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Towards a model of value addition and value innovation efforts in industrial markets

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Abstract

This paper advances a model of value addition and value innovation efforts in industrial markets. In order to do so, this paper is theoretically embedded in the strategic management literature (i.e. the importance of value or strategic innovation to create competitive advantage) and in the industrial marketing literature (i.e. market strategies to counter commodization tendencies; value chain perspective instead of supply chain view of industries and the IMP Group focus on networks). Empirically, this paper is based on a field research carried out during the spring and summer of 2001 in the Dutch electrotechnical industry.

Introduction

This paper advances a model of value creation and value innovation efforts in industrial markets. In order to do so, this paper is theoretically embedded in the strategic management literature (i.e. the importance of value or strategic innovation to create competitive advantage) and in the industrial marketing literature (i.e. market strategies to counter commodization tendencies; value chain perspective instead of supply chain view of industries and the IMP Group focus on networks). Empirically, this paper is based on a field research carried out during the spring and summer of 2002 in the Dutch electrotechnical industry. The paper is structured along the following outline. Section 1 begins with a review of the literature and forms the bases for the introduction of the problem statement of this research. Section 2 discusses the problem statement, the applied methodology and details the external context of the research. The three starting cases of value innovation efforts are elaborated upon in the next section. Based on the empirical data, a classification of value innovation efforts and initiatives is advanced along two dimensions: technical integration/application specificity and business process integration. Section 4 describes the reactions of the wholesalers and installers to the efforts of value addition and innovation. Finally, section 5 introduces the tentative model of value innovation and addition and compares the result of this study with the existing literature on the topic.

Creating Value in Industrial Markets

Competitive strategy is about creating and maintaining positional advantages over rivals. Nowadays, superior customer value lies at the center of marketing strategies (Gale 1994, Ulaga 2001). Based on the experience of Fisher-Rosemount, an Emerson Electric Company,

Bernstein and Macias (2002) have proven that customer value assessment and value segmentation are key in boosting new industrial products' profit margins. Further, Anderson and Narus (1999) argue that the assessment of value in the market place is critical to business marketing management, while simultaneously stressing that 'remarkably few firms have the knowledge and capability to actually assess value in practice and gain an equitable return for the value they deliver to customers' (p.3).

Value creation through networks

Lambert and Cooper (2000) introduce the concept of supply chain management to incorporate a synergistic network of multiple businesses and relationships that aims at total business process excellence. According to these authors it represents a new way of managing the business and relationships with other members of the supply chain. They also claim: 'Business management has entered the era of internetwork competition' (p.65).

Value creating networks are the future of competition (Kothandaraman and Wilson 2001). Such networks are often illustrated with the automotive industry, as was also done by these authors (p.382): "The need to create value has caused the automotive companies to de-integrate their operations and build strong partnering with suppliers who use their core capabilities to do such tasks as delivering electronics to the automotive producer or paint and coat the cars. These tasks require that partners work closely together". In the future, networks will compete against other networks, they argue.

What is labelled as 'value-creating networks' by some, has been given other names such as value chains, value nets and value constellations (Kothandaraman and Wilson 2001, Norman, 2001). Network interrelationships (external resource sharing) based on linkages with outside sources that result in the creation of a new value chain are becoming increasingly important to realize a competitive advantage in most industries. However, such links are very complex and have a high need of co-ordination (Ensign 2001).

Since 1976 the so-called IMP Group has focused on interconnected relationships between buyer, seller and other network partners (Ford 1997 en 1998 and Gemünder et al. 1997 for a partial but representative overview). Core concepts that are also central to this study are (Ford 1998):

- heterogeneity in offerings by suppliers and value sought by buyers, and heterogeneity in qualities and performance offered and required.
- co-evolution: the way in which any company changes is determined by developments in its relationships and in its counterparts. As such strategy in business markets is about coping with continuous evolutionary change often initiated by network partners (Ford 1998:76).
- Interdependence in resources, activities and actors. As such, Ford claims strategic choices cannot be good in an absolute sense, but must always be related to other partners' expectations and evaluated on their impact on the others.

