ORCHESTRATING AN UNBUNDLED BUSINESS PROCESS NETWORK: AN ASSESSMENT TOOL

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Abstract Rapid improvements in internet and networking have radically reduced the interaction costs between companies which in turn affects the boundaries of the firm. Traditional companies are now thinking of the advantage of specialized companies focusing on their core processes, and unbundling their non-core businesses. It is no longer necessary for a company to do everything itself. Companies are able to benefit from leveraging their growth and profiting from other companies resources and capabilities, without owning them. This is the underlying notion of business process networks- the networks in which each company is specialized in one or more processes that together form a total value chain.

Managing such business process networks is one of the most important tasks of network orchestrator- the company with appropriate information about end customers able to direct, to motivate, and to encourage cooperation between other members of the network. In this paper we propose a framework based on the notion of *"Unbundling the Corporation"* (Hagel & Singer, 1999) which assists orchestrators to evaluate and assess their process networks. By considering case study in a well-known Iranian pharmaceutical company and reporting our findings, we have facilitated the employment of our proposed framework for managers and scholars.

Key Words Leveraged Growth, Unbundling the Corporation, Business Networks, Orchestration

1. 1 UNBUNDLING THE CORPORATION: A PRE-REQUISITE FOR NETWORK FORMATION

The way in which economic activities are carried out is changing. Business practitioners and academic alike are being encouraged to adopt a multi-firm network context (Achrol, 1997; Jarratt, 2004; Snow, Miles, & Coleman, 1992). One of the theories enabling us to deliberately explain the emergence of business networks is "Unbundling the Corporation" presented by Hagel & Singer in 1999. According to this theory, most companies today are still an unnatural amalgamation of three fundamentally different and often competing business types. These are the core businesses or processes of an organization, which other processes of an organization shape due to their existence ((Hagel, 2008). These three core businesses are as follow:

- *Infrastructure Management Businesses (IMB)* – high volume, routine processing activities like running basic assembly line manufacturing, logistics networks or routine customer call centers
- *Product Innovation and Commercialization Businesses (PIC)* – developing, introducing and accelerating the adoption of innovative new products and services
- *Customer Relationship Management businesses (CRM)* – building deep relationships with target customers set of customers

Although organizationally intertwined, these businesses are actually very different. They each play a unique role; employ different types of people; and have different economic, competitive, and even cultural imperatives (Hagel & Singer, 1999). Their different characteristics have been summarized in table 1.

	Core Business		
	IMB	***PIC***	***CRM***
Role	Build and manage facilities for high volume, repetitive operational tasks	Conceive attractive new products and services and commercialize them	Identify, attract and build relationship with customers

Economics	High fixed costs make large volumes essential to achieving low unit costs; economies of SCALE is key	Early market entry allows for a premium price and large market share; SPEED is key	High cost of customer acquisition makes it imperative to gain large shares of wallet; economies of SCOPE is key
Culture	Cost focused; Stress on standardization, Predictability and Efficiency	Employee centered; coddling the creative Stars	Highly service oriented; Customers come first
Competition	Battle for scale; rapid consolidation; a few big players dominate	Battle for talent; Low barriers to entry; many small players thrive	Battle for Scope; rapid consolidation; a few big players dominate

Table 1. Rethinking Traditional Organization (Hagel & Singer, 1999)

Costly efforts for simultaneous optimization of these three conflicting core processes of an organization had prevented traditional companies to achieve the appropriate level of growth. However, rapid technological developments in networking and communications have drastically decreased the interaction costs between companies. This has caused more companies to think about their boundaries and to focus on one of the above mentioned three core processes in which they have a competitive advantage. Consequently they have unbundled the remaining processes to specialist business partners who are able to perform those processes with high quality and less cost (Hagel & Singer, 1999). The rising trend of outsourcing and disintegration can be viewed as ongoing unbundling strategy deployed by companies. Admittedly a recent research done by Booz Allen Hamilton and India's Association of Software and Service Companies (NASSCOM) indicates that outsourcing is getting much more strategic and is shifting from IT and HR activities to even more complex activities such as product and component design, plant design, process engineering, and operation across automotive, aerospace, telecommunications, and construction and industrial machinery sectors (Dehoff & Sehgal, 2006).

One of the inevitable consequences of unbundling the corporation is process network formation. As companies focus on their core processes and source the remaining part of the value chain form their specialist partners, they are, in fact, working in the context of the processes networks. As such, firms should not be seen in isolation but as being connected in business system. Focusing on any one single firm cannot provide a significant understanding of the processes of business (Johnston, 1981). In this case a business enterprise looks more like a linking unit where its strategic attributes lie in how it connects other market participants to each other. Thus, the picture of both the possibilities and the means to manage the business enterprise become quite different (Hakansson & Snehota, 1995). In the next section, we briefly explain different roles which unbundled companies may play in the business networks to provide a better ground for introducing our framework.

