

# THE CONSTRUCTION OF DYNAMIC CAPABILITIES FOR PUBLISHING ENTERPRISES

## *A Business Ecosystem Perspective*

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Abstract: Nowadays, many scholars and managers focus on dynamic capability, which is defined as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments”. Although there are many research results, they pay little close attention to publishing enterprises. Considering of the particularity of the publishing enterprises, in this paper, we discuss its identification and construction from the perspective of business ecosystem.

## 1 INTRODUCTION

With the development of the economic globalization and technology, there are fundamentally changes for enterprises’ competitive environment, competitive mode and organizational form. On the one hand, enterprises’ competitive environment presents dynamic and complexity trend, because rapid developing technology and ever-changing customer demands. On the other hand, applications of the information and network technology change the foundation of enterprise competing capability, and the cooperation model based on the division of labour can make enterprises satisfy the ever-changing customer demands by alliance and cooperation. Therefore, dynamic competence theory and business ecosystem theory put forward the problem that how to get the enterprise competitive advantage from different perspectives. The main contributions of this paper are: (1) we extend the framework of the dynamic capability to the scenario of the business ecosystem, and propose the conceptual model of the Enterprise Dynamic Capability (EDC) based on the business ecosystem theory. (2) We discuss the homogeneity and heterogeneity of the dynamic capability, and then

propose the reason of the heterogeneity is environmental uncertainty. (3) We apply the conceptual model of EDC to the publishing enterprises’ business ecosystem, which will be benefit to identify, construct and measure the dynamic capability of the publishing enterprises.

## 2 THE CONCEPTUAL MODEL OF THE ENTERPRISE DYNAMIC CAPABILITY

### 2.1 Business Ecosystem Meaning and Competitive Advantage Acquisition

Starting in the early 1990s, Moore (Moore, 1996) originated the strategic planning concept of a business ecosystem, now widely adopted in the high tech community. Moore defined “business ecosystem” as: “An economic community supported by a foundation of interacting organizations and individuals—the organisms of the business world. The economic community produces goods and services of value to customers, who are themselves members of the ecosystem. The member organisms

also include suppliers, lead producers, competitors, and other stakeholders. Over time, they coevolve their capabilities and roles, and tend to align themselves with the directions set by one or more central companies. Those companies holding leadership roles may change over time, but the function of ecosystem leader is valued by the community because it enables members to move toward shared visions to align their investments, and to find mutually supportive roles.” In one business ecosystem, different ecological members can form enterprise ecological circle by means of the resource and ability complementary, which can better provide the core products and services for customs. In the business ecosystem, the creation of enterprise value depend on not only the enterprise itself competitive advantage, but also its relation network advantage. The network resource of the business ecosystem can be used by the enterprise and its partners, which comes from learning effect, spillover effect, cooperation effect and complementary effect among the ecological members. In addition to the traditional VRIN characteristics, these network resources have sharing features. Enterprises could obtain and share integrated knowledge by participating in business ecosystem, and then improve enterprises innovation performance and product competitiveness, which make enterprises to obtain sustained relationship rents (Dyer, 2006). To gain the competitive advantage, ecological members can obtain scope economy and scale economy by choosing and constructing healthy business ecosystem. Business ecosystem theory can solve how to realize the synergies through the mutual correlation between enterprises. Its limitations are rarely discussing which resources and capability should be have by the individual enterprise in order to realize the effective coupling with the resource of the business ecosystem.

## 2.2 Conceptual Model of Enterprise Dynamic Capability

Dynamic capability is a kind of capability for an enterprise to adapt the changing circumstances through the integration, construction and reform of the competence both inside and outside (Teece, 1997). The dynamic capability theory regards that, under a dynamic condition, the enterprise which owns the core capability only can get the competitive advantage temporarily because the competitors will substitute its advantage position quickly by imitation and creation. As a result, the enterprise should renew its capability to suit the quickly changing

circumstance and keep the sustaining competitive advantage. At present, the research on the frame and dimensionality of dynamic capability is widely distributed, and different researchers discuss this issue through the different view, such as knowledge, technology and integration. Based on the relational theory, dynamic capability was analysed extending to the inter-organizational level, that is, to regard the organization network as the analysis cell. Bakos & Treacy proposed that dynamic capability should include two or more organizations. The newest research on dynamic capability also supports that the strategy analysis should be based on the business ecosystem concept instead of industry, and they also proposed that dynamic capability was benefit for enterprise to choose, breed and construct business ecosystem (Teece, 2006).

