Knowledge-based marketing: building and sustaining competitive advantage through knowledge co-creation

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Abstract: This paper takes a marketing perspective of knowledge management and introduces the concepts of marketing knowledge and knowledge-based marketing based on a review and evaluation of the extant literature. A conceptual framework of knowledge-based marketing is developed and the essential processes of marketing knowledge co-creation with the main actors in the business ecosystem of global firms are analysed. Traditional marketing approaches have focused overly on explicit knowledge and neglected the important role of tacit knowledge, specifically in international (cross-cultural) settings. This paper aims to adjust this imbalance in the extant literature, and makes a call for a new knowledge-based marketing paradigm.

Keywords: CKM; customer knowledge management; knowledge-based approach; knowledge creation; KM; knowledge management; marketing; multinational companies.

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1 Introduction

"Virtually all business conducted today is global business" (Thomas, 2002, p.3), national economies have become increasingly deregulated and have opened up opportunities for international trade and competition so that it has

"become the norm for organisations to compete for market share not only with their national competitors but also with international ones." (Trompenaars and Woolliams, 2004, p.27)

Besides, in such

"an era of ever faster innovation cycles combined with an increasing convergence of industries [...] and intense and global competition, advantages tend to erode quickly." (Ambos and Schlegelmilch, 2005, p.23)

As a result, the majority of all marketing activities will have to be international, and marketing managers need to develop a deep understanding of the idiosyncrasies of global marketing (Schlegelmilch and Sinkovics, 1998). At the same time, scholars and practitioners around the globe have identified the capability of MNCs to create and efficiently transfer and combine knowledge from different locations worldwide as an increasingly important determinant of competitive advantage, corporate success and survival (cf. e.g., Asakawa and Lehrer, 2003; Bartlett and Ghoshal, 2002; Desouza and Awazu, 2005a; Doz et al., 2001; Gupta and Govindarajan, 2000; Schulz and Jobe, 2001).

However, even though "marketing functions lend themselves particularly well to an investigation of knowledge transfer within MNCs", "there is a dearth of research on knowledge transfer in the field of marketing" (Schlegelmilch and Chini, 2003, pp.220, 221). Yet, in an increasingly global business environment, the creation and transfer of marketing knowledge and intra-firm collaboration through knowledge-based approaches to marketing will become more and more crucial as determinants for corporate competitive advantage and survival of firms (Kohlbacher, 2007). Based on a review and evaluation of the extant literature on knowledge management (KM), organisational learning and marketing, this paper applies the concepts of KM and knowledge creation to marketing. A conceptual framework of knowledge-based marketing is developed and the essential processes of marketing knowledge co-creation with the main actors in the business ecosystem of global firms – customers, suppliers, competitors, business partners – are analysed. Traditional marketing approaches have focused overly on explicit knowledge and neglected the important role of tacit knowledge, specifically in international (cross-cultural) settings. This paper aims to adjust this imbalance in the extant literature, and - drawing on real-life examples of knowledge-based firms - makes a call for a new knowledge-based marketing paradigm, with knowledge and knowledge co-creation being the key to sustainable competitive advantage in the global knowledge economy. As a result, this paper contributes both to the field of KM as well as to the field of (international) marketing. While opening up a new area of application for KM concepts and tools it also helps to close the disconcerting gap in the marketing literature pointed out by Schlegelmilch and Chini (2003) mentioned above. Besides, it provides marketing scholars and practitioners with a conceptual framework for preparing marketing for the challenges of the knowledge economy of the 21st century and for analysing and deploying knowledge and value co-creation through marketing activities.

The paper is organised as follows. First, I will give a brief review and evaluation of the extant literature on marketing knowledge (management) and organisational learning in marketing functions. Then, a conceptual framework of knowledge-based marketing and the processes of marketing knowledge (co-) creation are developed. Finally, using real-life examples, knowledge-based marketing in action is illustrated and the crucial role of tacit knowledge highlighted.

2 Theoretical background

This section explores the extant literature on marketing knowledge (management) and organisational learning in marketing functions and introduces and defines important key concepts. As will be shown, different streams of research have contributed to the field, but all in all it may not be outlandish to conclude that research on knowledge-based approaches to marketing is still rather in its infancy. As mentioned above, it is the aim of this paper to develop a conceptual framework of knowledge-based marketing. To do so, at least two essential questions have to be answered:

- What is marketing knowledge?
- What is its role in marketing and how is it managed?

2.1 Marketing knowledge

According to Schlegelmilch and Chini

"it is high time to include marketing into the research agenda for KM and to overcome the paradox that marketing functions are neglected in the discussion on knowledge transfer." Schlegelmilch and Chini (2003, p.226)

As a matter of fact,

"[b]eing among the first to internationalise, marketing functions are key to the development of knowledge transfer processes in a dispersed MNC context." Schlegelmilch and Chini (2003, p.226)

However, despite the obvious importance of knowledge to the marketing discipline, the marketing literature has struggled for more than ten years to come to an understanding of the nature of marketing knowledge and there does not seem to be a common ground unifying scholars (Kohlbacher, 2006; Kohlbacher et al., 2007). In fact, even though "marketers have been using knowledge management long before this latter phrase began to be popularised in the management literature" (Chaston, 2004, pp.22, 23), there has, to date, been "no clear statement about the forms that marketing knowledge can take, or its content" (Rossiter, 2001, p.9). Bjerre and Sharma (2003, p.125) note that the "concept of marketing knowledge is defined differently by researchers" and that it "may be different from other types of knowledge". Hanvanich et al. (2003, p.124) concur by observing that both marketing scholars and KM practitioners "face difficulty in defining what knowledge and marketing knowledge is". Kohlbacher et al. (2007) therefore conclude that

"[a]ll in all, it may not be outlandish to suggest that the marketing discipline is tying itself up in semantic knots while it struggles to create consensus on an agreed definition of the term marketing knowledge, its practical scope and supporting constructs." (cf. also Kohlbacher, 2007)

2.2 Market orientation and organisational learning

2.2.1 Market orientation

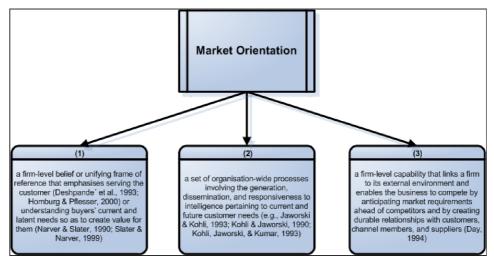
In the late 1980s and the beginning of the 1990s a research stream on 'market orientation' has evolved (e.g., Day, 1990; Day, 1994a; Deshpandé and Webster, 1989;

Kohli and Jaworski, 1990; Kohli et al., 1993; Narver and Slater, 1990) that focuses on the processes underlying the ability of organisations to generate knowledge about customers, competitors and other players (Vicari and Cillo, 2006). Indeed, the more recent interest in, and emphasis on, market orientation, by and large, relates to acquisition and exploitation of knowledge about customers and competitors (Grønhaug, 2002; Slater and Narver, 1995).