2 Process Networks and Business Roles

Process networks are best thought of as modular systems, with each member serving as a discrete module. As modules become more specialized and refined, the entire system becomes more adaptable and its ability both to precisely meet customer needs and to achieve ever stronger levels of performance increases (Hagel, 2002). Such process networks, in which each member is specialist in its core process, will enable the whole network to benefit from the high degree of specialization, greater innovation, more speed in time to market, faster response to technological and market shifts, and finally less financial risks (Hagel, 2002; Gottfiedson, Puryear, & Phillips, 2005). In this way such business process networks allow companies to pursue their growth strategies by concentrating on their core business processes and leveraging other participants' resources without owning them.

In general there are two main positions for unbundled companies in the context of business networks: to be a leader or an adaptor. Choosing either of these two positions will enable a company to benefit from advantages of leveraged growth, however for those who are able to play the role of a leader the opportunities for growth are much more significant (Hagel, Seely Brown, & Davison, 2008). Those specialist companies choosing to join an existing network and obeying the policy of its leader, are called Adapter. Adapters may be inclusively committed to one network and its strategy or at the same time serve multiple networks and platforms. On the other hand, there are two possible roles for those companies possessing a leading position in

their network: Orchestration and Shaping (Hagel, 1996; Hacki & Lighton, 2001; Seely Brown, Durchslag, & Hagel, 2002; Seely Brown & Hagel, 2006).
The role of the orchestrator is to lead the participants of the process network in a way that the outcome of the network will satisfy end customers. The orchestration role is much more feasible for unbundled companies focused on CRM capabilities and processes (eBay, Li & Fung, Amazon.com, and Nike). Unless a business has already created demand among end users and develops insight into their needs, it is not likely to succeed in persuading other businesses clamber onto its strategy and platforms. In contrast with the orchestrator which has concentration on CRM capabilities, the shapers are those unbundled company who have focused on PIC capabilities. They are the owners of a core technology which develop it continuously and transform it – by cooperation of partners- into a platform which will be utilized by so many other companies. Intel and Microsoft are two remarkable examples of shaper of our time whose microprocessors and operating systems has established a technological standard that other partners will develop their complementary technologies based on them (Cusumano & Gawer, 2002).
In addition to difference in focus (CRM and PIC), orchestrators can be much more flexible than shapers, on the ground that they have not invested in technological platforms, and therefore benefit from less financial risks if their strategy fails. This fact cultivates the emergence of orchestrators in different industries which can be considered as a motivation to study their capabilities and characteristics.

3 Orchestration Capabilities

As argued, orchestrators benefit from the advantage of being close to end customers. Thus, they are well aware of customer needs and know how to track changes in customer preferences. Accordingly they formulate those changes to a set of core processes and activities and by leveraging through their partners' resources and capabilities they meet customers' expectations. The following characteristics are the main capabilities an orchestrator must develop:

- Recruit participants into process networks through defining the requirements that companies must meet to participate in the network
- Define standards for communication and coordination among companies
- Tailoring the process to the needs of particular products or customers by specifying who will participate and what their roles will be
- Assuming ultimate responsibility for the final products
- Creating performance feedback mechanisms to participants
- Setting appropriate incentive for participants and encouraging more specialization over time

Managing the relationships based on performance measurement of the members in a process network is one of the essential functions an orchestrator should conduct. The aim of this paper is to present a framework for orchestrators to evaluate different processes in their networks. To elaborate more on applying this framework, we detail our experience in utilizing this framework in an Iranian pharmaceutical company.

4 Case Study: Applying Network Assessment Framework

In this section, we present a framework for orchestrating companies to be able to better modify relationships with their partners and therefore managing their process networks. The framework has been established based on two factors: the importance of process from customer point of view which should be determined by managers of the orchestrating company, and the performance of partners in conducting those processes.
Having precisely defined the whole processes in the network, top executive in the orchestrating company should determine the importance of each process independently from costumers' point of view. This is based on the fact that the orchestrating company is close to its customers and has a good sense of market trends. In our case, we have interviewed with four managers in the orchestrating company and after identifying the existing processes in their network, asked them to determine the importance of processes in their network using a 5-likert scale (5= very high importance, 3= Medium importance, 1= very low importance) (See Table 2). To ensure confidentiality, we have disguised the name of companies. Considering table 2, company X which is the orchestrator of the network under study has unbundled two core processes (PIC & IMB) to six external companies and has focused on CRM processes itself. All processes in the network of company X have been ranked as highly important to its consumers except for the packaging process conducting by company C. This is due to the fact that packaging of drugs is

determined by the government (Ministry of Health) and therefore is not a differentiating factor among competitors in this industry.
The results of the table 2 are eligible for a company in pharmaceutical industry. The R&D processes are always among the most critical processes in pharmaceutical industry as they will develop new formulas for consumers' diseases. Moreover, raw material procurement as well as production processes have a direct effect on the quality of products. Finally, the distribution process makes the products available to consumers which at the end lead to profitability and survival of the network.

