it is difficult to conduct verification and validation of the process model in other industries from a quantitative aspect. Second, our findings are relevant to the large-scale well-known company in the market and may not be applicable to small and medium companies, for which exploration is the first concerning factor. In the future, it is of great importance to investigate how small and medium companies develop strategic flexibility to create competitive advantage in the market.

6. CONCLUSION

In this study, we attempted to investigate the importance of strategic flexibility in IT-enabled business model transformation and how firms develop strategic flexibility in IT-enabled business model transformation of traditional companies from an ambidextrous perspective. Drawing on M company’s successful experiences, this study derived a process model that answered the question of how to balance exploitation and exploration for strategic flexibility in business model transformation life cycle. This study provides an innovative and valuable vision for the researchers, who have interests to study the relationship between strategic flexibility and IT-enabled business model transformation. Meanwhile, managers responsible for IT-enabled business model development can also use the process model in this study to plan their endeavors.

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