Five styles of Customer Knowledge Management, and how smart companies put them into action

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Abstract. In the aftermath of the knowledge economy, smart corporations begin to realize that the proverbial 'if we only knew what we know' also includes 'if we only knew what our customers know.' In this paper, the authors discuss the concept of Customer Knowledge Management (CKM), which refers to the management of knowledge *from* customers, i.e. knowledge resident in customers, in contrast to knowledge *about* customers, e.g. customer characteristics and preferences prevalent in previous work on knowledge management and customer relationship management. Subsequently, five styles of CKM are proposed and practically illustrated by way of corporate examples.

Key words. Knowledge Management, Customer relationship management, customer knowledge management, value creation.

Our customers are more knowledgeable than we realize

In the emphasis on knowledge as a key competitive factor in the global economy, corporations may be overlooking a major element – customer knowledge. For example: Old Mutual, the largest insurance company in South Africa (and an internationally expanding FTSE 100 quoted company on the London Stock Exchange) has been incorporating the knowledge of patients concerning their own health condition and treatment directly by way of electronic means, instead of relying only on medical doctors to provide this. Customer knowledge is being used by Old Mutual both to screen applicants for medical insurance and more importantly to develop new medical insurance products.

What is the reason for the increasing success of Old Mutual in South Africa and internationally? Partly due to a process called Customer Knowledge Management (CKM). It works like this: where patients' health evaluation forms were previously completed manually by their doctors, it has been replaced by electronic forms that can be filled in mainly by patients themselves, from the convenience of their homes. Patients still require medical examination by their doctors, but the advantage to all parties are speed, greater accuracy (doctors are notorious for poor handwriting), more information, and especially additional knowledge input from patients themselves. The issues of ethics and professionalism (e.g. security of information, patient-doctor relationship) of course have to be carefully managed, but the advantages of customer knowledge input of their condition, treatment, effects of particular drugs, perception of medical insurance companies and their products are substantial and valuable to pharmaceutical companies, insurance companies, doctors and other stakeholders in the health management industry.

Does customer knowledge management only happen in the pharmaceutical/insurance industries? We think not. Over the last six years, we have studied more than two-dozen companies, and found that smart companies are prolific customer knowledge managers (see insert Appendix B: 'Our research'). Indeed, most companies today consider themselves as market driven, or customer-oriented. Yet only a few companies are actually managing well their perhaps most precious resource: the knowledge *of*, i.e. *residing in* their customers, as opposed to knowledge *about* their customers.

Our research shows that by managing the knowledge of their customers, corporations are more likely to sense emerging market opportunities before their competitors, to constructively challenge the established wisdom of "doing things around here", and to more rapidly create economic value for the corporation, its shareholders, and last, but not least, its customers. CKM is the strategic process by which cutting edge companies emancipate their customers from passive recipients of products and services, to empowerment as knowledge partners. CKM is about gaining, sharing, and expanding the knowledge residing in customers, to both customer and corporate benefit. It can take the form of prosumerism, mutual innovation, team-based co-learning, communities of practice, and joint intellectual property (IP) management. We have identified these as five styles of CKM, which are distinctively different practices, but not mutually exclusive.

Expanding on CRM and Knowledge Management

At first glance, CKM may seem just another name for Customer Relationship Management (CRM), or Knowledge Management (KM). But customer knowledge managers require a different mindset along a number of key variables (see Table 1). 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 customer relationship management. In other words, smart companies realize that corporate customers are more knowledgeable than one might think, and consequently seek knowledge through direct interaction with customers, in addition to seeking knowledge about customers from their sales representatives. Similarly, conventional knowledge managers typically focus only on trying to convert employees from egoistic knowledge hoarders into altruistic knowledge sharers (Eisenhardt and Galunic, 2000). In contrast, with CKM 'If only we knew what we know' turns into 'if only we also knew what our customers know.'