	Process	Mng1	Mng2	Mng3	Mng4	Importance	Company
PIC	R&D	4	5	4	5	H	***A***
IMB	Raw Material Procurement	5	5	4	5	H	***B***
	Packaging	2	3	2	2	L	***C***
	Solid Medicine Production	5	4	4	5	H	***D***
	Liquid Medicine Production	5	5	5	4	H	***E***
	Distribution	5	5	5	5	H	***F***

Table 2.Prioritising Network Processes from Consumers' Point of View

Having the importance of processes determined from customers' point of view, the next step is to deciding over the performance of companies conducting those processes. After taking this step, orchestrator is able to optimize the relationships with their partners, by means of the relationship matrix in figure 1. We have facilitated the process of determining the performance of partners by introducing three cost- quality matrixes depicted in the left side of our matrix (See Figure 1). These cost-quality matrixes determine what level of performance (high, medium, or low) managers should assign to their partners based on two important factors: cost and quality of conducting the process.

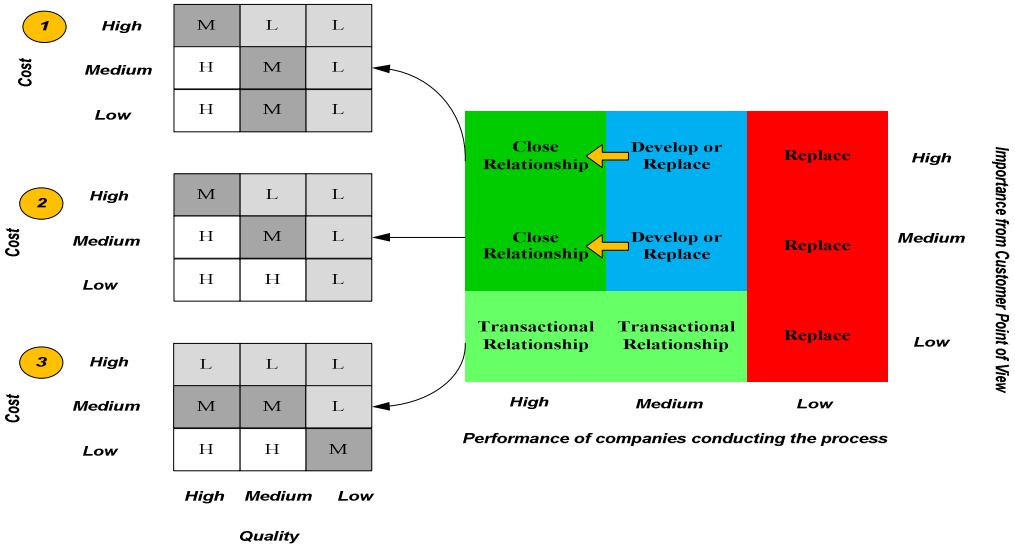

Figure 1. Relationship Strategy Matrix for Orchestrating Companies

Each row in the above matrix has its unique cost-quality matrix for determination of performance. In fact, as the level of importance of a process increases, the performance level of a company conducting it is more severely judged.
From table 2, it is clear that processes conducted by companies A, B, D, E, and F have been ranked as highly importance for consumers, therefore to assess the performance of those companies, the cost-quality matrix 1 at the top left of the figure 1 should be applied. For instance company A which is responsible for the R&D in the network has performed its processes with medium cost and low quality, according to our interview with company X managers. Mapping this fact into the cost- quality matrix 1 will lead to consider the performance of this company as "Low".

Having the performance of company A determined, it is possible for company X to formulate its relationship strategy by mapping the company A into the relationship strategy matrix. Company A has high level of importance for consumers and has achieved low level of performance. In result, the appropriate relationship strategy for this company will be “Replace”. In another terms, the R&D processes are not a competitive advantage for the company’s X network. The orchestrator should look for attracting new specialist companies in this area into its network. The results of our analysis for the whole processes have been summarized in table 3.

Company	Importance	Cost	Quality	Performance	Proposed relationship strategy
A	H	M	L	L	*Replace*
B	H	M	H	H	*Close Relationship*
C	L	L	M	M	*Transactional Relationship*
D	H	M	H	H	*Close Relationship*
E	H	H	H	M	*Develop or Replace*
F	H	M	H	H	*Close Relationship*

Table 3. Proposed Relationship Strategies for Network Members

For company E the devised strategy is to “develop or Replace” indicating that the orchestrator should try to keep its relationship with the company because the importance of the process being conducted by that company is high as well as the quality of its performance. Yet, the cost of performance is not well justified. So the orchestrator should try to gradually improve the manufacturing process of the company E in order to reduce the associated costs and if not possible, replace it with a better alternative. Finally for company C the proposed relationship strategy is in the form of transactional. This is because the process performed by this company is not of high importance accordingly close relationship is not necessary and a simple buyer – seller relationship is advised.

5 Managerial Implications

A firm’s ability to develop and manage successfully its relationships with other firms may be viewed as a core competence which varies among firms (Dodgson, 1993; Sivadas & Dwyer, 2000) and which is an important source of competitive advantage (Day, 2000). Accordingly in this paper we have proposed a framework for network assessment from orchestrator’s point of view according to unbundling theory. Applying this framework will assist managers to devise appropriate relationship strategies in their respective networks.

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