Summarising the literature, Kyriakopoulos and Moorman (2004, pp.223, 224) view market orientation as (cf. also Figure 1):

 a firm-level belief or unifying frame of reference that emphasises serving the customer (Deshpandé et al., 1993; Homburg and Pflesser, 2000) or understanding buyers' current and latent needs so as to create value for them (Narver and Slater, 1990; Slater and Narver, 1999)

Figure 1 Conceptualisations of market orientation (see online version for colours)



Source: Kohlbacher (2007, p.51) based on Kyriakopoulos and Moorman (2004)

- a set of organisation-wide processes involving the generation, dissemination, and responsiveness to intelligence pertaining to current and future customer needs (e.g., Jaworski and Kohli, 1993; Kohli and Jaworski, 1990; Kohli et al., 1993)
- a firm-level capability that links a firm to its external environment and enables the business to compete by anticipating market requirements ahead of competitors and by creating durable relationships with customers, channel members, and suppliers (Day, 1994a).

2.2.2 Market orientation and organisational learning

Much of the literature on market orientation explicitly or implicitly refers to and/ or draws from the organisational learning and learning organisation literature (e.g., Baker and Sinkula, 1999a, 1999b; Bell et al., 2002; Bennet, 1998; Darroch and McNaughton, 2003; Hurley and Hult, 1998; Kyriakopoulos and Moorman, 2004; Morgan, 2004;

Morgan et al., 1998; Morgan and Turnell, 2003; Santos-Vijande et al., 2005; Sinkula, 1994; Sinkula et al., 1997; Slater and Narver, 1995). According to Bell et al. (2002, p.79), market orientation is an important area of application for researchers of organisational learning for a number of reasons; first, the organisational learning and market orientation domains are often perceived as conceptually similar, because - in particular - both help to explain the critical organisational capability of market sensing. Second, they are concerned with understanding organisation-wide phenomena such as organisational culture and norms. Finally, both encompass relationships and interdependencies between individuals and groups and the coordinated use of both tangible and tacit resources. Sinkula (1994) criticises that there has been relatively little scholarly research on organisational learning in a marketing context and proposes the concept of 'market-based' organisational learning. Writing eight years later, Bell et al. (2002, p.71) contend that a "number of researchers have emphasised the relevance of organisational learning in several marketing areas" and that "marketing has a large stake in organisational learning". Indeed, many researchers view organisational learning as critical to the process of developing market knowledge and, as such, a driving force of action in, and governance of, market-oriented organisations (Bell et al., 2002).

Slater and Narver (1995, pp.67, 71) contend that market orientation is "the principle cultural foundation of the learning organisation" and that the marketing function has "a key role to play in the creation of a learning organisation". According to them, learning organisations "continuously acquire, process, and disseminate throughout the organisation knowledge about markets, products, technologies, and business processes", with their knowledge being based "on experience, experimentation, and information from customers, suppliers, competitors, and other sources" (Slater and Narver, 1995, p.71). Day (1994a, 1994b) more or less turns the causality between organisational learning and market orientation around when he suggests that a market-oriented or market-driven approach can emerge only if learning processes are examined and altered in a way that enables firms to 'learn to learn' about markets (cf. also Bell et al., 2002).

Based on Huber's (1991, p.90) four organisational learning-related constructs – knowledge acquisition, information distribution, information interpretation, and organisational memory – Sinkula (1994) depicts market information processing – i.e., organisational learning in marketing – as a four stage process that includes information acquisition, information dissemination, shared interpretations, and storage (organisational memory) (cf. also Slater and Narver, 1995). He further proffers that market information processing

"is a function of what the organisation has learned in terms of both facts about its relevant markets and its particular way of acquiring, distributing, interpreting, and storing information." (Sinkula, 1994, p.37)

As mentioned above, the "ability of the firm to learn about customers, competitors, and channel members in order to continuously sense and act on events and trends in present and prospective markets" is critically important (Day, 1994a, p.43, 1994b). Indeed, market-driven firms are "distinguished by the ability to sense events and trends in their markets ahead of their competitors" and this "anticipatory capability is achieved through open-minded inquiry, synergistic information distribution, mutually informed interpretations, and accessible memories" (Day, 1994a, p.44).

2.3 Areas of marketing knowledge creation and application

Bennet and Gabriel (1999) note that hardly any research into the in-house management of marketing knowledge has been completed, in sharp contrast to KM research in other disciplines. As mentioned above marketing academics have concentrated on market orientation, especially with respect to linkages between market orientation and organisational learning (Bennet, 1998; Bennet and Gabriel, 1999) but accounts of marketing from a KM or knowledge-based perspective still seem to be rare.

Hanvanich et al. (2003, p.124) argue that while marketing scholars have been interested in the topic of marketing knowledge, "they have focused mainly on how firms acquire, disseminate, and store knowledge", with related research areas being market orientation and organisational learning. Taking a new approach to reconceptualising marketing knowledge and innovation, Hanvanich et al. proffer that

"marketing knowledge resides in three key marketing processes: Product Development Management (PDM), Customer Relationship Management (CRM), and Supply Chain Management (SCM)." (Hanvanich et al., 2003, p.130)

This notion is based on Srivastava et al. (1999) framework that redefines marketing as a phenomenon embedded in the three core marketing processes of PDM, SCM and CRM. Bjerre and Sharma (2003, p.140) seem to agree when they posit that the

"important thing is not one specific piece of knowledge, but an entire package that includes knowledge about clients, competitors, local institutions, suppliers etc."