This way, these three central concepts challenge traditional wisdom of strategic marketing and management.

Value creation and the commodity magnet

Value changes continuously. In fact, customers' desired value is a multi-dimensional concept that is inherently dynamic in nature. According to Flint and Woodruff (2001) 'tension' is a key construct driving change is customers' desired value, that in itself is driven by perceived current capabilities drivers and by environmental change drivers such as changing customer demands, changing internal demands, competitor moves and so on. The dynamic nature of the concept of value is clearly demonstrated in the process of commoditization or commodization. Anderson and Narus (1999) situate this process as a customer tactic aimed at gaining bargaining power by eliminating or downplaying any points of difference between competing offerings. Some broader conceptions of the phenomenon have been advanced by

other authors. One of the first contributions is Mathur's (1984) concept of the 'transaction life cycle' in which competitive forces drive systems via processes of 'de-systemization' and 'commodization' towards a commodity status.

De Bruicker and Summe (1985) describe how required 'product benefit profiles' change due to increasing customer experience and decreasing product differentiation (competitive forces). And along the same lines Rangan and Bowman (1992) introduce the *commodity magnet* dragging down specialties into a position of commodity where product/market proliferation, market volatility and aggressive customers make margins drop. The tendency of customer value to decrease over time is general in business markets and the commodization is becoming a key threat to business marketing and strategists alike.

Value addition and value innovation

The above mentioned contributions on the commodity magnet provide also strategies to cope with it. Mathur (1984) suggested 'de-commodization and augmentation' approaches by adding services, feature differentiation and re-packaging of hardware and software. Rangan and Bowman (1992) provice four feasible strategies, all aimed at returning to the 'value axis'. These early contributions are clearly linked to the relatively new concepts of (1) full-service contracts or packages and (2) strategic innovation and value innovation.

(1) <u>full service contracts and packages</u>

Anderson and Narus (1999) recommend building flexible market offerings. Such an approach starts from a thorough understanding of the customer's total usage requirements and the development of an augmenting bundle of services, programs and systems tailored to specific segments and/or customers.

Industrial customers seem to value additional services. Smith (1998) showed a positive influence of ancillary services on future purchase intentions in two very different industrial

markets. In many industries marketers want to become ‘systems integrator’ or ‘total solutions provider’ blending a diversity of expertise (Matthyssens and Vandenbempt 1998).

Full-service contracts are considered by purchasing agents as a new task buy with high dollar value, high perceived complexity, involving long run commitment (Stremersch et al. 2001). As such an elaborate decision making process with high levels of involvement guides the buying process.

They also ask for more research in order to contribute to a more general theory of full-service purchasing. As full-service strategies challenge conventional ways of thinking in both business practice and academics, and as research on the issue is scarce, additional research is welcomed.

(2) strategic and value innovation

Strategic innovation (Markides 1997, Tucker 2001) occurs when companies break ‘the rules of the game’ and identify new ways to compete. Companies might see gaps in the industry positioning map and attack new, emerging or neglected customer segments or seek new ways of producing, delivering or distributing existing or new products and customer segments. Markides (1997) argues further that a prerequisite to strategic innovation is an honest and fundamental questioning of the mental models or industry recipes that seem to govern the behavior of any individual or organization. Tucker (2001) argues that strategic innovation is, first and foremost, an act of imagination — the ability to define a new business model which will work better from a customers’ viewpoint in a way that will bring profit to the marketing company.

The term *value innovation*, introduced by Kim and Mauborgne (1997, 1999) is very similar as it refers to reshaping industry conditions and render competitors irrelevant. The authors proposed a systematic approach to create a ‘new value curve’ by redefining industry standards.

