

Study on Niches of Enterprises and Strategy in E-business Ecosystem

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Abstract—The internet revolution is sweeping every aspect of business, and E-business development needs sound ecological environment. The competition in the e-business was not among enterprises but among the ecosystems. This paper focuses on problems of E-business construction for enterprises in different niches in the perspective of business ecosystem, introduces the concept of e-business ecosystem and the basic components and analyzes the strategy.

Index Terms—business ecosystem, enterprise nich, strategy, co-evolution

I. INTRODUCTION

Internet technology has gone far beyond a mere means of electronic transitions, it has become a foundation for applications linked to the core business systems and modifies net-working methods and processes and net culture and organization. Moreover, the volatility of many contemporary markets mean that such partnerships form opportunistically and are short-lived. To flourish in such environments, businesses must continually adapt and evolve. This requires that a business engage in an ongoing dialogue with its environment and with others with whom it shares this environment.

E-business provides a brand-new way of conducting business transactions and crucial impetus to the future economy. The implementation of e-business is globally innovative activity since the internet provides people with enormous space of imagination and creativity as well as rather complicated operating environment. Presently, e-business has pressed up to traditionally commercial and industrial hinterlands, more and more domestic enterprises have realized that e-business is an effective way to improve international competitiveness and market expansion in the future and taken an active and positive attitude. However, it is new challenge for Chinese enterprises in e-business environment to reform management model in order to conduct a road suitable for national condition, avoid and reduce risks effectively and share broad interests of e-business.

As consequence of this evolution, the dynamic networking of the organizations is driven to dynamic cooperation between the players on the territory and connection of the resources in a ecosystem, building a community that shares business, knowledge, and infrastructures. This will dramatically affect the ways

enterprises are constructed and business is conducted in the future, and those organizations slow in changing will be replaced by more flexible and transitory structures based on alliances, partnerships and collaboration.

II. THE CONCEPT OF E-BUSINESS ECOSYSTEM AND ITS COMPONENTS

A. The concept of e-business ecosystem

Although it had already been in use for some years, the term business ecosystem gained its mainstream popularity in Moore(1996), which proposes the following definition: “An economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world. This economic community produces goods and services of value to customers, who are themselves members of the ecosystem.”[1]

According to Moore, a business ecosystem includes customers, lead producers, competitors, and other stakeholders. The key to a business ecosystem are leadership companies, “the keystone species”, who have a strong influence over the co-evolutionary processes. Moore states that these are just metaphors which can clarify certain issues and help understanding them.

Business ecosystems are based on core capabilities, which are exploited in order to produce the core product. In addition to the core product, a customer receives “a total experience” which includes a variety of complementary offers[2].

The life-cycle of a business ecosystem can be divided into four stages. In the birth stage it is essential to do more than just satisfy customers. In the expansion stage the scale-up potential of the business concept is tested. In the leadership stage the business ecosystem reaches stability and high profitability. The final stage, self-renewal or death, is caused by the threat of rising new ecosystems[3].

Business ecosystems are born from value chains, they may incorporate one or several value chains; similarly, it is probably feasible when analyzing a value chain to see the business ecosystem within which it evolves. Although ecosystems are built on industry-wide value chains, they are more than just a mechanical sequence of supplier/buyer relationships.

“Community” is the important word in the definition of an ecosystem. The success of a business ecosystem lies in a combination of efforts from business,

government, education, and all segments of a community. A business ecosystem is a value chain enhanced by a culture[4]. And why is this important from an economic standpoint? Because the two-sided cultural interactions between members of a community sharing the same interests and the same values result in long-term relationships. The implicit objective of these interactions is the long-term sustainability of the whole community. This is one of the key differences between value chains and business ecosystems: value chains are held together by supplier/buyer relationship which, by nature, are volatile. Value chains create value, business ecosystems generate sustainability; this is the real benefit for the different players in a business ecosystem.

E-business ecosystem in essence is analyzing the relationships among entities and environment-entities in e-business environment from eco-business perspectives, theories and methods. It is a mixture of different types of entities, users and the environment.

B. The components of e-business ecosystem

System is composed by interconnected elements to realize the organization function. The majority of members in e-business ecosystem are e-business entities:buyers and sellers. First, according to Marco Lansiti and Roy Levine, entities can be divided into three kinds : Keystone, Dominator and Nicher. Second, there are some service providers such as advertising, financial payment institutions, logistics and software to realize the e-business function. Third, e-business ecosystem includes some departments whose behaviors and strategies will have a profound impact on e-business such as government, industry, scientific research and education. Finally, e-business ecosystem is indispensable to environmental elements, its development and evolution are certainly restricted by some factors as economy, technology, policy, law and social environment. The principal purpose of the E-business ecosystem is to align its members towards a shared vision-the dramatic value that will be created by the combination of participants and their contributions and their role within the ecosystem to enable the achievement of this vision.