I will subsequently discuss each of the three core processes of PDM, SCM and CRM from a marketing knowledge perspective. As a matter of interest, all of the processes could somehow also be mapped into Porter's (1980, 1985) value chain. Therefore, in a sense, the following sections look at knowledge-based marketing and marketing knowledge issues along the value chain. In fact, Hult and Ferrell (1997, p.155) argue that firms tap "into the cumulative knowledge of its entire value chain to be market-oriented".

2.3.1 Supply Chain Management (SCM)

SCM might actually be the least obvious process to analyse from a marketing knowledge perspective. However, suppliers could be able to generate and provide valuable insights and knowledge about competitors, customers, customers' customers, and they can play an important role in product development processes and help to cut costs and provide superior value propositions to customers. Indeed, suppliers must be "prepared to develop team-based mechanisms for continuously exchanging information about needs, problems, and emerging requirements and then taking action", because in a successful collaborative relationship, joint problem solving displaces negotiations (Day, 1994a, p.45). Suppliers must also be prepared to participate in the customer's development processes, even before the product specifications are established (Day, 1994a). That is why the channel bonding capability has many features in common with the customer-linking capability, and hence, the same skills, mechanisms, and processes might be readily transferred between those related domains (Day, 1994a, p.44fn).

Ahmadjian (2004, p.227) contends that "[k]nowledge creation occurs not only within firms, but also through relationships between firms". In fact, customer-supplier

partnerships (Konsynski and McFarlan, 1990) as well as strong supplier networks, have frequently been put forth in this context (cf. e.g., Ahmadjian and Lincoln, 2001; Chakravarty, 2000; Chaston, 2004; Cusumano and Takeishi, 1991; Dyer, 1996a, 1996b; Dyer and Hatch, 2004, 2006; Dyer and Nobeoka, 2000; Dyer and Ouchi, 1993; Kotabe et al., 2003; Liker and Choi, 2004; Liker and Yu, 2000; Lincoln et al., 1998). In the latter case it was notably those of Japanese companies, and here again, especially the ones in the automotive, and the electronics sector. These networks or strong relationships between firms in Japan have frequently been termed and analysed as so-called keiretsu described as "the webs of relations that envelop many Japanese companies" (Lincoln et al., 1996, p.67) or as "clusters of interlinked Japanese firms and the specific ties that bind them" and their "long-term, personal and reciprocal character" (Lincoln et al., 1992, p.561). Furthermore, "the openness and richness of networks are believed to foster a fertile environment for the creation of entirely new knowledge" (Lincoln et al., 1998, p.241). However, it must not necessarily only be big firms that successfully manage and share knowledge in the supply chain. Glisby and Holden (2005) for example, present the case of a Danish small specialist manufacturer that applied KM concepts to the supply chain and thus managed to co-create the market with their Japanese business partners through a synergistic process of knowledge sharing (cf. also Kohlbacher et al., 2007).

2.3.2 Customer Relationship Management (CRM)

The continuous need to learn from, and about, customers and competitors and to exploit such knowledge to stay ahead has frequently been stressed and discussed (cf. e.g., Chaston, 2004; Davenport et al., 2001; Davenport and Klahr, 1998; Gulati and Oldroyd, 2005; Li and Cavusgil, 1998). Indeed, 'customer focus', 'customer knowledge co-creation', and 'customer interaction' are crucial keywords in this context (cf. e.g., Griffin and Hauser, 1993; Gruner and Homburg, 2000; Gulati and Oldroyd, 2005; Homburg et al., 2000; Katahira et al., 2003; Lawer, 2005; Prahalad and Ramaswamy, 2004; Thomke and von Hippel, 2002; Vandermerwe, 2000, 2004).

Wikström and Norman (1994, p.64) argue that because marketing is no longer "a clearly delineated function at the end of the production chain" and that since nowadays "there are many functions and people who influence the customer relationship", it is not logical to have marketing handled solely by a specialist department. Thus, knowledge about customers needs to be shared throughout the organisation (Bennet and Gabriel, 1999). Indeed,

"knowledge on customers and their preferences must be located or solutions for a particular kind of customer problem need to be identified." (Schlegelmilch and Penz, 2002, p.12)

For the latter task, CRM and data mining tools for decision support have proven useful (Shaw et al., 2001; Wierenga and Ophuis, 1997) and effective CRM is "critically dependent upon having accurate and up-to-date knowledge about customers" (Chaston, 2004, p.225). However, even though tools and technology are important, they are not enough (cf. e.g., Davenport et al., 2001; Gulati and Oldroyd, 2005). In fact, although CRM has received much scholarly and management attention (e.g., Berry and Linoff, 1999; Curry and Curry, 2000; Day, 2003; Desouza and Awazu, 2005a; Peppers and Rogers, 1999; Peppers et al., 1999; Shaw et al., 2001; Webster, 2002), it frequently does not go beyond the surface and remains restricted to collecting and managing mere data

and information, but not knowledge – especially tacit knowledge – despite its importance (cf. also Zaltman, 2003). Indeed, Gouillart and Sturdivant (1994, p.117) criticise that "most managers do not understand the distinction between information and knowledge" and that even if they

"include information from all points on the distribution channel, most general market data do not show a manager how each customer relates to the next or how customers view competing products and services."

Besides, CRM has been traditionally popular as a means to tie customers to the company through various loyalty schemes, but it left perhaps the greatest source of value under-leveraged: the knowledge residing in customers (Gibbert et al., 2002, p.464).

A relatively new approach that tries to overcome the short-comings of CRM is 'Customer Knowledge Management' (CKM) (e.g., Davenport et al., 2001; Desouza and Awazu, 2004, 2005a, 2005b; Gibbert et al., 2002; Leibold et al., 2002; Wayland and Cole, 1997). According to Gibbert et al. (2002, p.461) CKM differs from CRM and KM in general, as customer knowledge managers "require a different mindset along a number of key variables".

"Customer knowledge managers, first and foremost focus on knowledge *from* the customer (i.e., knowledge residing in customers), rather than focusing on knowledge *about* the customer, as characteristic of CRM." (Gibbert et al., 2002, p.461, original emphasis)

Indeed, customer-driven companies need to harness their capabilities to manage the knowledge of those who buy their products (Baker, 2000; Davenport and Klahr, 1998; Gibbert et al., 2002).