Nowadays, it is widely accepted that strategic or value innovation is a key (but not an easy one) to growth and to achieve above average performance. For instance, Sharma et al. (2001) argue that business marketers have to continuously increase their contribution to the value chain. If not, they argue, alternative business paradigms will make value migrate toward their new approach, away from the traditional model. They plead for a tailored resource allocation to create value through a mixture of technology delivery, product delivery and customer delivery processes. According to these authors, the key to value driven strategy is to move away from traditional functional job roles.

Problem statement, methodology and research context

Building on the abovementioned literature this study links the problem of creating customer value in industrial markets to co-operation in networks, value addition and value innovation efforts/initiatives. In this way it seeks to advance a framework of how companies can create superior customer value in industrial markets.

Problem statement

The main objective is to see how value innovation efforts of producers ("the" total solution selling concepts; see further) are perceived and consequently implemented or hindered by the other layers of the supply chain. Further, recommendations are formulated on how these efforts can be made successful and under what conditions.

Given the above, the following research questions are formulated:

- What is the impact of total solution selling concepts introduced by producers on the electrotechnical supply (value) chain?
- How do the other players in the chain (wholesalers, installers) perceive these initiatives/concepts?

- How to co-operate with other players in the chain in order to improve the total 'value' created?

Ulaga (2001) pinpoints that notwithstanding the growing body of customer value research in the marketing discipline, more knowledge is needed about the construct and its operationalizations, especially in the business-to-business area. Lambert and Cooper (2001) identified selected research opportunities such as the identification of the critical factors and the barriers to forming such supply chain relationships. Also, the nature and type/level of integration that should be applied to each business process link.

Methodology

Studying and modelling the effects of value addition and of value innovation efforts require an adapted research methodology. Also, given our research questions we are primarily interested at uncovering perceptions of the participants in the industry context under study (the Dutch electrotechnical supply chain; see further). Analysing and mapping perceptions are rooted in the epistemological viewpoint that markets, industries and reality are socially constructed (see for instance, Hodgkinson, 1997; Spencer 1989; Weick, 1979) and ultimately lead to the construction of causal maps of the different actors. These cause maps[1] reveal the interpretation and sensemaking schemes of managers and thus form the basis of their (market) actions.

This paper draws on data collection in the Dutch electrotechnical supply chain during the spring and the summer 2001. The study relies on multiple case study design as a qualitative research methodology (Eisenhardt, 1989; Yin, 1994). The choice of this particular research methodology was not only determined by our epistemological perspective. Also instrumental in this choice were (1) the fact that value additions and value innovation efforts in networks are a relatively 'unstructured' and under researched subject and (2) Pettigrew's position that

in order to improve the construct validity of key constructs (such as value innovation efforts) these constructs must be studied in their (natural) context (Pettigrew,1992).

The data collection and data analysis follow a three-step approach. We started off by describing 3 cases of total solution selling concepts introduced by producers (the so-called value innovation efforts). The selection of these cases was done following the recommendations of Patton on purposeful sampling in qualitative research (Patton, 1990). The next step was to focus on the perceptions of these producers: how do they see the value creation efforts of the other players in the supply chain? What are, in their opinion, drivers and barriers of these innovation efforts? And what is for them the 'ideal' form of supply chain cooperation? The third step was to interview wholesalers and installers in the market. We looked for answers on the following questions: What is their self-image (the role they play in the chain)? How do they perceive these initiatives/efforts of producers? What are perceived barriers and drivers with respect to the implementation of these efforts? This three-step approach, together with secondary data, enabled also to fulfil the data triangulation requirements in qualitative research (Eisenhardt, 1989; Jick, 1979).