Table 1: CKM versus Knowledge Management & Customer Relationship Management

	KM	**CRM**	**CKM**
Knowledge sought in	Employee, team, company, network	Customer Database	Customer experience and creativity
Axioms	'if only we know what we knew'	'retention is cheaper than acquisition'	'if we only knew what our customers know'
Objectives	Sharing knowledge about customers among employees	Mining knowledge about the customer	Gaining, sharing and expanding knowledge of (inside) the customer Individual or group experiences in applications, competitor behavior, possible future solutions, etc
Role of customer	Passive, recipient of product	Captive, tied to product by loyalty schemes	Active, knowledge partner.
Recipient of Incentives	Employee	Customer	Customer
Corporate role	Lobbying knowledge hoarding employees	Captivate customers	Emancipate customers
Business objectives	Efficiency and speed gains, avoidance of re-inventing the wheel	Customer base nurturing, maintaining our customers	Collaboration with customers, joint value creation
Conceptual base	Customer retention	Customer satisfaction	Customer success, innovation, organizational learning
Business metrics	Performance against budget; Customer retention rate	Performance in terms of customer satisfaction and loyalty	Performance against competitors in innovation and growth; Contribution to customer success

The logic of customer knowledge management seems counter-intuitive: the challenges of getting employees to share their knowledge with one another are daunting enough. Why would customers, of all people, want to share their knowledge to create value for the company and then pay for their own knowledge once it is deployed in the company's products? This is further exacerbated because customers, like employees, are often not able to make knowledge, i.e. their experiences with the company's products, their skills, and reflections explicit, and thereby easily transferable and shareable. The answer to these questions is customer knowledge managers put themselves in the shoes of corporate customers, kindling customers' intrinsic, rather than extrinsic motivation to share their knowledge for the benefit of the company.

Consider Amazon.com: The Internet retailer manages customer knowledge successfully through providing book reviews, the customer's own order histories, order history of other customers, and customized suggestions based on prior orders. Effectively, Amazon.com, a commercial enterprise, developed into a platform of book enthusiasts that are keen to exchange knowledge about their favorite topics (intrinsic motivation). Motivating customers to share their knowledge the Amazon way is a remarkable achievement, particularly if contrasted with the often vain efforts to evangelize employees from egoistic knowledge hoarders to altruistic knowledge sharers by way of rewards systems that are mostly extrinsic. But customer knowledge management is not limited to successful Internet companies. Brick and mortar companies do it, too. Indeed, Holcim, an international cement company that produces the very stuff brick and mortars are made of, is a keen customer knowledge manager (see Insert: How Holcim manages customer knowledge).

How the international cement manufacturer Holcim manages customer knowledge

Holcim's companies in the U.S. recently were conducting analysis how to deliver e-commerce solutions to their customers. But Holcim's aspiration was much more ambitious than simply doing e-commerce. The idea was to create a knowledge sharing platform, where any member of the community of cement and aggregates consumers (concrete producers, distributors, but also engineers, architects) would be able not only to transact business (place orders, pay online), but also share and exchange knowledge (e.g. share cement order forecast, share good and bad experience with specific applications, etc.).

In order to test and further develop this aspiration, Holcim's customer knowledge managers conducted meetings with selected customers in the US. To ensure that their different customer segments were adequately represented. The customer mix was intentionally varied, comprising selected large multi nationals, medium domestic and small family owned companies. The objective of the meeting was to discuss current and emerging trends in the cement industry and the potential impact of these developments on Holcim's customers, thereby jointly ascertaining how Holcim could create value for their customers.

The discussion was open and free flowing - although Holcim had developed a set of value added services that were thought appropriate, Holcim did not implement these until after the customers had given their views, thereby adding value to the company's services. As one customer knowledge manager at the cement manufacturer has it: "As part of the focus group discussions, Holcim's customers were impressed the company was talking to them - no other supplier had chosen to do this - all they were seeing were press releases. This made customers feel ownership in our project."