Nevertheless, CRM still plays an important role as market driven organisations "develop intimate relationships with their customers, instead of seeing them as a means to a series of transactions", and these capabilities are "built upon a shared knowledge base that is used to gather and disseminate knowledge about the market" (Day, 1999, p.xi). Indeed, as buyer-seller relationships

"continue their transformation, a customer-linking capability – creating and managing close customer relationships – is becoming increasingly important." (Day, 1994a, p.44)

The customer-linking capability

"comprises the skills, abilities, and processes needed to achieve collaborative customer relationships so individual customer needs are quickly apparent to all functions and well-defined procedures are in place for responding to them." (Day, 1994a, p.49)

I, therefore. view CKM as one – from a knowledge-based perspective essential – process within CRM.

Desouza and Awazu (2004, 2005a, 2005b) take yet a slightly different approach to CKM, as they propose three types of customer knowledge:

- knowledge about the customer
- from the customer
- to support the customer.

Collectively, the three types of knowledge (about, to support, and from) make up the CKM construct (see Figure 2).

Knowledge about the customer is "processed demographic, psychographic and behavioural information" (Desouza and Awazu, 2004, p.12) and it is "generated primarily through information processing activities" (Desouza and Awazu, 2005a, p.119). Knowledge to support the customer "is concerned with improving the user experience with products and services, which is critical for retaining customers" (cf. also Davenport and Klahr, 1998; Desouza and Awazu, 2004, p.12). Managing knowledge that provides support for the customer requires an organisation to leverage transaction data and information to personalise the pre-purchase, purchase, and post-purchase experiences, and ensuring a pleasant user-experience is critical for retaining customers (Desouza and Awazu, 2005a, p.124). Knowledge from the customers can be defined "as the insights, ideas, thoughts, and information the organisation receives from its customers" and these insights can be about current products and services, customer trends and future needs, and ideas for product innovations (Desouza and Awazu, 2005a, p.130). Indeed, customers, in a sense, know products better than the organisations that produce them, which is why they represent a viable source of knowledge (Desouza and Awazu, 2004). This knowledge from the customer is concerned more with eliciting novel ideas and feedback (Desouza and Awazu, 2004, 2005a). Each of the dimensions of customer knowledge needs to be managed optimally and unless an organisation can show competency in leveraging all three components, its CKM agenda will be have an inherent weakness (Desouza and Awazu, 2005a, p.134). Finally, one of the challenges for knowledge from customers is "to integrate the various parts of the organisation that need to use the knowledge", as the knowledge "can not simply stay with the marketing department" but "must be shared with product engineering, research and development and the customer service department" (Desouza and Awazu, 2005b, p.44).

"The trick is to capture knowledge gleaned from behaviour or encounters unique to an individual customer and then reuse it by consolidating the findings and transferring the relevant pieces to other customers." (Vandermerwe, 2004, p.34)

Knowledge to support the customer knowledge management

Knowledge about the customer knowledge management

Knowledge from the customer

Figure 2 The CKM construct

Source: Desouza and Awazu (2005a, p.134)

2.3.3 Product Development Management (PDM)

Obviously, market research and CKM are – or at least should be – closely related. In a similar vein, knowledge from market research and customer knowledge and its management are not only essential for understanding customers and their needs to successfully advertise and market products, but also as early as in the product development process. Indeed, as marketing organisations serve as corporate links between customers and their organisation's manufacturing and R&D operations (Riesenberger, 1998), the integration of and knowledge exchange between R&D and marketing has also been treated as an important issue (e.g., Griffin and Hauser, 1996; Song and Parry, 1993).

According to Bell et al. (2002, p.82), product development is "a particularly salient area for organisational learning inquiry for a number of reasons": it is often a team-based pursuit, it requires a high degree of interfunctional coordination, and it is frequently project based. Indeed, there is a strong body of literature that deals with product development and product introduction for an organisational learning, KM or market orientation perspective (cf. e.g., Baker and Sinkula, 2005; Dyck et al., 2005; Hoegl and Schulze, 2005; Kusunoki, 2004; Kusunoki et al., 1998; Madhavan and Grover, 1998; Schulze and Hoegl, 2006, to name but a few). But, product development is often difficult because

"the 'need' information (what the customer wants) resides with the customer and the 'solution' information (how to satisfy those needs) lies with the manufacturer." (Thomke, 2003, p.244)

Traditionally,

"the onus has been on manufacturers to collect the customer need information through various means, including market research and information gathered from the field"

a process that "can be costly and time-consuming because customer needs are often complex, subtle, and fast-changing" (Thomke, 2003, p.244).

Nonaka and Takeuchi (Imai et al., 1985; Takeuchi and Nonaka, 1986) have already discussed the issues of learning and transferring knowledge in product development projects more than 20 years ago and the theory of organisational knowledge creation is thoroughly grounded in and backed up by empirical research on such projects (Nonaka and Takeuchi, 1995; Nonaka et al., 1996). In fact, even though many vital processes of innovation, change, and renewal in organisations can be analysed through the lens of knowledge conversion (Nonaka et al., 2006b), knowledge creation and transfer in product development projects seem to be particularly important, as the research focus by eminent Western scholars has also shown (cf. e.g., Leonard-Barton, 1992; Leonard, 1998; Leonard and Sensiper, 1998; von Hippel, 1994). Indeed, "the ability to import knowledge from the market" is a principal component of the product development process (Leonard, 1998, p.179). Baba and Nobeoka (1998) in their study on the introduction 3-D CAD systems, even speak of 'knowledge-based product development'. Moreover, Nonaka et al. (2006b) suggest that members of a product development project share ideas and viewpoints on their product design in a ba that allows common interpretation of technical data, evolving rules of thumb, an emerging sense of product quality, effective communication of hunches or concerns, and so on.

One way of capturing customer needs and translating them into a product concept has been termed 'empathic design' (Leonard-Barton, 1991; Leonard, 1998; Leonard and Rayport, 1997; Leonard and Swap, 2005). Leonard (1998, p.194, emphasis removed), defines empathic design as "the creation of product or service concepts based on a deep (empathetic) understanding of unarticulated user needs". It is

"a set of techniques, a process of developing deep empathy for another's point of view and using that perspective to stimulate novel design concepts." (Leonard and Swap, 2005, p.82)

Empathic design differs from contextual inquiry precisely because it does not rely on inquiry; in the situations in which empathic design is most useful, inquiry is useless or ineffective (Leonard, 1998, p.288fn). The more deeply a researcher can get into the mindset, the perspective, of a prospective or actual user, the more valuable is the knowledge thus generated (Leonard, 2006).

