Strategy Formulation and Competence Building in New Organizational Arrangements

Track: Global Operations Management

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Abstract

Focusing on the recent evolution of industry in Brazil, this paper analyses how firms are redefining their strategies and building competencies to survive and compete in a context where there is a change from individual to collective efficiency. Based on a series of case studies and a survey (470 respondents), we reached the conclusion that a clear understanding of the firm´s position in the new types of organizational arrangements (alliances, chains, clusters) is crucial for strategy formulation and competence development.

Presentation

The increasing rate of business globalisation is accelerating the rate of change in the way that production of goods and services is designed and implemented. Leaving behind the hegemonic and universalistic conception of totally integrated, large scale Fordist-Taylorist factories, we are witnessing the emergence of a complex system of new concepts and formulas for the organisation of business in general and the Manufacturing function in particular.(Ferdows, 1997; Shi and Gregory, 1998; Bennett, 1999)

The focal point of this article is the analysis of the new industrial organisation based on the following line of thought:

- in the very intense and deep restructuring of enterprises and their businesses, competitiveness requires collective efficiency; firms will have to focus on their core competences and look for partners to complement their resources and realise their strategies;
- distinct types of entrepreneurial arrangements are being shaped; those arrangements are the outcome of historical processes and actual entrepreneurial and businesses decisions;
- the access to those distinct types of entrepreneurial arrangements depends on a series of businesses characteristics and resources of the firm under consideration; basically it depends on the competences developed by the firm and its strategic intent

The analysis of those new concepts and organisational patterns finds a particularly attractive site in Brazil, where the complexity of the industrial organisation is high due to historical factors and current policies: a large and heterogeneous country, an emerging economy highly dependent on foreign capital and technology, leading a trade block (Mercosur), where totally distinct production approaches are found side by side.

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Strategies and Competence Management

Prahalad and Hamel (1990) stated that to be core a competence should have three characteristics: to offer real benefits to the consumers, be difficult to imitate and provide access to different markets. So, the main task of management would be to combine the several competencies that a company can get to design, produce and distribute products and services to the customers in the market.

A core competence is not necessarily based on " technology strictu sensu ": it can be associated to the mastering of any function of business; the conditions of operation of specific markets is an example. Nevertheless, to be core, a competence should always be associated to a systematic learning process, that involves innovation and development of human resources.

Following the approach used by Woodward (1965) in her classical study on industrial organization, we will consider that every enterprise has, in different proportions, competencies in three different foci for competence building: Operations, Product Development and Sales/Marketing (S&M).

We will also consider that in the formulation process of its competitive strategy every firm must prioritise among those three competencies which one is really "the core competence"; the other two would be considered supportive competencies.

Porter (1996) identifies three basic types of competitive strategy: variety based, needs based and access based. Treacy and Wiersema (1995) also consider three types: Operational Excellence, Product Leadership and Customer Intimacy. In an attempt to synthesise the two typologies the picture would be as follows.

Operational Excellence

The objective of a company that adopts the strategy of operational excellence is to offer to the market a product that optimise the quality/price ratio. The typical example of Operational Excellence is the automobile industry. The critical function and key competence for the success of the company resides in Operations, including the whole logistical cycle: purchasing, manufacturing and distribution.

The development of new businesses starts with the S&M function, responsible for market assessment, customer analysis and competitors monitoring. Then, Research & Development & Engineering (R&D&E) leads the PDP cycle to fulfil the demand, but having in mind the optimisation of the Operations function. A good example for that is the recent development, by Honda, of a new unique type of platform that allows the assembly of vehicles of different models and sizes, avoiding the need of a specific type of platform for each size of the vehicle.

The cycle is closed by the S&M function responsible for the creation of the conditions required for the successful introduction of the new product in mass markets.

Product Innovation

The companies that compete in terms of Product Innovation are continuously investing to create radically new concepts of products for defined customers and market segments. The critical function is Research & Development & Engineering (R&D&E). Examples of industries in which competitiveness is ruled by Product Innovation are the IT industries - Telecommunications, Computers and Internet. The same pattern is found in the Biomedical industry (Life Sciences).

Companies which compete based on a Product Innovation strategy guarantee their economic success through the systematic introduction of radically new products in the market, usually by making obsolete the existing ones. They survive and prosper due to the high profitability they achieve in the time period where they enjoy a monopolistic market position. What is critical for this type of company it is product and process conception and development and the implementation of new production systems, the so called primary production, that evolves from laboratory to industrial scale. Therefore, productive efficiency is not so critical in this type of business.