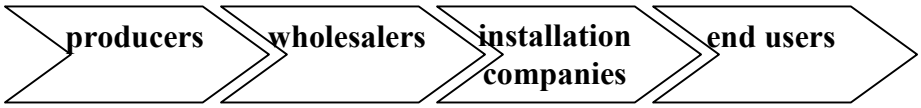
Research Context

This pilot study draws on empirical investigations and interviewing at different levels of the Dutch electrotechnical supply chain. This industry consists of a chain of companies that are linked to each other by logistical flows of physical products and immaterial flows of support services and information. Participants include producers of electrotechnical products (such as, Philips, ABB, GE, Alcatel, Stago, Lexel), wholesalers (such as, Hagemeyer Holland, Technische Unie, Brinkman&Gemeraad), installation companies (such as Stork Technical Services, GTI, Croon, IMTech) and end users (industrial applications, government, institutional markets, construction industry). It is a highly competitive market characterized

[1] For a discussion in depth on cognitive mapping, we refer to Huff (1990).

by a fragmented and difficult to control network of players at all levels of the supply ("value") chain. In order to study value innovation efforts, data (mainly through interviewing) was collected at the level of producers (3 producers in total), at the level of wholesalers (3 in total, controlling 75% of the market) and at the level of the installation companies (7 in total). Figure 1 exhibits a slimmed down and simplified representation of the electrotechnical supply chain.

Figure 1: simplified version of the electrotechnical supply chain



Cases on value creation and addition

This paper does not focus on technological breakthroughs. Rather, we consider efforts and initiatives by companies to create extra customer value by *value innovation*. The three selected cases were identified by three industry experts as offerings significantly trying to create extra customer value (cf. purposeful sampling technique; Patton, 1990).

Case 1: The plug & play solution

Company 1 has different lines of business which provide cable management systems, office and building monitoring systems and data communication systems. They recently created a new 'category' combining the skills and solutions of the different divisions. They labelled it 'ECC', i.e. 'energy, control and communication. The concept is a relatively open system that focusses on the functionality of the end user ('co-makership'). The solutions are easy to install (saving time for the installer), flexible and modular (i.e. houses or offices can be re-costs and re-wiring and re-connecting). The concept relies heavily on installers who have to fine-tune the solution to the end user. Therefore, a partnership program was started at the

same time of building the ECC concept (the 'brand'). The program was launched in 2001. During that year we had several meetings with the CEO, the marketing manager and the sales manager. Although the first signs of acceptance were given by the market, still a lot of problems were met. The following barriers were mainly stressed:

- product thinking rather than systems thinking in the installation industry
- focus on articles and price rather than on total solutions
- the organisation structure of the installer is oriented towards implementation, not engineering and co-development
- time pressure and job market shortage undermine the knowledge creation of the installer.

The managers are 'dreaming' of a dialogue with selected and loyal partners. Such installers would then evolve from 'plumbing a solution' to 'solving customer problems with knowledge'. As such a set of strict partner selection criteria has been defined. So far, though, these criteria have not been applied strictly for fear of selecting the wrong partners and/or making other installers feel unhappy (mainly due to the fragmented nature of the industry).

Case 2: From service augmentation to turnkey solutions

Company 2 delivers a wide range of cable and wire for diverse markets. We observed different approaches to add value for a product that is traditionally very much labelled as a commodity. In the telecom market, turnkey solutions are developed in direct relation with the users (the installer is often 'bypassed'). In that case, the supplier engineers a concept, customizes its solution, manages the project ... and delivers the cable (but the latter is only a fraction of the total value delivered). In the ship construction and rebuilding industry, the limited space on board has forced suppliers and installers/shipyards into a creative partnership. In fact, the drawings are supplied to the supplier who will than pre-cut and label the cables for different sections of the ship.

The managers of this company can only dream from such a collaborative spirit in the installation market (the mainstream market of building and construction). One manager expressed it like this: 'It is unrealistic to fully deliver turnkey in this business'. Therefore, the company seeks to add value by offering the installer outsourcing solutions for the 'dumb' cable-related installation work, by logistics optimization, and (stepwise) by offering extra service in the form of calculation programs and service items.

The barriers so far encountered for value innovation in the ET installation industry are:

- low value added of this 'volume item'
- traditional mentality in this industry
- installer wants to do everything by himself
- fragmented chain with high degrees of mistrust (making reference to limited success of e-information projects involving two or more levels of the ET chain).