Obviously, the knowledge gained and generated through market research, empathic design and product development etc., should not vanish after the project finishes. Indeed, it is essential to retain vital knowledge and share and transfer across functions, between projects as well as generations of projects and products (e.g., Aoshima, 2002; Cusumano and Nobeoka, 1998; Nobeoka, 1995; Nobeoka and Cusumano, 1997). As Cusumano and Nobeoka put it:

"In addition to overlapping projects and using cross-functional teams, companies have various organisational and technological mechanisms to help them capture knowledge about designs or manufacturing processes and then transfer this knowledge across different projects or different generations of products." (Cusumano and Nobeoka, 1998, p.175)

Indeed, successful new product development at least partially depends on the ability to understand technical and market knowledge embodied in existing products, and the adaptation of this knowledge to support new product development (Aoshima, 2002; Iansiti, 1997; Iansiti and Clark, 1994).

3 Toward a model of knowledge-based marketing

In an increasingly global business environment, the creation and transfer of marketing knowledge and intra-firm collaboration through knowledge-based approaches to marketing will become more and more crucial as determinants for corporate competitive advantage and the survival of firms (Kohlbacher, 2007). Indeed, as marketing affairs are among the most knowledge-intensive parts of a company, applying KM concepts and practices to the field of marketing and marketing functions will prove especially efficient and effective. However, as the above literature review has shown, marketing lacks a knowledge-based framework in order to analyse and explain marketing-related knowledge processes in firms. The next two sections are an attempt to engage in the first steps of building such a framework.

3.1 Marketing knowledge

As shown above, it may not be outlandish to suggest that the marketing discipline is tying itself up in semantic knots while it struggles to create consensus on an agreed definition

of the term 'marketing knowledge', its practical scope and supporting constructs. In fact, the current marketing literature does not offer one satisfactory definition of marketing knowledge which is also amenable to the investigation of international marketing interactions (cf. also Kohlbacher et al., 2007). However, providing a clear definition of the term 'marketing knowledge' is absolutely essential for the development of a knowledge-based theory of marketing and for any discussion of knowledge-based marketing.

Trusting that no marketing scholar or practitioner is likely to disagree on marketing affairs being among the most knowledge-intensive parts of a company, I am proposing the following definition of marketing knowledge:

"Marketing knowledge is all knowledge, both declarative as well as procedural, concerning marketing thinking and behaviour in a corporation." (cf. also Kohlbacher, 2007, p.96)

Obviously, this leads to a very broad concept of marketing knowledge, but given the early stage of research on knowledge-based approaches to marketing, this definition should prove to be a helpful guidance for research. Indeed, Bjerre and Sharma's pronouncement to the effect that the

"important thing is not one specific piece of knowledge, but an entire package that includes knowledge about clients, competitors, local institutions, suppliers etc." (Bjerre and Sharma, 2003, p.140)

underscores the importance of such a comprehensive concept of marketing knowledge. As Pollard (2006, p.21) reminds us, "marketing knowledge of a company develops both in-house and through external contact", another feature of this holistic marketing knowledge that comprises knowledge of and about other entities and stakeholders in the market place and the ecological system of a firm. In fact, successful companies "create collaborative networks to gain and disseminate knowledge" (Kotler et al., 2002, p.113). Therefore, the above definition includes both tacit and explicit knowledge about products, markets, customers, competitors, partners, marketing processes and marketing strategy. Finally, it includes also experiences of past marketing efforts such as new product introductions etc., as well as future expectations. Note that a finer and narrower definition of marketing knowledge leads to the definition of one of these subunits of marketing knowledge, such as customer knowledge, competitor knowledge etc. Marketing knowledge itself is a holistic concept and has deliberately been defined in such a broad way.

Ikujiro Nonaka's publications (e.g., Nonaka, 1994; Nonaka and Takeuchi, 1995) have drawn the attention to Japanese firms as knowledge-creating companies, and the difference, it was argued, between Japanese and Western firms, lies in the focus on tacit knowledge of the former and explicit knowledge of the latter (Hedlund and Nonaka, 1993; Takeuchi and Nonaka, 2000). Additionally, the practices of the Japanese 'knowledge-creating companies' are also interesting from a marketing perspective, "because they demonstrate how companies mobilise all employees to learn more about markets and how to captivate customers" (Johansson and Nonaka, 1996, p.164). As a matter of interest, since its beginning, the theory of organiational knowledge creation has been closely related to the field of marketing due to its focus on new product development projects (Nonaka, 1991; Takeuchi and Nonaka, 1986). The same is also true for Leonard's (1998) work on knowledge assets. Therefore, Kohlbacher et al. (2007) are surely correct when they note that marketing's first detailed glimpse of Japanese

firms' knowledge-creating capabilities came with the publication in 1995 of Nonaka and Takeuchi's book 'The knowledge-creating company'.

As Kohlbacher et al. (2007) have shown, notions of marketing knowledge habitually focus too strongly on explicit knowledge, even though for international (cross-cultural) marketing it is essential that tacit knowledge is built into constructs of marketing knowledge. Bjerre and Sharma (2003, p.125) argue that "[m]arketing knowledge is frequently more experiential than, for example, technical knowledge", as such "opaque and difficult to document" and "also located with the people and teams positioned at the boundary line between the buying and selling firm". 'Experiential knowledge' is a concept from Penrose (1995, pp.53, 54) – who distinguishes two kinds of knowledge, namely 'objective knowledge' and 'experience' – and means knowledge that firms accumulate by being active in the market. Like tacit knowledge, it is accumulated based on the premise of learning by doing (Bjerre and Sharma, 2003).