The S&M function has different characteristics from the previous case since the company has usually "to negotiate" the launching of new products in the market with potential customers before the bulk of investments are made.

Customer orientation

Those are companies that are primarily concerned with the needs of specific customers in specific areas; they specialise in the development of products, systems, solutions to manifested demands and even anticipating future needs of their customers. For this such companies have to acquire a profound knowledge about each client and its business; S&M becomes the critical function, pulling the efforts of R&D&E and Operations.

The packing industry is a typical example. As packages are increasingly considered an important part of product success, the strategic positioning of packing companies is to develop packages that maximise the value of the customer's product in function of the expectations of the market.

The strong relationship with the client (customer intimacy for Treacy and Wiersema, 1995), for which the Sales function is responsible, guides R&D&E and Operations in the development of specific solutions in a make-to-order or in a proactive way.

In cases such as that, Operations must be responsive and flexible to the clients needs, not necessarily "lean". Perhaps, we could consider that as typical cases of Agile Manufacturing (Kidd, 1994).

A typology of strategies and competencies is shown in Table 1.

In Search of Collective Efficiency: New Entrepreneurial Arrangements

From the time when the competitiveness of the Japanese companies challenged the old established paradigms of production management, there has been a radical change in the way firms organise themselves and how they do relate to other firms. In the new competition individual efficiency is not enough; it is necessary to be connected to groups of firms that are collectively efficient.

Three types of entrepreneurial arrangements became the standards for that: chains (value chains or supply chains or production chains), clusters (industrial districts) and strategic alliances or networks. Of particular relevance to our work will be the cases of production chains and alliances.

Focusing on value chains, there are different conceptual approaches for their study. In the Operations Management field, the approach is usually based on Supply Chain Management

A second approach derives from the analyses based on microeconomic models, particularly those which consider transaction costs (Humphrey and Schmitz, 1996).

A third approach puts in the forefront matters of power. This dimension appears as the key factor in studies such as those developed by Gereffi (1994) about the formation of global commodity chains. For example, in his studies of the footwear and clothing industries he showed how they are commanded by the great distribution companies and by those that own the *griffes.* This matters becomes crucial in the sense that the firms which are able to govern the chain establish the rules and procedures for their operation and who will be in charge of the most profitable activities.

Differently from production chains, where there is an hierarchical relationship between firms, alliances are cases of cooperation between equals. The formation of alliances involves negotiations between partners whose competencies are mutually recognised and focuses on the exchange of resources and knowledge in specific projects. We have considered a wide spectrum of forms for the alliances, ranging from technology transfer agreements to joint ventures. International Strategic Alliances would be one of the alternatives. There are plenty of examples. Just to mention a few the agreement between the archi-rivals Dow and Basf to build a new chemical plant in Brazil.

Strategy Formulation and Competence Building in New Entrepreneurial Arrangements: the Brazilian Case

The preparation of a large scale survey about competitive strategies and competence formation in the Brazilian industry required some methodological options in terms of the definition of the universe and the sample. (Fleury and Fleury, 2000)

We departed from the hypothesis that the universe of the ISO 9000 certified companies is an elite group, that has already accomplished the most immediate changes to attend to the pressures for international competitiveness. In Brazil, the universe of industrial companies that have certification according to the norms ISO 9001 and 9002 is constituted for about 1600 companies. 1516 questionnaires were sent for the industrial directors of those

companies. 490 were responded, of which 470 were considered valid for the ends of this study.

The first point of the questionnaire concerned the identification of the competitive strategies. For this we adopted the scheme proposed by Boljwe and Kumpe (1990) by asking what would be the most important market characteristics to be considered in the definition of the competitive strategy ? The answers are presented on Table 2.

In a first glance Operational Excellence can be considered the predominant strategy of local firms, independent of their specific characteristics. A priori, those results would corroborate former studies.

On the other hand, we also asked the companies to rank what would be the most important organisational function for the achievement of the company's objectives. Five functions were presented: Manufacturing, Logistics, R&D&E, Sales/Marketing and Finance. The answers are presented on Table 3.

It is important to mention that that was the only unanimity that we found in the data processing: for the companies in the sample, independently of size or origin, the S&M function was considered the most important for the accomplishment of the competitive strategy. The second most important function was Production. This could be considered an additional indicator of the strong concern on the part of the companies with the market and customers. But that brought some inconsistencies when we consider their strategic positioning.

We proceeded to identify which types of competencies the companies were mastering. We considered technological competencies (A- R&D and scaling up; B- Product and process design; C- Product and process adaptation) and operational competencies (D- Quality management; E- Materials management; F- Logistics).