In the meantime, Holcim has built and implemented the knowledge sharing platform in Canada, Belgium and France. Spain and the U.S. will follow shortly. What's more, during the entire "build" phase, the company kept close contact with the customers and permanently validated with them what did – which was much-appreciated by Holcim's customers. A representative of a large multinational mentioned: "I like your knowledge sharing platform, because you were listening what I told you during the first visit and really took my comments very serious."[1]

A shift in mindset towards looking at the customer as a knowledgeable entity has far-reaching implications. Most importantly, the customer is emancipated from being a passive recipient of products and services as in traditional knowledge management. Likewise, the customer is liberated from the ball and chain of customer loyalty schemes prevalent in CRM.

Customer knowledge management is also different from traditional knowledge management in the objective pursued. Whereas traditional knowledge management is about efficiency gains (avoidance of "re-inventing the wheel'), customer knowledge management is about innovation and growth. Customer knowledge managers seek opportunities for partnering with their customers as equal co-creators of organizational value. This is also in stark contrast to the desire to maintain and nurture an existing customer base. The well-known CRM adage 'retention is cheaper than acquisition' comes to mind. Unfortunately, retention becomes increasingly difficult in an age where competitors' product offerings are often close imitations and only three mouse-clicks away. Therfore, customer knowledge managers are much less concerned with customer retention figures. Instead, they focus on how to generate growth for the corporation through acquiring new customers and through engaging in an active and value-creating dialogue with them.

How do customer knowledge managers create innovation and growth? Again consider Amazon.com. The book retailer's customers not only provide their insights, tips and tricks in terms of book reviews, they also provide useful pointers for further reading on a given subject, giving a custom-tailored, non-intimidating impetus for other customers to investigate – and possibly buy – these sources. What is more, this customer knowledge can be shared with the authors of new books, giving them ideas for further publications and their market potential. This process bears all the hallmarks of knowledge management: it provides useful information that is used in actions, creates sense, asks for interpretation, and leads to new combinations. Only, the knowledge is not that of the employee, but that of the customer, leading to value creation through innovation and growth, rather than to cost savings as in traditional knowledge management.

CKM in theory and practice

Customer-driven companies need to harness their capabilities to manage the knowledge of those who buy their products (Baker, 2000; Davenport and Klahr, 1998). The question is, why do many customer-driven companies not access the knowledge of their customers directly? The problem is that the existing mindset, as evidenced by the literature, provides very little assistance to these companies.

Traditionally, market research was used to shed more light on what the customer knew and thought about the product, and how this differed from what the company had to afford the customer, resulting in enormous CRM databases (Galbreath and Rogers, 1999; Wilkestrom, 1996; Woodruff, 1997). More recently, firms thought they had found a new approach to access customer knowledge. Drawing on best practices from service companies, such as the

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[1] Alois Zwinggi and Lucas Epple provided this example.

big consulting businesses, most large organizations have instituted knowledge management systems. These systems, however, are based in an indirect understanding of what customers want. KM systems are typically geared towards disseminating what their sales force or intermediary has understood from listening to the customers who bought - or didn't buy - the company's products.

It's ironic: the conceptual predecessor of knowledge management has surpassed its own offspring. Ten years ago, proponents of the resource based view to strategy have proclaimed that a company be best conceptualized as a bundle of unique resources, or competencies, rather than as a bundle of product market positions (Barney, 1991). More recent contributions to the resource-based view question this one-sided thinking about the locus of competence (Prahalad and Ramaswamy, 2000; Inkpen, 1996). It has now been claimed that such competence actually moved beyond corporate boundaries, and that it is therefore worthwhile to also look for competence in the heads of customers, rather than only in the heads of employees.

Similarly, CRM has been traditionally popular as a means to tie customers to the company through various loyalty schemes, but left perhaps the greatest source of value under-leveraged: the knowledge residing in customers. While both KM and CRM focused on gaining knowledge *about* the customer, managing customer knowledge is geared towards gaining knowledge directly *from* the customer.