In the 3P (process, Positions, Paths) frame model of dynamic capability, the competitive advantage of enterprise derives from the competitiveness and capability of organizational process, while the organizational process was shaped by the asset advantage (especially the appropriative asset and complementary assets) and evolution paths of enterprise. In this paper, we propose that the limitation of 3P frame is to treat the appropriative asset and complementary assets in a static state without considering the dynamic co evolution of the enterprise and business ecosystem. The dynamic co evolution means that the enterprise capability and knowledge is embedded not only the inside operation process in enterprise but also the interactive process with business ecosystem and conditions. As a result, in the view of business ecosystem, dynamic capability is a kind of capability for an enterprise to adapt the changing circumstances through the integration, construction, reform and matching of the resources both inside and outside the enterprise. The embedding of enterprise to the business ecosystem has a feature of path dependence, and its main dimensionalities are identification ability, network ability, resource operation ability, open innovation ability and advantage protection ability. The concept model is showed as figure 1.

The strategic logic of conceptual model of the enterprise dynamic capability based on the business ecosystem theory is to seize the creative opportunity of the enterprise, decide the vision of business ecosystem and choose the suitable strategy through the search and filter of information space. According to the chosen strategy, the enterprise fixes the resource demand, chooses the cooperation partner, constructs value network to gain the complementary

resources, deploys and shares the knowledge and resource both inside and outside and protects the resource advantage, as well as gains the new competitive advantage. When the business ecosystem turns into the phase of decline, the enterprise renews to search the new creative opportunity and cooperation, and gain the continuous development under the hypercompetitive environment though the health business ecosystem and constant creation.

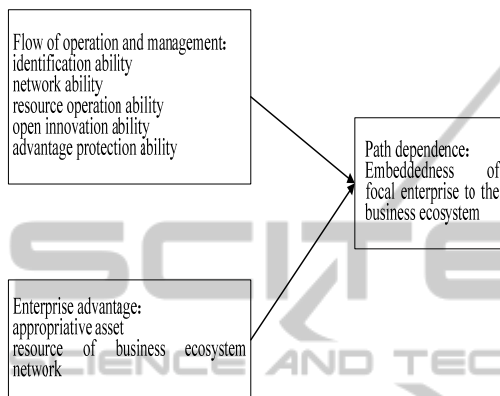


Figure 1: Conceptual model of the enterprise dynamic capability based on the business ecosystem theory.

### 3 IDENTIFICATION AND MEASUREMENT OF PUBLISHING ENTERPRISES' DYNAMIC CAPABILITY

#### 3.1 Homogeneity and Heterogeneous of Enterprises' Dynamic Capability

Dynamic capability theory is difficult to operate and measure during the process to instruct the enterprise practice, thus the application of this theory has also been affected. To solve this problem, firstly we should probe whether the dynamic capability in different enterprises has the homogeneity. Teece proposed that the dynamic capability is heterogeneous because of the individual heterogeneity and the specific paths dependence. Eisenhardt & Martin proposed that the dynamic capability has the overall character in the key points, but it showed the different forms under the different market conditions and it was probably heterogeneous in the specific establishment and type of rearing as the enterprises were different, such as the products development programme of Honda, resources deploy process of Intel, the merger and integration process of HP, and so on. In this paper,

we propose that dynamic capability is not the single capability but a group of capability bundle and it is multidimensional and multi-hierarchy which shows the different shape under the different situation and field. Thus, dynamic capability should be effectively identified when applying it to the practice of enterprise.

#### 3.2 Business Ecosystem Characteristics of the Publishing Enterprises in the Digital Environment

Print means the broadcast activities from private space to the public area with style of publication through the edit and publish of literature works. The core of print is the materialization and broadcast of knowledge, so it has the characters of economical and culture efficiency which endows the print activity and print competition specialization character. In the traditional print industry chain which mainly depends on the papery books, the information broadcast mode is in line shape and the print enterprise located on the core position of industry chain.

Development of computer communication and network technology brings the change of information broadcast and copy mode which changes the medium zoology and copyright zoology. Thus, it has the revolutionary effects on the print industry. Along with the change of obtain style of knowledge and information, as well as readers' peruse habit, and fading of traditional print concept, the print industry, media industry and communication industry compromises gradually and hyper-media print business ecosystem comes into being gradually. The media ecosystem is consisting of print ecosystem, newspaper ecosystem, journal ecosystem, broadcast ecosystem and television ecosystem. In simulation technique era, print and newspaper population occupies the vision by word information; broadcast population occupies the hearing by voice information; and television population occupies the audiovisual by voice and video. Digital copy and broadcast technology changes the separate state of the above-mentioned populations and makes them across. The aggravated competition of different populations urges the emerging of a new print business ecosystem, that is hyper-media print business ecosystem. Comparing with the traditional print industry chain, members of hyper-media print business ecosystem turns more complex and diverse. It contains not only members of traditional industry chain, but also the digital print enterprises, plat-form enterprises, digital technology

facilitator and terminal reading suppliers. The core position of the traditional print enterprise declines, but the position of platform enterprise and facilitator who own the technology rises gradually. The two parts realize the complementary advantage based on the resource owning.