Firms were asked to answer if they practised and if they were self sufficient in each of those activities. In case they were dependent of any other firm in a given domain, it was asked if the dependence referred to a partner in an alliance type of arrangement, or to the firms that lead the chain, or even to the headquarters in the case of subsidiaries of transnational corporations.

Considering technological competencies, about 20% of the respondents mentioned that their company fulfilled the conditions to act autonomously in that domain. For the other 80%, or they did not have their own capacity in that area or they shared or were dependent from other companies.

The figures were inverted when we considered Operational competencies: overall, about 70% of the respondents considered that their companies mastered those activities and performed them in an autonomous way, while 30% were dependent from other companies.

It then became evident that it was necessary to analyse consequences of the positioning of every firm in the new entrepreneurial arrangements on the choice of their strategies and competence building.

Following the theoretical considerations previously presented, we defined a group of criteria to identify the positioning of each company of the sample in the new entrepreneurial arrangements. The analysis brought the following picture:

See Table 4

We observe that there is a small proportion of large local enterprises that are able to negotiate their insertion into global production networks through alliance type of agreements, where there is a symmetrical relationship. The vast majority of firms is organised in production chains, where the relationships are asymmetrical and hierarchical , or are isolated, still competing on a stand-alone basis.

Focusing on production chains, where the three in four firms are operating, we observed that the participation of firms in the different tiers follows a pattern that is related to the competencies that each firms masters, as shown in Table 5.

The outcome of that analysis brings some subsidies for a better understanding of the required strategy and competence for firms participating in production chains and brings subsidies for the apparent contradiction between the priorities of competitive strategy (focusing on quality, productivity and diversity) and the identification of the Sales and Marketing function as the critical one for the achievement of the firms' objectives.

The point is that the firms that are in the lower tiers of production chains are essentially “selling their productive capacity” to the firms that lead the chain. In that sense, their survival and progress depend mainly on servicing their clients. Therefore contrary to the common sense that was implicit in their information, their strategy must be primarily Customer Orientation. If the firm is not competent to understand the requirements of their main customers and be prepared to serve them, even anticipating their demands, they will be not operating in the best way to achieve collective efficiency. Using a concept moulded by Zarifian (1999), the approach to be adopted by those firms is "production of service".

Conclusions

The first point that emerges from the research is the importance of incorporating the dynamics of new entrepreneurial arrangements in the discussions about strategy formulation and competence formation. The position of every firm in the arrangement is a restriction for the establishment of its strategy and this is a main determinant in the definition of what competencies should be developed and how.

The second point concerns the hierarchization of the competencies that must be built by any specific firm according to its initial positioning in an entrepreneurial arrangement and the intended evolutionary trajectory.

The third point concerns the increasing relevance of the concept of producing a service for the customer replacing the primary concern with producing a product.

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Tables

Function Competitive strategy	Manufacturing	Product development	Sales and Marketing
Operational Excellence	**World class manufacturing / lean production**	Incremental innovations	Marketing for mass markets
Product innovation	Scale up and primary production	**Radical innovations (breakthrough)**	Technical marketing
Customer orientation	Agile manufacturing	Development of specific solutions	**Services marketing**

Table 1 : Types of strategies and key competences

	Price	Quality	Delivery	Innovation	Diversity
Sample mean	4.69	4.68	4.41	3.77	3.52

Table 2 - Most important market determinants of competitive strategies

	S&M	Manufacturing	R&D&E	Logistics	Finance
Sample mean	4.63	4.41	4.14	4.12	4.00

Table 3 - Critical function for the effective accomplishment of objectives

	Arrangement	Proportion	Industrial sector	Characteristics of firms	
Industry in Brazil	Alliance	4,8%	Chemical Equipment Electronics	Very large firms mainly Local > Subsidiaries	
	Chain	73,4%	Automotive Rubber and plastics Steel and metals	Leaders	Large & very large Subsidiaries>Local
				1st tier	Medium & large Subsidiaries=Local
				2nd tier	Small and medium Local>>Subsidiaries
	Insulated	21,8%	All industries Larger share: equipment minor share: automotive	All sizes Subsidiaries = Local	

Table 4 - Characteristics of firms in different positions in the entrepreneurial arrangements

Position in the chain	Competence in Operations	Competence in Product Development	Competence in Sales
Leader	Strong; coordinates and controls via technology	Strong	Market oriented (B2C)
First tier	Strong	Strong	Customer oriented (B2B)
Second tier	Strong	Not necessary	Customer oriented (B2C)

Table 5 - Competence distribution in the different tiers of a chain