The cable company hopes that in the future e-links (e.g., CAD links) will enable the open communication on designs and installation schemes. Further, it is hoped that the installer will start reasoning in value added, whereby outsourcing of 'stupid' installation tasks will be practiced (also in bad times).

Case 3: Technical integration and application specificity

The third company focuses mainly on 'industrial IT' and wants to evolve further to a position of project supplier in selected markets. From an extreme understanding of the specific application in such a market (e.g., production environments), a solution is built combining coupled components and submodules into systems (eg. distributed control systems). In the low voltage markets there is a tendency towards standardization and certification of the installation (the product responsibility issue). Therefore, it is expected that also installation companies will buy more and more tested submodules or (sub)systems in order to limit their responsibility.

The hindrances for such value concepts to be widely adopted so far are according to the CEO:

- not enough systems thinking and limited attention for labor saving concepts
- installers want to deliver customization for every customer, even if an 'off the shelf' solution is ready available ('hobbyism')
- focus on installation rather than on maintenance
- the marketing concept is still missing in this technical industry.

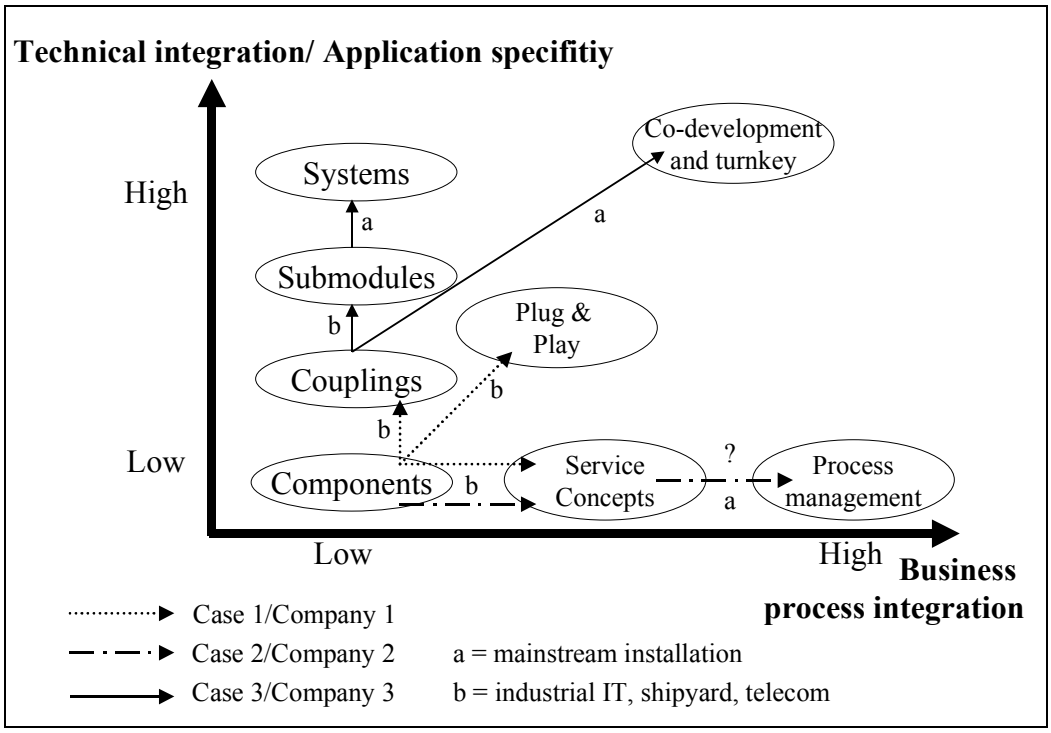
In the future, this company hopes that it can collaborate more intensely with selected installers (the latter would become a 'system integrators'). Further it is hoped that installers will focus on specific applications and seek their value added in the engineering rather than in their pure installation work (hence the claim for 'outsourcing' parts of the project). Installers focussing on a niche will have to be more exclusive with their suppliers. Now they sell everything, but this supplier puts forward that the complexity of the system requires exclusive arrangements. Finally, labor saving systems and a focus on life cycle cost rather than selling price is recommended.

