

HOW SUPPLIERS OF TECHNOLOGY IDENTIFY, EVALUATE AND MANAGE THE NEW OPPORTUNITIES TO ADD VALUE?

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INTRODUCTION

Suppliers are an important source of innovation (Smals and Smits, 2012a). Supply chain managers must pay attention to strategic suppliers in order to secure tomorrow's competitiveness (Bensaou, 1999; Campbell, 1985; Fiocca, 1982; Kraljic, 1983; Olsen and Ellram, 1997; (Hüttinger et al., 2012). Suppliers that present superior technology or are limited in number may not accept the adoption of traditional price-oriented purchasing strategies (Hüttinger et al., 2012). The forces that drive customer and supplier interests and motivation to co-develop customer solutions may change over time, thus redefining the aim and scope of solutions and creating failure risks (Biggemann et al., 2013).

Customer's attractiveness refers to positive image of the customer in the eyes of the supplier. It encompasses the following factors: market growth, risk, technological, economic and social (Hüttinger et al., 2012, Smals and Smits, 2012a). Roles and purposes of attraction include attraction as the initial spark at the start of a business relationship, attraction as a development factor in business relationships, attraction as an antecedent of the development of trust and commitment, supplier attractiveness to customers, customer attractiveness to suppliers, customer attractiveness leading to satisfaction and preferred customer status, attraction as a motivational management approach, attractiveness used as a measure against alternative suppliers or buyers, attraction in relationship network identity and attraction used as a measurement of the total package of an account (Mortensen, 2012).

If the supplier's expectations are met, a relationship can be initiated or intensified. The drivers of supplier satisfaction include technical excellence (R&D), supply value (purchasing), mode of interaction and operational excellence. When the supplier is more satisfied with particular customers than with others, the former will be awarded preferred customer status and enjoy the associated benefits. The drivers of preferred customer status include economic value, relational quality, instruments of interaction and strategic compatibility (Hüttinger et al., 2012).

The forces that drive the suppliers' motivation to co-develop customer solutions may change over time (Biggemann et al. 2013). Discrete historical means/ends alignments and misalignments between boundary spanning roles in the involved organizations may influence the suppliers' perceptions related to customer attractiveness (Hald, 2012). The willingness of suppliers to invest in their customers' innovative efforts constitutes a relatively unexplored topic (Smals & Smits 2012).

This study explores how the innovation value is analyzed by suppliers (Lindgreen et al. 2012; Smals & Smits 2012); why suppliers' motivation to co-develop solutions to their customers may change over time (Biggemann et al. 2013; Ballantyne et al. 2011); what are the benefits that preferred customers enjoy in terms of innovation, production allocation, price benefits and risk reduction is necessary (Hüttinger et al., 2012); how attraction within and across companies over time could shed more light on the creation and perception of attraction (Mortensen, 2012); and how suppliers develop their ideas on who is an attractive interaction partner (Hald, 2012). The analysis of the research gaps mentioned demanded the execution of multiple case studies. Eight manufacturers of technology products operating in Brazil were investigated. All companies investigated are market leaders in Brazil.

LITERATURE REVIEW

The first research stage consisted of a literature review. This review indicated the research gaps to be addressed (see the introduction section). To investigate such gaps, the following constructs were selected:

- value demanded by the customers, which encompasses price, quality, delivery performance, know-how, solutions time-to-market, services and relationship;
- drivers of supplier's attractiveness, which encompasses sales volume and profits, opportunity to develop new business or to develop new technical competences that are offered by the customer and revenues generated by the innovative products and reputation; and
- value management, which encompasses the understanding of the customer business and businesses of the customer's customers, analysis of the customers benefits, the creation of a value proposal that address the customers' demands, the communication of the value added by the products and services to the customers, the customers prospecting, value evaluation, identification of mutual benefits, price definition and value auditing and documentation after the sale.

Table 1 presents the constructs selected and a summary of the elements investigated in each one.