III. DIFFERENT ENTERPRISES NICHES IN E-BUSINESS ECOSYSTEM

In the increasingly competitive days, it is unnecessary and impossible for modern enterprises to own all the development resources since the past single cut-throat competition has been replaced by value chain. It is time for e-business companies to create their own ecosystem and promote joint development in dynamic environment.

Ecologically, being a concept directly related to biological environment, Niche defines species position of existence and development in an objective manner and describes the unique way the creatures occupy their small biological environment[5][6]. This Niche phenomenon is applicable to biological environment as

well as to entity management domains. For e-business entities, they should find their own enterprise ecology niche and the correspondingly biological niche. Hence, enterprise ecology niche is decided by initiative choices and competitive practices, it changes frequently and embodies an enterprise actual competitiveness in e-business ecosystem.

A. Keystone

Situated in the centre of e-business ecosystem, keystone enterprises build up a net-platform whilst creating value by themselves through core competencies (technology, brand, standards, etc.), and share value with community members. The value created by backbone enterprises is vital to the entire system health. We can sum up its strategy in two points: create value and share value.

Keystone players provide a predictable environment upon which other ecosystems members build their strategies. Neither the largest nor the most powerful of business ecosystem players, Keystones are certainly highly interconnected. They benefit from the growth of the ecosystem and, in return, they contribute to it in a way which is altruist and tends to foster diversity in the community.

TABLE I . MICROSOFT'S ECOSYSTEM

Domain	Number of Firms
Systems integrators	7752
Development services companies	5747
Campus resellers	4743
Independent software vendors	3817
Trainers	2717
Breadth value-added resellers	2580
Small specialty firms	2252
Top value-added resellers	2156
Hosting service providers	1379
Internet services providers	1253
...etc	...etc
Applications integrators	5
Microsoft Direct resellers	2
Microsoft Direct outlets	1
Network equipment providers	1
Network service providers	1

Opening up their own standards and platforms, business ecosystem cored by Microsoft-IBM-Intel attracts a large number of community members, they continuously create and share value through unceasingly launching and updating standards and platforms, thus promote the system diversity and maintain its healthy competition and vitality. By contrast, Apple refuses to open its operating system and attempts to produce its software's combined with hard wares, operating systems and applications, which lead to their ultimate failure[7].

B. Dominator

Playing a special role in ecosystem, dominator enterprises always attempt to control、hold and eliminate many nodes enterprises through vertical integration, that will result in destruction of ecological diversity. It is the dominator enterprise who minimize in creating value but maximize in grabbing value, this behavior would undermine ecosystem health and lead to

the collapse of entire ecosystem, even worse ruin their own destiny, Apple and Enron are typical examples. As much, the dominator enterprises should take the initiative to transform strategy to backbone enterprises to create and share value[8].

Dominators are stakeholders who thrive on integration efficiency simply due to their size and power. They may create business opportunities for niche players as long as they remain competitive suppliers. They often integrate vertically by taking over functions initially provided by other firms and tend to eliminate diversity. Dominators have enough resources to invest their own R&D and, as a result, have no incentive to share knowledge.

C. *Niche*

The concept of Niche is put forward officially by US famous management scholar Peter Drucker in his "innovation and entrepreneurship". In his opinion, small and medium entities should choose the management domains in accordance with the "niche position" principle, on whose mechanism basis they can choose a suitable field for self-development as to fully utilize the potential advantages and produce the enterprises-characterized products totally different from other competitors[9]. In addition, Niche-enterprises constitute the main body of ecosystem, most of them take a highly specialized strategy and have a natural dependence on keystone enterprises and others. So only by relying on other entities' resources can they spare energy on specific market segments to find their room in differentiated way. Therefore, the existence of a great number of niche-enterprises are the embodiment of diversified ecology and foundation of healthy ,prosperous ecosystem[10].

Niches are the major members, they are non-dominant players, large or small organizations, always specializing in a technology or a market segment and thriving on the efficiency of their segment focus. They represent the creative, the burgeoning population in a business ecosystem.

Once e-business enterprises are clearly aware of the external environment, they should make adjustments, identify ecosystem niche and choose suitable development strategies to co-develop harmoniously with others.