Whilst the literature provides little guidance for aspiring knowledge managers, we have found in our research with two dozen companies in e.g. the medical, financial services, measurement, agricultural chemicals, telecommunications, and beverages industries is a wide variety of different approaches to managing customer knowledge. Indeed, the very chasm between the wealth of practical examples of (intuitive) customer knowledge management and the dearth of (explicit) literature and guidance for managers seems remarkable. While we detected a wide variety of different approaches used by companies who manage customer knowledge, what was even more intriguing were the similarities among the individual approaches. We have crystallized these similarities in five styles of customer knowledge management, as displayed in Table 2.

Table 2: Five styles of CKM

Style/ Characteristic	Prosumerism	Team-based Co-learning	Mutual Innovation	Communitie
Focus	Developing tangible assets and benefits	Creating corporate social capital	Creating new products & processes	Mission-specific expertise
Objective	Improved products & resulting benefits	Facilitate team learning for dealing with systemic change	Create max return from new ideas	Obtain & explica Expertise
Processes	Pre, -Concurrent- & Post production integration	Teamwork, empowerment, case development, quality programs	Idea Fairs; Brainstorming; Customer Incubation	Best Practices C Networks
Systems	Planning, Control and decision supp. systems	Knowledge sharing systems, Digital "nervous" systems, customer visits in teams	Idea Generation Support Systems	Expert Systems, workspaces, Gro Systems
Performance Measures	Effectiveness & Efficiency, Customer satisfaction & success	Systems Productivity, Quality, Customer satisfaction & success	ROI from new products & processes, Customer success	K-sharing behav of decisions, Rate of hyperlin
Case Examples	Quicken; IKEA	Amazon.com; Xerox, Holcim, Mettler Toledo	Silicon Graphics, Ryder	Microsoft; Sony
Intensity of interaction	Relatively low	Low to high	Relatively low	Relatively high
Type of knowledge	More explicit	Explicit and tacit	More tacit	More tacit

Five styles of CKM and their application

Prosumerism

Alvin Toffler (1980) first used the expression "prosumer" to denote that the customer could fill the dual roles of producer and consumer. Such co-production is not new, e.g. Bosch develops engine management systems in co-production with Mercedes-Benz, who conceives and assembles the automobile. What is new is the way that knowledge co-production with the customer expresses itself in role patterns and codes of interactivity. For example, Quicken enables the customer to learn more about the available resources in financial services, thus creating options and a predisposition within the customer to rapidly tailor-make an offering in the future, also based on creatively suggesting new ideas and benefits.

The way IKEA, the living environment furniture retailer, presents itself to customers is all about co-production, about how benefits and activities have been reallocated between producer and customer. The CKM process in IKEA transforms the customer into a co-value creator, endowing him/her with new competencies and benefaction opportunities. It liberates the customer from the platform of only past, accumulated knowledge by stimulating the him with a pattern of open-ended value-creating ideas, thereby effecting co-production and mutual new value evidenced in new IKEA furniture products and services.

Team-based co-learning

The way that Amazon.com has manifested itself structurally has created a whole new set of team-based value chain (or systemic) learning relationships utilizing the knowledge of its customers. For example, the inter-linkages with the customer base and their interactive joint learning performance have made the company an attractive channel also for many other companies – we may now conceive Amazon.com no longer as a bookstore but a generalized access channel (or "portal") for a wide range of products and services, many offered by separate but systemic-linked companies. Through the customer-systemic knowledge and co-learning interactions Amazon.com's original identity has been transformed, which in turn implies new value chain systems relationships.

The change process in Xerox Corporation, from being a "copying machine company" to becoming the "document company" is similarly based on organizational learning resulting from customer knowledge management. Customer knowledge was the key to reconfigure the entire system of document management and its infrastructure, spanning resources and processes much broader than its own traditional realm of activities. Whereas the Prosumerism CKM style focuses more on co-production of products and services, team-based co-learning focuses on reconfiguring entire organizations and systems of value.