Table 1: Elements investigated

Construct	Elements investigated
Value demanded by the customers	Price (Čater and Čater, 2009, Ulaga, 2003).
	Quality, delivery performance, know-how, solutions time-to-market, services and relationship (Čater and Čater, 2009).
Drivers of supplier's attractiveness	Sales volume and profits (Lindgreen and Wynstra, 2005).
	Opportunity to develop new business or to develop new technical competences that are offered by the customer (Walter et al., 2001).
	Revenues generated by the innovative products and reputation (Smals and Smits, 2012b).
Value management	The understanding of the customer business and businesses of the customer's customers, analysis of the customers benefits and the creation of a value proposal that address the customers' demands (Liu and Leach, 2001, Lindgreen and Wynstra, 2005, Lindgreen et al., 2012).
	Communication of the value added by the products and services to the customers (Lindgreen et al., 2012, Terho et al., 2012).
	Customers prospecting, customers business understanding, value evaluation, identification of mutual benefits, price definition and value auditing and documentation after the sale (Töytäri et al., 2011).

METHODOLOGY

Research design

The literature recommends case studies within which the major research goal includes conceptual contributions (Eisenhardt and Graebner, 2007, Yin, 2009). The case study method permits the investigation of a phenomenon within a real contemporaneous context through an in-depth analysis of one or more objects, thus allowing for the gathering of broad and detailed knowledge of the studied phenomenon. Multiple case studies were developed with an aim of achieving a deep understanding of a multi-participant process (Yin, 2009). The validity and reliability of the case study results were addressed by considering multiple sources of evidence, such as interviews, reports and other documented resources (Gibbert & Ruigrok, 2010).

The research protocol was structured based on the elements presented on the Table 1. The first questions of the research protocol investigated the opportunities that suppliers have to add value to its customers. Another set of questions investigated the actions and processes adopted by the suppliers to identify new opportunities to add value with its customers.

Finally, the research protocol analysed how the suppliers manage the opportunities to add value that were previously identified. We aimed to better understand how suppliers define the actions that will be taken on each customer or group of customers.

Data collection

The suppliers investigated were suggested by the local industries association based on their innovative potential in the Brazilian electronic supply chain. The researchers did not have access to the criteria used by the association to select the companies. Twelve market leaders were suggested, but only nine agreed to participate in the study. The profiles of the selected companies are presented in Table 2.

Table 2: Companies profile

Company	Profile
A	Large Brazilian manufacturer of products for automation in the energy, oil, gas and transport industries.
B	Large Brazilian manufacturer of products for telecommunications and IT
C	Large Brazilian manufacturer of products for communications, voice and image.
D	Large Brazilian manufacturer of products for retail and bank automation.
E	American manufacturer of computers and printers.
F	German manufacturer of lifts, belts and fingers.
G	British manufacturer of meters for water, gas and energy.
H	Large Brazilian manufacturer of equipment for energy. The company dominates 2/3 of the Brazilian market.
I	Global leader in the production of items for energy distribution.

Data were gathered in 14 interviews with the general managers. The interviews lasted approximately one hour and were conducted between July and October 2013. All managers were interviewed personally. The research protocol was used to guide the collection of evidence. Multiple sources of evidence, including interviews, reports and related documentation, were considered for the validity and reliability of the results (Gibbert and Ruigrok, 2010). The respondents were selected by considering their awareness regarding the matters investigated. Field observations on the manufacturers' facilities were also performed with an aim of increasing our knowledge about the topics investigated.

Data analysis

The last research stage consisted of an individual analysis of the cases and of a cross-case analysis. The individual analysis was initially conducted. The results of each case were compiled and validated again with each of the respondents. Following this validation process, a cross-case analysis was executed. In both analyses, the findings were coded with the intention of comparing them with the elements extracted from the literature (public policies, recycling levers and barriers). This comparison was performed in the discussion of findings.

FINDINGS & DISCUSSION

This study investigated how suppliers of technology identify, evaluate and manage the new opportunities to add value. The main findings were organized in three groups: identification, evaluation and management of opportunities for value adding.

Identifying opportunities

Suppliers are permanently seeking for opportunities to add more value to their customers. The identification process starts with an increase in the number of contacts performed with the customers (at all hierarchical levels). The increase in the number of contacts allows the suppliers' professionals to obtain valuable information beyond the customer's purchasing department (Lindgreen et al., 2012, Töytäri et al., 2011); unveil new opportunities for co-creation of new solutions (Grönroos, 2011, Töytäri et al., 2011); and propose changes in the plans or specifications that are being defined by the customers' technical departments (Biggemann et al., 2013, Smals and Smits, 2012a).