According to Bjerre and Sharma (2003, p.123) "knowledge is market specific and difficult to codify" and therefore its international transfer is hardly feasible. Besides, "[d]ifferent pieces of marketing knowledge may be located in different people or departments" and "[n]o single person can fully comprehend the entire package of marketing knowledge", which makes the intra-unit transfer of marketing knowledge difficult (Bjerre and Sharma, 2003, p.127). The fact that in basically any company,

"critically important knowledge resides in the workplace – on the factory floor, within sales and service organisations that deal directly with customers, at the 'bench' in the R&D lab."

in short at the 'front lines' of the company (Yasumuro and Westney, 2001, p.178), underscores the importance of tacit knowledge and its strategic creation and management (Ichijo, 2006). Indeed, valuable knowledge in the marketplace is "unique and mostly context-specific [and] often difficult to obtain" (Schlegelmilch and Penz, 2002, p.7) and "the most influential knowledge is likely to be tacit" (Day, 1994b, p.10). But, this is precisely the kind of knowledge, which if discovered and exploited, can be harnessed to secure competitive advantage (Kohlbacher et al., 2007) and "[l]ocal market knowledge [...] would not benefit the rest of the company unless it is shared so that other parts can consider its value to them" with

"[m]arket knowledge [being] not fully captured in a usable form until the lessons and insights are transferred beyond those who gained the experience." (Day, 1994b, pp.17, 23)

Moreover, marketing knowledge acquired in a specific cultural context might be 'sticky' and thus difficult, or even impossible, to transfer (Bjerre and Sharma, 2003; Schlegelmilch and Chini, 2003).

I emphasise the incorporation of the word 'tacit' because its importance should have become clear from the above discussion. Given the significance of tacit knowledge, it is important to note that the expression 'all knowledge' in the above definition of marketing knowledge actually refers to a concept that I would like to term 'holistic knowledge'. This 'holistic marketing knowledge' is a combination and synthesis of both tacit and explicit marketing knowledge (cf. Figure 3). Last but not least, marketing knowledge is an organisational resource that reduces the effects of ambiguity and complexity in cross-border interactions (Simonin, 1999), as well as a "primary source of coordinating power" in business networks (Achrol and Kotler, 1999, p.157). However,

"[to] understand the complex nature of the marketing knowledge more frequent and prolonged direct, face-to-face contact between firms is needed." (Bjerre and Sharma, 2003, p.140)

Figure 3 A holistic view of marketing knowledge (see online version for colours)



Source: Kohlbacher (2007, p.99)

3.2 Knowledge-based marketing

A key issue in the literature on organisational learning and KM is how successfully firms learn when they are exploiting current knowledge and skills versus exploring new knowledge and skills and a long tradition of research suggests that these are competing strategies (Kyriakopoulos and Moorman, 2004; March, 1991; Miller et al., 2006). While knowledge exploitation "means enhancing the intellectual capital of a company with existing knowledge", knowledge exploration "is a strategy for a company to increase its intellectual capital by creating its unique private knowledge within its organisational boundary" and, therefore, "means enrichment of the intellectual capital that a company achieves by itself" (Ichijo, 2002, pp.478, 479). According to Ichijo (2002), both knowledge exploitation and knowledge exploration are indispensable for

a company to increase its competitive advantage and Kyriakopoulos and Moorman (2004, p.234) found that – despite the common assumption that these are competing strategies – "market-oriented firms can gain important bottom-line benefits from pursuing high levels of both strategies in product development" and they, therefore, suggest that a firm's market orientation can systematically promote synergies between exploratory and exploitative marketing strategy activities because

"a firm's market orientation reduces the tensions between exploration and exploitation strategies and creates the opportunity for cross-fertilisation and complementary learning between the two strategies." (Kyriakopoulos and Moorman, 2004, p.220)

In fact.

"[i]n a world where other firms are seeking to expand their market share, successful firms often can only stay ahead of the competition by exploiting new knowledge to offer improved products or processes that deliver new forms of added value to their customers." (Chaston, 2004, p.155)

If we interpret Chastons's expression 'exploiting new knowledge' to be a mix of exploiting old knowledge and exploring new knowledge, we might well conclude that his statement is consistent with the above. Vicari and Cillo (2006, p.195) follow Kyriakopoulos and Moorman (2004) and define market knowledge exploitation strategies as "those that imply a leverage on existing knowledge to refine marketing strategies, without exiting the existent path". On the other hand, they define market exploration strategies as

"those that enact new approaches in the relationship with the market, by challenging existent convictions and routines of the organisation." (Vicari and Cillo, 2006, pp.195, 196)

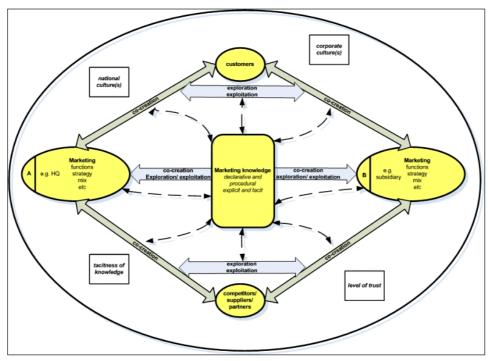
Finally, Reinmoeller and van Baardwijk (2005, p.63) contend that resilient companies "go beyond conventional knowledge management by simultaneously exploiting existing knowledge and searching for new knowledge".

Based on the above, I propose the following definition of 'knowledge-based marketing':

"Knowledge-based marketing is a knowledge management approach to marketing that focuses both on the exploitation (sharing and application) and exploration (creation) as well as the co-creation of marketing knowledge fro contexts, relations and interactions in order to gain and sustain competitive advantage." (cf. also Kohlbacher, 2007, p.103)

Note that – even though the term is not mentioned in the definition – the (co-) creation of value is an essential prerequisite for gaining and sustaining competitive advantage. Often, the (co-) creation of knowledge goes hand in hand with the (co-) creation of value, but sometimes it can also be an antecedent. Finally, given the early status of theory-building in knowledge-based marketing, I emphasise that the above is still a preliminary working definition. Significantly, I attach equal weight to the role of explicit and tacit marketing knowledge, which are, in fact, inseparable in marketing practice. Besides, following the definition of marketing knowledge above, I also stress that knowledge-based marketing involves stakeholders such as customers, competitors, suppliers, partners etc., and is influenced by certain factors, such as national and corporate culture, tacitness of knowledge and the level of trust (cf. Figure 4).