Mapping the cases

Figure 2 is a summary of the observed approaches to value creation/innovation. The two dimensions along which the strategies are displayed are:

- the business process integration dimension: a producer can try to add value to its customers (often the next player in the supply chain) by integrate its solution into the value chain or business model of the customer, for instance by taking over specific administrative, engineering, financing, logistical, etc. tasks.
- the technical integration/application specificity dimension: a producer can add value by fine-tuning the technical solution to the specific application of the customer.

***Figure 2**: Value addition and innovation efforts by the case companies.*



Reactions from wholesalers and installers

For two levels in the chain following the producer, i.e. the wholesaler and the installer (see figure 1) we are able to uncover their perceptions vis-à-vis the three cases. More specifically, we derived their self-image (what do wholesalers, respectively installers, think of their own position and performance in the chain? What are their major strategic intents?), the barriers and drivers they see for the value creation efforts introduced by the case companies upstream, and a list of 'to do' items.

Wholesalers

Wholesalers report that they are seeking to add value themselves in an effort to safeguard their position in a chain that is more and more questioning their value added. And although there were slight differences among the three participating wholesalers, their approaches and views were very similar.

Speed and efficiency in logistics has become ‘qualifier’, but some differentiation can still be reached with very refined fine-tuning of logistics to specific clients’ needs. Concepts such as ‘vendor managed inventories’, ‘turn key overnight deliveries’ (the wholesaler has a key of the installers warehouse and deliver goods overnight) and ‘customized (room per room) deliveries’ (the wholesaler delivers a customized and barcoded package that one installer needs for a specific room the next day) are illustrative for such and approach. Wholesalers are also trying to segment their markets and the first signs of ‘account management approaches’ can be seen.

Further, wholesalers seek adding value via the construction of couplings and (simple) subassemblies themselves. All three also want to offer ‘one stop shopping’ to their customers, including information about all their products (> 80 000 items) on the level of components. The wholesalers are strong believers regarding the value adding initiatives from the case companies and other suppliers. They clearly are aware that the heavy emphasis on price and efficiency in the ET chain at present ‘has reached its limit’, and that job shortages in the sector also cry for labor saving submodules or easy to install ‘plug & play’ systems. However, the wholesalers still see many barriers to the adoption of these approaches. They blame installers for being solely oriented towards ‘selling hours’ (i.e. focusing on implementation rather than on design & engineering). Also, it was mentioned that ‘still’ too many people see technicality as their *raison d’être*. More specifically, the following barriers were mentioned:

- unfair ‘treatment’ of such initiatives by the market only stressing price and cost in the short run
- new concepts and their benefits are hardly known; they lack standardization
- poor communication and mistrust in the chain

- poor marketing by all levels in the chain (eg. the producer sells the argument of time saving of an innovative system to the end user, who then claims less installation hours, and that way neither the installer nor the wholesaler benefit in any way from this innovation)
- installers are slow on adopting new systems and do not specialize nor make strategic choices
- traditional chain with limited willingness to invest and create knowledge.

The wholesaler sees its role as a supporter of business processes of the installer. This means moving along the x-axis of figure 2 via co-planning, e-linkages, and the development of a database with information on all components and materials in the building (in order to support the installer in its future maintenance).

According to our spoke people, the value addition and value innovation efforts will only succeed when in the future the mentality of the industry changes: from price to life cycle cost, from mistrust to cooperation and co-marketing, and from a short term perspective to the view of optimizing the total installation and logistics process.

Installers

The installers are well aware of their own and the industry's limitations. They describe their business as difficult because of the following tendencies:

- the complexity of the business increases due to smart technologies and complex systems product proliferation and claims for 'sustainable' machines and installations
- limited differentiation potential among installers
- scale is becoming more important but hard to reach given the local market entrenchment that is needed
- business cycle sensitive industry.