IV. DIFFERENT ENTERPRISES NICHES IN E-BUSINESS ECOSYSTEM

A. *Construct advantageous niches*

Known as the "ships in the desert", the camel's humps can store nutrition to ensure their survival. They can also live in those water-rich areas, but may fail to compete with horses or cattle, so camels choose the desert as their own niche. Similarly, although when compared with the traditional business, e-business own such advantages in customer management as effectiveness, efficiency, easy information transmission and interaction with the aid of internet, it is not a brand-new economic model after all.

E-business is just a kind of continuity and development of traditional business and revolutionary tool for interpreting super-clients, it is capable to realize some goals that traditional business would like to achieve and those beyond their reach. Furthermore, the fact also shows that e-business just replace a proportion of areas in traditional business instead of the whole. Therefore, e-business development should choose their own advantageous niches, co-evolve and co-develop with the traditional business.

B. *Launch collaborative management*

Business ecological environment is formed by some economic groups of interacted business organizations and individuals. In best combination of supply ,production and marketing, those groups form a network-like ecological environment of industry in order to achieve a goal. Enterprise's core competitiveness that rooted in the ecosystem will make it more difficult for competitors to imitate, learn and alternate. Meantime, based on the full socialization and professionalization, e-business development breaks the clear organizational boundaries of traditional business, reflecting the phenomenon of business tangible-border narrowing and intangible-border expansion. Through the means of internet, enterprises work together to build up a connected, organic coordination chain, then virtual enterprises emerge and an interacted dynamic alliance take shape. From raw materials to parts procurement,transportation, processing, manufacturing, distribution until the consumers, the whole process can be completed through the enterprise cooperation in ecosystem.

Strategic network is a kind of network constituted by organizations and their interlink age, in which the network nodes comprise the cross-industry or multinational suppliers, consumers, competitors, partners or other entities. The enterprise's competitive advantages are derived from its leading advantage of E-business ecosystem. Strategy making should focus on use of ecosystem resources and relationship resources. The traditional competition model relies on individual enterprise and the new mode of competition for enterprises relies on the E-business ecosystem.

C. *Improve e-business ecosystem*

Just like the young lives need delicate care, the formation and healthy development of e-business ecosystem also need regulation from government to create favorable environment. Thus ,some measures we should take into accounts, for example: study the laws and regulations about electronic transactions, credit management, security authentication, online payment, taxation, market access, privacy protection, information resource management; formulate relevant laws and regulations as soon as possible; expedite the formulation of management method on launching related business online; promote legal services on network arbitration, notarization and security system building; crack down illegal transactions, criminal activities that endangering

national security and damaging the vital interests of the masses, then protect the normal order of e-business.

V. CONCLUSIONS

The construction of e-business is not isolated behavior of one enterprise and full consideration should be taken into the relations between the upper stream and down stream enterprises to form e-business ecosystem. In the fast-growing economy days, e-business ecosystem is gradually taking its shape. Only when e-business entities identify and actualize their ecological advantages can they co-evolve with others to maximize the benefit brought out by their own ecological advantages and adapt to changing rules to win broader scope for survival and development.

REFERENCES

- [1] James F Moore. (1996). *The Death of Competition*. Haeer Collins Publishers, Inc.
- [2] Marco Lansiti, Roy Levien. (2004). *The Keystone Advantage*, Boston, Massachusetts. Harvard Business School Press.
- [3] Moore, J.F. (1998). *The Rise of a New Corporate Form*. Washington Quarterly. Vol. 21(1), pp. 167-181.
- [4] James A. Seen.(2000). Business-to-business E-commerce. Information System Management, (17):23-32.
- [5] Aynur Unal.(2000).Electronic Commerce and Multi-enterprise supply Value Business Chains.Information Sciences.(127):pp.63-68.
- [6] Steinbock, D.(2003). Globalization of wireless value system: from geographic to strategic advantages. Telecommunications Policy. Vol. 27(3-4), pp. 207-235.
- [7] Roos, J.; Oliver, D. (1999). From Fitness Landscapes to Knowledge Landscapes. Systemic Practice and Action Research. Vol. 12(3), pp. 279-293.
- [8] Ji Qiuying, LIN Jian.(2006). Niche Construction Model of Colleges and Universities and Its Application. Journal of Beijing University of Aeronautics and Astronautics.(19),pp.24-28.
- [9] Power, T.; Jerjian, G.(2001). *Ecosystem: Living the 12 principles of networked business*. Pearson.
- [10] Education Ltd. 392 p. Mouck, T.(2000). Beyond Panglossian Theory: Strategic Capital Investing in a Complex Adaptive World. Accounting, Organizations and Society. Vol. 25(3), pp. 261-283