Mutual innovation

In the 1970's, Eric von Hippel found that most product innovations come not from within the company that produces the product but from end-users of the product (Von Hippel, 1977). For Silicon Graphics, lead customers from the movie industry have become an important source of new ideas and innovation. Silicon Graphics sends its best R&D people to Hollywood to learn firsthand what the most creative users of its products might want in the future. In addition, Silicon Graphics nurtures relationships with lead users from other industries that require massive computation and high-end graphics – such as for drug design and aerospace landing gear. Just asking these users about their future needs is unlikely to result in new products (although it can lead to continuous product improvement); the major breakthroughs come from mutual and closely integrated innovation practices.

Ryder Systems in the trucking industry is another example of utilizing customer knowledge through mutual innovation. In close collaboration with customers it developed complex and extensive logistics solutions to its customers, probing deeply into the operations and even manufacturing and supply chain strategies of customers. Jointly they developed special knowledge of truck driver requirements, thereby reconfiguring truck personnel management activities. Ryder in effect has become, via mutual customer innovation, a logistics systems solutions expert, transcending its identity as a trucking company.

Communities of creation

Communities of creation as a CKM style is reflected in the putting together of customer groups of expert knowledge that interact not only with the company, but importantly also with each other (Sawnhney and Prandelli, 2000; Wikstrom, 1996). Similarly to communities of practice, communities of creation are groups of people who first work together over a longer period of time, second they have interest in a common topic and third, want jointly create and share knowledge. Unlike the traditional communities of practice, however, communities of creation span organizational, rather than functional boundaries to create common knowledge and value. In the traditional computer software development process, Netscape and Microsoft make use of free "beta" versions of its products for use, testing, comments and reporting not only to the company, but also among the user community themselves. They enlist thousands of willing, devoted testers, some just interested in using the free "beta" product and others intent on looking for "bugs" to show off and perhaps even collect a prize. Customers appreciate product newsgroups and "chat rooms", where they can also learn how the companies are acting on their feedback – resulting in loyalty and even a sense of ownership.

Sony and Panasonic in the consumer electronics market have set up "antenna shops" at locations such as shopping centers and airports, where demanding customers frequent and prototype products are featured. Customers can experiment, test, and converse with each other, and development engineers and product managers are available to talk to and watch customers, getting first-hand knowledge of customers reactions and what they would really want. Another example of a community of creation style of CKM are the Weight Watchers. This company brings groups of customers together in order for customers to exchange knowledge and experience, and for weight watchers to obtain insights for CKM. The important point is that this does not happen in itself – it has to be carefully managed even if participation is voluntary and intrinsic as tends to be the case with Weight Watchers.

Joint intellectual property

This style of CRM is probably the most intense involvement between customer and corporation – the notion of the corporation being "owned" by its customers. The Swedish companies Skandia Insurance and Kooperativa Förbundet (KF) increasingly think of themselves as businesses owned by customers, i.e. being in business for and because of its customers. Thus, intellectual property does not reside in the company, but is "owned" partly by the customers. This formula enabled KF to make remarkable achievements over a long period of time, becoming a pioneer in customer education and the consumer movement through joint knowledge ownership and its continuous development. Instead of just co-producing products and services together, customers and company co-create future business together. For example, the broker, banking and other retail customers of Skandia combine with the company's key strategy decision-makers to review the scope of joint business, possible joint new strategic initiatives, and joint knowledge expansion of e.g. emerging markets. Customer success in fact becomes corporate success, and vice versa.

Common stumbling blocks

CKM can provide a significant competitive advantage to companies, but its possible stumbling blocks have to be appreciated and circumvented. The major stumbling blocks we have identified include:

- Application of CKM with an inappropriate mindset, e.g. as a tool for leveraging knowledge from customers, instead of as a long-term customer value-creation mechanism for sustainable mutual growth and performance. Companies have to value and nurture their customers as knowledge partners, instead of knowledge sources, for CKM to be effective.
- Underestimating customer diversity, and applying only one or two of the CKM styles exclusively to all types of customers. Customers differ, even in the same industry

segments, and this variety among customers requires a richness of CKM styles with different approaches and techniques.