The installers are remarkably aware of their own limitations in the strategic marketing area, stressing (1) they make not enough choices (lack of focus is the result), (2) their opportunistic attitude towards low level installations tasks (in good times they outsource, in bad times do it themselves), (3) limited cross-selling, and (4) limited marketing efforts for new systems.
In the 'minds' of the installer and of the market many barriers exist blocking the penetration of the initiatives from figure 2. We report here the ones mentioned by the majority of the installation companies:

- market only pays for installation work and knowledge cannot be sold (*valorization?*)
- selling and marketing of new concepts is of low level (no co-marketing, poor job by both producer and wholesaler)
- the installer is unaware of its own costs throughout the whole process
- installers are not used to make choices with regard to their assortment and type of projects, thereby limiting their accumulation of experience and knowledge
- the concepts themselves are fragmented, unclear and the installer often cannot see the real value added.

Overall, a lot of doubts were expressed concerning these systems such as expressed by one interviewer:

> "Pre-mounted systems are OK, but the labor saving is exaggerated. The mounting cost itself is only a fraction of the total cost. The producer raises unrealistic expectations with the end user". (translated from Dutch).

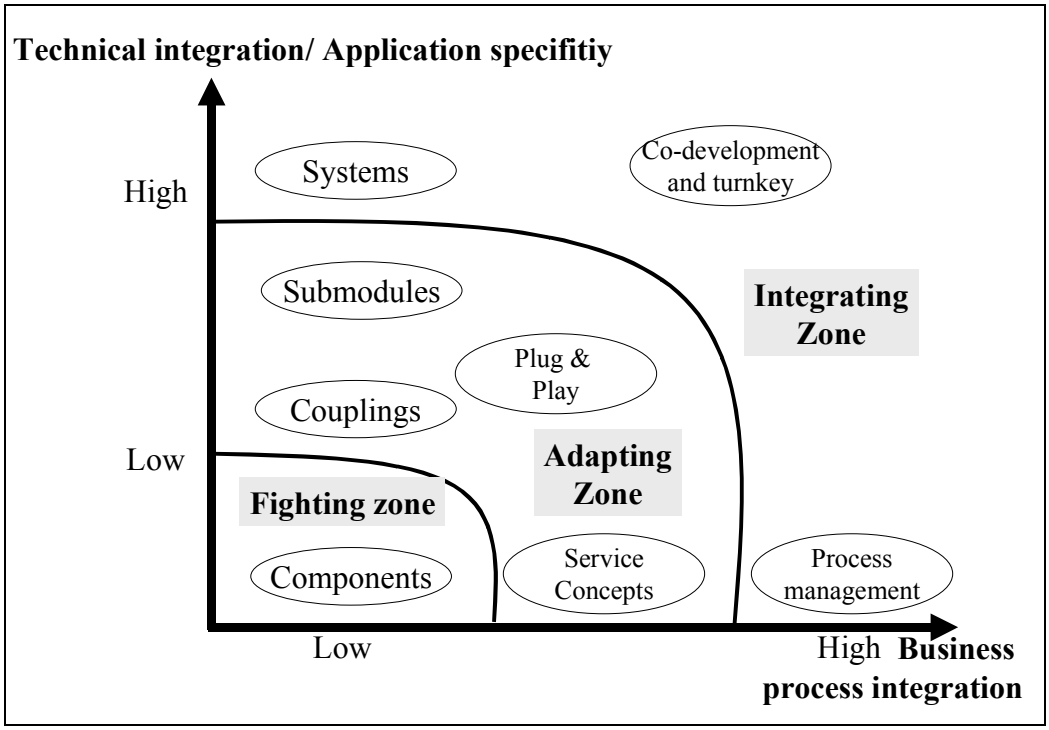
Installation companies are aware of the importance of a new chain approach in order to raise margins 'for all'. Value adding concepts play a role in this 'revival' but it can only succeed if some changes take place. First the traditional 'installation/execution focus' must be dropped allowing application engineering and specialization. Secondly, installers must educate customers of not stressing short term buying gains but considering life cycle costs. Thirdly, producer and installer (and wholesaler) must co-market these innovations with different

selling propositions at different levels in the chain or instance, time saving towards the installer and flexibility-in-use to end user. Finally, the need to rebuild their own organization from a 'hands' to a 'brain' company is being felt.