The increase in the number of contacts helps the suppliers to remove barriers that may hinder a future sale. This includes approaches to justify prices higher than the competitors (Töytäri et al., 2011, Biggemann et al., 2013); to develop action that influence the customer's perception (technical requirements and/or contract details); to identify new movements orchestrated by the competitors; and to influence the new specifications that the customer will demand from its suppliers on a near future (Biggemann et al., 2013). This finding suggests that all suppliers investigated try to influence their customers' specifications during the identification of the opportunities to add value to customers (Biggemann et al., 2013, Smals

and Smits, 2012a). This influence may constitute important technical or commercial barriers to the other suppliers.

Technical or commercial problems occurred in the past may influence a shift in the supplier's attitude (Smals and Smits, 2012a, Biggemann et al., 2013). This shift seemed to negatively affect the suppliers' dedication to the new value co-creation projects that were proposed by the customer (Grönroos, 2011, Ballantyne et al., 2011).

Evaluating opportunities

The evaluation process of an opportunity to the co-creation of value with a certain customer encompasses the following elements: technical (changes required in the product and processes); operational (costs, development times and commissioning of the solution); market analysis (value added by the customer solution, the vulnerability of the solution to the price war, the number of other customers that may buy the new project, the processes of pre-and post-sales required); and the type of solution that can be offered to the customer (an adaption of an existing solutions, or the development of new solution).

Those elements are used to define how suppliers will approach each opportunity to co-create value with their customers. Three approaches were identified: to develop a high added value solution (such solutions are less sensitive to price wars, thus helping to expand the manufacturers margins); to enhance the value added by the existing solutions (aiming to reduce the fixed costs and the production line idleness); or not to offer anything attractive to the customer (aiming to induce this customer to look for another supplier). The approaches listed indicates what is analyzed by the suppliers when evaluating the attractiveness of an opportunity to add value to a certain customer (Lindgreen et al., 2012). Findings also indicate how the suppliers define their actions on each new opportunity to add value to their customers (Grönroos, 2011, Ballantyne et al., 2011). A reflection about these findings suggests that opportunities for value co-creation attract the suppliers, not the customers itself. These findings may indicate that the process of selling customer-centric solutions could be expanded (Töytäri et al., 2011).

The conjoint analysis of the elements identified (technical, operational, market and the type of solution) may indicate why the suppliers change their position after some time (Biggemann et al., 2013, Smals and Smits, 2012a, Holweg and Helo, 2014). The findings also indicate that a deeper understanding about the suppliers' positioning in the value co-creation process is required. Such understanding must consider the customer's attractiveness in different projects in order to unveil new avenues for the selling of solution with higher added value (Töytäri et al., 2011) and for the studies about value co-creation (Grönroos, 2011, Smals and Smits, 2012a).

Managing opportunities

Opportunities to aggregate value are managed by the suppliers considering the customer's purchasing process. Two sort of purchase process were identified: the one that require a previous approval from the customer (bids); and another one that do not require any previous approval from the customer.

In the former case, the suppliers analyses the value required by the customer aiming to obtain the customer's certificate. This certificate allows them to participate of the customer's bids. The lowest price constitutes the only criteria used by the customers to define the winning proposal in bids. Any changes in the customer specifications require a new certificate (this applies for all suppliers). The customers' requirements must be the same to all of its suppliers. These conditions induce the supplier to reduce its development costs. In such context, the suppliers analyze the value added by its solution only the solution's development phase (and not throughout the whole product life cycle). As identified, this approach helps to reduce the manufacturer's costs without compromising the competitiveness of its offers (Lindgreen et al., 2012).

Purchase that are not defined in a bidding require a greater attention from the suppliers. In such cases, the value added to the customer must be audited permanently. In these cases a closer relation with the customer is crucial. Closer relations may influence the customer's value demands, thus inducing a change on its requirements over time (Biggemann et al., 2013, Smals and Smits, 2012a). Closer relations can facilitate the identification of new opportunities for the improvement of the existing solutions; unveil new projects; enhance the quotation process and support the evaluation of the return on investment of the customer (Lindgreen et al., 2012).

The criteria used by the supplier to manage the opportunities to add value to their customers may vary over time. Revisions of the revenue or profit goals constitute an important driver of this change. Such revisions may affect the allocation of resources to new and existing projects that focus on the value creation (Biggemann et al., 2013, Smals and Smits, 2012a). Ambitious or short-term goals may induce a lower allocation of resources to innovative projects. This reduction may hinder the generation of value to the customer (Lindgreen et al., 2012). These findings also unveil the need to a better understanding about the alternatives for the management of resources that are allocated to the creation and delivery of value (Holweg and Helo, 2014).

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