- Inappropriate incentives for customers and organizational entities to leverage CMK to its full potential for both parties. The challenge is both avoiding under-estimation of incentives, as well as over-estimating them. These can work as disincentives if not properly sensed, devised and implemented.
- Inadequacies in organizational infrastructure and processes to handle the leveraging of knowledge from customers. Current theory regarding balanced scorecards in organizations emphasize organizational processes to enable customer satisfaction, and the converse should now also be possible---the ability of organizational processes to accommodate diverse customer knowledge inputs.
- Falling into the possible 'trap' of over-reliance on (existing) customer knowledge (danger of being overly 'customer-led' and not broader 'market-led'), without appropriate sensing of wider environmental impacts and influences.
- Trust and protection issues not adequately emphasized, i.e. mutual understanding, reliance and confidentiality must be agreed upon and consistently implemented. Careful consideration has to be given to degrees of openness in sharing of knowledge, and cultural issues of respect, trust and ways of interacting have to adequately co-shaped and optimized.

Conclusion

Customer knowledge management (CKM) creates new knowledge sharing platforms and processes between companies and their customers. It is a continuous strategic process by which companies enable their customers to move from passive information sources and recipients of products and services to empowered knowledge partners. Available evidence points to CKM as a potentially powerful competitive tool, contributing to improved success of both companies and their customers. It incorporates principles of knowledge management and customer relationship management, but moves decisively beyond it to a higher level of mutual value creation and performance.

It is suggested that the styles of CKM can be prosumerism, group learning, mutual innovation, communities of creativity, and joint intellectual capital. Any company, depending on the nature of its various customers, can apply several of these five styles of CKM simultaneously. Certain cautions have to be observed when applying CKM, and if these are well incorporated, the competitive advantages of sound CKM applications in the expanding digital economy seem significant.

Appendice

Our research

Over the past six years, we have studied more than two dozen companies, using a joint case writing approach (see Davenport and Probst, 2002). The objective of our research has been to discover what can be achieved if managers write their own accounts of change projects in which they have taken part or which they have researched personally. Such reports contain the managers' own reflections on the project and its results, including the lessons they learned, the difficulties they encountered, how they coped with them, what mistakes they made, and what they would do differently next time. All those who took part in the project are questioned not only about what happened, but also about how it happened:

1. The group of case writers contains a group of managers from the "case company", i.e. the company where the change project took place (the "insiders"), and other involved people, i.e. research assistants, consultants, business partners, and coaches (the "outsiders"). This adds an important dimension because the outsiders may play devil's advocate, questioning and challenging the inside view of the project.
2. Since the outsiders did not participate in the project, they are expected to research the details and to try to understand how things work in the "foreign" company. This obliges the insiders to give careful explanations of details that they would otherwise take for granted. The outsiders in turn contribute an additional perspective because they come to the group with their own mental models of how things work in their own company.
3. When the "outsiders" are exposed to the different approaches existing in the case company, they often become aware of tacit assumptions, rules and behavioral codes which are prevalent in their own organizations, and which might otherwise never be questioned. Differences that are not otherwise obvious are thus revealed between the "case" company and the outside company. Discussion of these differences may also create a new awareness of certain rules, habits and behaviors in the case organization itself that are usually hidden below the surface.

The accounts produced in this fashion have been written jointly by a group of managers from insiders of the "case company", i.e. the company where the change project took place , and outsiders. The inclusion of both "insiders" and "outsiders" as well as the inclusion of archival data as well as participant and direct observation allowed for extensive *data, researcher, and method triangulation*, adding richness to the evaluation and interpretation of the cases, thereby enhancing *internal and construct validity* of the conclusions drawn (Stake, 1995, Yin, 1994). In this fashion, an extensive case database and numerous case protocols were produced over the last six years, ensuring the *reliability* of the findings. Finally, concerns for *external validity* (particularly statistical generalizability) were traded off against the opportunity to gain in-depth insights, but cross case analyses were used to ensure at least analytical generalizability due to the wide range of industries studied (Yin, 1994, Eisenhardt, 1989).

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