Figure 4 Knowledge-based marketing



Source: Kohlbacher (2007, p.104)

According to Vicari and Cillo (2006, p.185), studies on market orientation and market knowledge are considered

"to address the issue of how companies learn about customers, competitors and channel members in order to continuously sense and act on events and trends in present and prospective markets."

As has become clear from the definition of marketing knowledge (Figure 3) and the model of knowledge-based marketing (Figure 4), at least the following key players and actors are involved in the exploration and exploitation (co-creation and sharing) of (marketing) knowledge: different units or subsidiaries of the firm, customers, suppliers, business partners and competitors. Intra-firm knowledge creation and transfer (cf. e.g., Asakawa and Lehrer, 2003; Bartlett and Ghoshal, 2002; Desouza and Awazu, 2005a; Dixon, 2000; Doz et al., 2001; Gupta and Govindarajan, 2000; Nonaka and Takeuchi, 1995; Schlegelmilch and Chini, 2003; Schulz and Jobe, 2001) as well as inter-organisational knowledge creation and sharing (cf. e.g., Chaston, 2004; Child et al., 2005; Desouza and Awazu, 2005a; Dhanaraj et al., 2004; Inkpen, 2000; Inkpen and Currall, 2004; Simonin, 2004) have frequently been researched and discussed. But nowadays companies can hardly be viewed as single, independent and isolated beings any more, and business networks have become ubiquitous in our economy (cf. e.g., Iansiti and Levien, 2004a). Indeed,

"during the last decades of the 20th century significant changes in our legal, managerial, and technological capabilities made it much easier for companies to collaborate and distribute operations over many organisations"

and this development

Knowledge-based marketing

"pushed many of our industries toward a fully networked structure, in which even the simplest product or service is now the result of collaboration among many different organisations." (Iansiti and Levien, 2004a, pp.5, 6)

Consequently, "large, distributed business networks became *the* established way of doing business in the modern economy" (Iansiti and Levien, 2004a, p.6, original emphasis) and these – more or less –

"loose networks – of suppliers, distributors, outsourcing firms, makers of related products or services, technology providers, and a host of other organisations – affect, and are affected by, the creation and delivery of a company's own offerings." (Iansiti and Levien, 2004b, p.69)

As Chaston puts it:

"in the 21st century, it can confidently be predicted that knowledge networks of various forms will become an increasingly dominant operational structure through which to ensure the effective management of entrepreneurial activities in both private and public sector organisations." (Chaston, 2004, p.21)

Given this situation, a company's success depends on the success of its partners (Iansiti and Levien, 2004a). In fact,

"neither value nor innovation can any longer be successfully and sustainably generated through a company-centric, product-and-service-focused prism." (Prahalad and Ramaswamy, 2003, p.12)

According to Achrol and Kotler (1999), the creation of marketing know-how is the most important function of marketing in the global knowledge-based economy. Indeed, "in marketing, a wide array of knowledge needs to be created" and

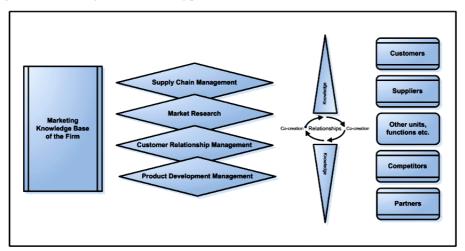
"knowledge on customers and their preferences must be located or solutions for a particular kind of customer problem need to be identified." (Schlegelmilch and Penz, 2002, p.12)

Above, I have looked at knowledge creation and application processes in different points of the value chain. But most of the time the knowledge creation or application is only conducted in a unilateral, one-sided way. Firms generate, collect and analyse knowledge about customers, customers' needs, competitors, suppliers etc. Customer knowledge from customers can be seen as a little exception to this, but here as well, the knowledge might be communicated unilaterally from the customers to the firm. But the real challenge and source of essential knowledge for competitive advantage might be to go beyond knowledge creation and application as a unilateral concept. In fact, interactions and knowledge co-creation might become more and more crucial. Therefore, knowledge and value co-creation with customers - and also with suppliers and other business partners – has also received significant attention recently (cf. e.g., Doz et al., 2001, 2003; Lawer, 2005; Prahalad and Ramaswamy, 2000, 2003; Prahalad and Ramaswamy, 2004; Thomke and von Hippel, 2002; Zack, 2003). Indeed, according to Prahalad and Ramaswamy (2000, p.80), the market has become "a forum in which consumers play an active role in creating and competing for value", with the distinguishing feature of this new marketplace being "that consumers become a new source of competence for the corporation" (cf. also Prahalad and Ramaswamy, 2003; 2004). According to Zack (2003, p.71), anyone who can help the business – customers, trading partners, suppliers, consumers, interest groups - should be involved in creating the knowledge that the company needs. Indeed, the

"array of relationships in the set has been expanded from the dyad of seller and customer to include partners up and down the value chain (e.g., suppliers, the customers of customers, channel intermediaries)." (Day and Montgomery, 1999, p.4)

Figure 5 illustrates these relationships and the knowledge-based marketing processes along the value chain. A discussion of market research would have gone beyond the scope of this paper, but it could also be viewed as being a sub-process of CKM or as an antecedent of PDM.

Figure 5 Knowledge-based marketing processes



Source: Kohlbacher (2007, p.117)

From the above, it should have become clear that a knowledge-based approach to marketing asks for the co-creation of knowledge – and subsequently the co-creation of value – with a variety of key players and actors in the business ecosystem. Zack puts it like this:

"Knowledge creation and sharing in today's economy are not bound by the traditional physical and legal limits of the corporation. Companies are increasingly realising that knowledge is often produced and shared as a byproduct of daily interactions with customers, vendors, alliance partners and even competitors. The knowledge-based organisation, then, is a collection of people and supporting resources that create and apply knowledge via continued interaction." (Zack, 2003, p.69)

4 Discussion

As Hansen and Nohria (2004, p.22) correctly note, the ways for MNCs to compete successfully by exploiting scale and scope economies or by taking advantage of imperfections in the world's goods, labour and capital markets are no longer profitable as they once were, and as a result,

"the new economies of scope are based on the ability of business units, subsidiaries and functional departments within the company to collaborate successfully by sharing knowledge and jointly developing new products and services"

This statement strongly supports my call for knowledge-based marketing. In this section, I briefly discuss the proposed knowledge-based marketing model, drawing on real-life examples from the corporate world.