### 3.3 Environmental Uncertainty of the Publishing Enterprises

Researchers find that the effective dynamic capability shows the different shape under the different market conditions. Most papers regard the dynamic of circumstance as a regulated variable between dynamic capability and performance and the logic of this theory is atomistic view. In view of business ecosystem theory, the performance of enterprise consist in the business ecosystem network, and the relationship between enterprise and circumstance is not the action and reaction, but the interaction and cooperation. Thus, we should consider the circumstance as the predictor variable of affecting the dynamic capability.

The uncertainty of circumstance means the unpredictability of changing of marketing transaction circumstance, and it reflects the complication, unknown and turbulence of enterprise circumstance which is normally measured by market turbulence, technology turbulence and competitive intensity. The print activity has not only the character of economical efficiency, but also the character of special politics efficiency and culture efficiency. As a result, when we evaluate the print enterprise circumstance, we should consider not only the marketing factor, but also the non-marketing factor.

Due to the high uncertainty of circumstance of print enterprise, the renew and regenerate dynamic capability are the expression of the dynamic capability of print enterprise and the importance is the renewal of resource and capability.

## 4 IDENTIFICATION OF THE DYNAMIC CAPABILITY FOR THE PUBLISHING PRESS

Heterogeneity of the dynamic capability is related not only with methods of updating resource and ability, but also with adoption of effective activities. According to proposed the conception model of the dynamic capability, we interviewed with 20 executives of publishing business, and then obtain

some factors of the publishing enterprises' dynamic abilities in the view of business ecosystem as shown in Figure 2. Moreover, some factors and measures of dynamic abilities for publishing enterprise are also listed in Table 1.

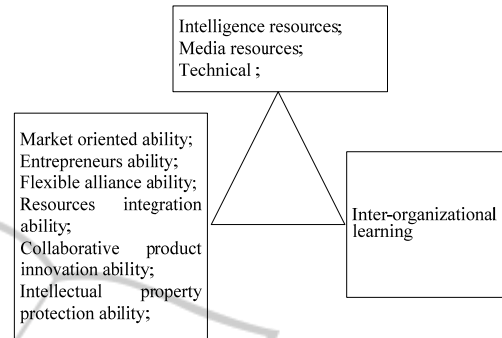


Figure 2: Factors of the publishing enterprises' dynamic abilities in the view of business ecosystem.

## 5 CONCLUSIONS

Hyper-medium business ecosystem provides all-round service and experience for reader through medium complementary effect and network resources effect. So, it has the incomparable competitive advantage compared to traditional publishing industry chain and changes the competitive situation and mode of the whole media ecology. Traditional publishing enterprises must join in one or several business ecosystem to survive and develop. By resources complementary, knowledge sharing and synergies, they will hold the core position gradually and establish their own leadership position. Therefore, construction and breeding of the dynamic capability are very important for traditional publishing enterprises to facing threat and gain sustainable competitive advantage.

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Table 1: Factors and measures of dynamic abilities for publishing enterprise.

Dynamic capability indexes and meaning		Dynamic competence factors	Dynamic capability attributes	Measured variable
Identification ability	Identify technology and market changes, investigate the health condition of the business ecosystem	Market oriented ability; Entrepreneurs ability	Learning	Collection and feedback of readers; Acquaintance of innovation process of the suppliers and distributors, technology business, other press; Information transmission efficiency in internal departments; Reaction efficiency for the outside changes by the senior management
Networking capability	Selection of the core resource, confirmation of the cooperative partners and complementary resources	Flexible alliance ability	Learning; Coordination; Update.	Timeliness of cooperation investment decisions; Cooperate with many partners (platforms, technology provider, operators, counterparts); Cooperation method is flexible; Put forward a constructive solutions during the conflict with partners; Enterprises determine quantity of printing and circulation.
Operating ability	resources allocation 、 complementary resources、 resources sharing、 resources integration	Resources integration ability	Integration; Leaning.	Technology resources and channel resources are obtained through cooperation; Subjects are selected with authors and business partners; Marketing program is implemented with technology developers and channels; Management, planner and marketing staff should often learn and communicate with the outside world.
Open innovation ability	Develop core product with ecological members, provides total solutions for customs	Collaborative product innovation ability	Update	The innovation of the new product content; Diversity and standardization of the product content; Digitization and conformability of the product and service; Realization of the digital publishing and publishing on demand.
Advantage protection ability	Protection of the core resources and knowledge	Ability of intellectual property protection	Coordination	Right of Product information network transmission; Right of read and copy; Internet copyright of enterprise; Control of digital copyright protection technology ; Creative personnel outflow phenomenon.