Towards a tentative model

In figure 3 the two dimensional model introduced in figure 2 is further elaborated. The case study and multilevel follow-up interviews lead to the identification of these *networking strategy* zones for the successful introduction en penetration of value creation concepts.

***Figure 3**: A model of value innovation and addition innovation*



Discussion

When selling components, an *antagonistic* model between partners emphasizing direct cost savings and volume discounts will be present. The majority of offerings and relations in this chain are still like that. The result is a chain with limited trust and communication only talking of partnerships but not practicing it. Suppliers will have to accept in that case exclusivity will never be given. When value is added and one moves away from the fighting

zone, there is a need for an *adaptation* strategy with the introduction of long term thinking, joint planning, preferred partnerships and an inclusion of indirect costs into the value equation.

The more value is added along any or both the axes will eventually result in the integrating zone where an *integrative value creating network* must be established. Open dialogue, life cycle thinking, loyal co-marketing, and knowledge creation and sharing are key here.

After this discussion it must be clear that it present the dominant chain logic is still in the fighting area whereas many producer-led initiatives require an adapting zone or an integrating zone philosophy. In the literature we see supporting findings for our observations . In an analogous effort, to derive dimensions for value creation situations, Kothandaraman and Wilson (2001) use two dimensions, 'product value added' (low vs. high) and 'process value added' (low vs. high) to evaluate the role and impact of e-commerce on value-creating networks. When both the product value added and the process value added are high, deep relationships and a long term perspective are likely to develop.

Our findings are also in line with Flint and Woodruff (2001) who state that marketers' impact on changes in desired value by customers is rather limited. In fact many of the drivers and barriers are not controlled by the marketer. Our findings are also in line with some prior beliefs of the IMP group. In fact, we observe in these value-creation networks what Ford (1998) has termed 'simultaneous conflict and cooperation' (p.131). Also, Ford (1998) has argued that a (purchasing) company needs a policy on the extent of co-ordination, adaptation and interaction with each of its suppliers. This study illustrates this fact clearly while at the same time pinpointing that in this industry most buying companies have not developed such an strategic approach. They seemingly want to keep suppliers at arms' length while at the same time feeling the urge for a new policy of cooperation in some buying situations. The dominant industry logic, however, prohibits them to 'move'.

Some final thoughts and recommendations

The presented framework links the creation of customer value in industrial markets to co-operation strategies, value addition and value innovation efforts. It should be clear though that this tentative framework needs further research. One evident way to elaborate on the preliminary insights is to test the framework in other settings and supply chains. Notwithstanding this remark, we see the scientific relevance of this research in the following areas: (1) the further operationalization of theoretical constructs, such as value innovation, in a specific research context, (2) an attempt to build a coherent set of hypotheses on value innovation efforts to create superior customer value in industrial markets and (3) an application of a multi-level qualitative research methodology using a network and a value chain perspective.

This paper suggests that there is no one-best-way to create customer value in industrial markets. Co-marketing, often hailed as the way out of commodization, requires a full understanding of the logic of customers and even of the logic of 'the customers of customers'. Consequently, inducing a marketing pull strategy will only work when the business and the business problems of the customers are fully understood. Next to that, we noticed that de-commodization strategies are not only needed but also possible. However, our multi-level supply chain approach revealed also that these types of initiatives and efforts are often paralysed by the dominant logic of the different industry players. Follow-up research must validate and elaborate upon the advanced co-operation network strategies as a way out of this (adapting and integrating strategies; see figure 3).

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