4.1 Knowledge-based approaches to marketing: in search of excellence

Despite the growing recognition of the need for knowledge-based approaches marketing, there are only a few pioneer firms that are already taking, or trying to take, such an approach (Kohlbacher, 2006, 2007; Kohlbacher et al., 2007). However, there are already some firms that face the challenge of an increasingly global business environment with fierce competition and take up and master the challenge with the help of knowledge-based marketing. The most outstanding example is probably Toyota. Indeed, Toyota has often been found to be very strong at organisational learning and knowledge creation and sharing (cf. e.g., Ichijo, 2006; Ichijo and Kohlbacher, 2006a; Liker, 2004; Spear, 2004; Spear and Bowen, 1999). One aspect that has particularly been under the scrutiny of researchers is knowledge sharing and learning within its supplier network and the way Toyota leverages this co-created knowledge for both itself and its suppliers (e.g., Dyer and Hatch, 2004, 2006; Dyer and Nobeoka, 2000; Evans and Wolf, 2005; Liker and Choi, 2004). Additionally, Toyota also learns from its competitors and co-creates new knowledge with them. Especially, the joint venture between Toyota and GM - New United Motor Manufacturing, NUMMI - has already become legendary and has repeatedly been discussed from a knowledge-based perspective (cf. e.g., Badaracco, 1991; Easterby-Smith and Araujo, 1999; Inkpen, 2005; Liker, 2004, just to name a few). More recently, Toyota has established an international joint venture between with PSA Peugeot Citroën in Kolín, Czech Republic (Toyota Peugeot Citroën Automobile Czech, TPCA). This joint venture enables Toyota to pursue a marketing strategy perfectly suited for the emerging markets in Eastern Europe and the collaboration with PSA is also expected to result in mutual learning and other advantages for Toyota's European operation and its strategy of using external, local resources (Ando, 2005; Ichijo and Kohlbacher, 2006b).

As mentioned above, knowledge sharing and creation between different units and subsidiaries of the same firm have frequently been researched. Taking a marketing perspective, Kohlbacher (2006) reports Swiss based Schindler Elevator's knowledge-based marketing strategy for the market introduction of a new escalator product into Asian markets (cf. also Kohlbacher et al., 2007). This case, for example, showed that even for a large MNC with its vast network of subsidiaries that are well connected by e-mail, intranet, databases, telephone and video conferences, the sharing of tacit knowledge on a personal level is still a very reasonable or even indispensable approach. In fact, a combination of both a codification and a personalisation strategy for marketing KM in order to leverage both tacit and explicit knowledge proved highly successful. Similarly, Hewlett Packard (HP) Consulting and Integration leverages both tacit and explicit marketing, sales and application knowledge from its field people — consultants and system engineers — through communities of practice (Kohlbacher and Mukai, 2007). Last but not least, German conglomerate

Siemens – like HP frequently featured as a company with a strong background in KM (e.g., Davenport and Probst, 2002; English and Baker, 2006; Voelpel et al., 2005) – leverages competitive advantage and new business opportunities through a cross-selling and knowledge sharing project that spans the boundaries of its different business divisions (Kohlbacher, 2007).

As for knowledge-based new PDM, Nonaka et al. (2006a) give an account of how Mazda enabled empathic design in developing the third generation Roadster Miata that won the Japan Car of the Year Award 2005/2006. The product development team was indeed able to capture customer needs and translating them into a successful product concept because of their capacity to leverage even tacit customer needs and knowledge and achieve a high level of experience co-creation between the customers and the product. Finally, Maekawa Manufacturing Ltd. - famous for its decentralised structures and project-based management approach (e.g., Peltokorpi and Tsuyuki, 2006; Senoo et al., 2001) – found that producing and selling industrial parts is not enough any more. Through co-creation of common contexts and knowledge with its customers it was able to combine its products with its process knowledge to offer an integrated service including consulting. However, they do not simply offer pre-defined process and manufacturing models, but actively co-create the solutions with their customers (cf. also Maekawa, 2004; Tsuyuki, 2001), an achievement that helped them to escape the red oceans of cutthroat competition and create new market space (blue ocean), yet 'untainted by competition' (Kim and Mauborgne, 2004, p.77; cf. also Kim and Mauborgne, 2005). Indeed, as Prahalad and Ramaswamy (2004, p.12, original emphasis) state, the future of competition "lies in an altogether new approach to value creation, based on an individual-centered co-creation of value between consumers and companies".

5 Conclusion

This paper presented a conceptual framework of knowledge-based marketing and highlighted essential processes of marketing knowledge co-creation with the main actors in the business ecosystem of global firms - customers, suppliers, competitors, business partners. As shown, traditional marketing approaches have focused overly on explicit knowledge and neglected the important role of tacit knowledge, specifically in international (cross-cultural) settings. This paper's aim was to adjust this imbalance in the extant literature, and - drawing on real-life examples of knowledge-based firms - makes a call for a new knowledge-based marketing paradigm, with knowledge and knowledge co-creation being the key to sustainable competitive advantage in a global knowledge economy. In fact, facing the current global business environment and fierce competition, knowledge-based marketing has already become crucial as a determinant for corporate competitive advantage and as such a sine qua non for firms like Toyota, Mazda, Schindler, Siemens, HP and Maekawa. Especially, when introducing new products or when entering new markets, knowledge creation and transfer and intra- as well as inter-firm collaboration prove critical for the success of the projects. Therefore, applying KM concepts and practices to the knowledge-intensive field of marketing and to marketing functions bears out particularly efficient and effective. Besides, as large parts of marketing knowledge are tacit and hard to codify, face-to-face communication and the integration of local staff into marketing processes and decision making is an important factor for global marketing knowledge sharing that leads to successful marketing and sales achievements. Finally, all of the above mentioned companies can be seen as firms with a strong market orientation, possessing

"the basis for rapid adaptation to customers' manifest and latent needs, which may translate into superior new product success, profitability, market share, and, perhaps, sustainable competitive advantage." (Baker and Sinkula, 2005, p.483)

Even though it might be too early to identify and present real best practices, the 'next practices' (Prahalad and Ramaswamy, 2004) quoted above show that some true global leading companies are on their way to successfully implement and leverage knowledge-based marketing for competitive advantage.

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