5. NATURE OF KNOWLEDGE MANAGEMENT, eBUSINESS AND CUSTOMER RELATIONSHIP MANAGEMENT

The three concepts need to be clearly defined in terms of their inherent nature to determine their conceptual boundaries and the interrelationships between the concepts.

5.1. Knowledge management

Before an overview can be sketched of the nature of knowledge management, a brief review has to be done on the concepts of knowledge and knowledge management.

5.1.1. Definition of knowledge management

Refer Chapter 3.4.

5.1.2. Objective of knowledge management

Refer Chapter 4.1.

5.1.3. Characteristics of knowledge

To enable an understanding of the nature of knowledge management, it is critical to understand the characteristics of knowledge:

- Knowledge can be used on various levels in the organisation, e.g. individual and team level (Ernst & Young, 1999e).
- Knowledge has a lifecycle or level of persistence (Ernst & Young, 1999e).
- Knowledge is contextual, i.e. the value of knowledge depends on the context it is used in. Knowledge is worthless unless people turn it into action and apply it for business benefit (Van der Spek & Kingma, 2000, p.20).
- Knowledge can only be volunteered, it cannot be conscripted (Snowden, 2000).
- Many people can have knowledge at the same time (researcher).
- When someone sells knowledge, both the buyer and the seller have the knowledge. It therefore differs from the selling of other products or services where ownership changes hands (Stadler, 2001).
- Value of knowledge does not diminish due to the use of it. It can be used over and over again without losing any value, unlike other products that have a finite capacity (Young, 2001).
- Knowledge is an organisational asset equal to other organisational assets, e.g. land, capital and labour (researcher).

- Knowledge is often described as an element of a linear progression originating from data, turned into information, turned into knowledge, turned into wisdom. The researcher agrees with Snowden (2000, p.10) that this is not always a true reflection, as there is an iterative process in that linear progression, i.e. through use of knowledge, either wisdom can be created, or information that can be used as a base to generate new knowledge (refer Figure 12).

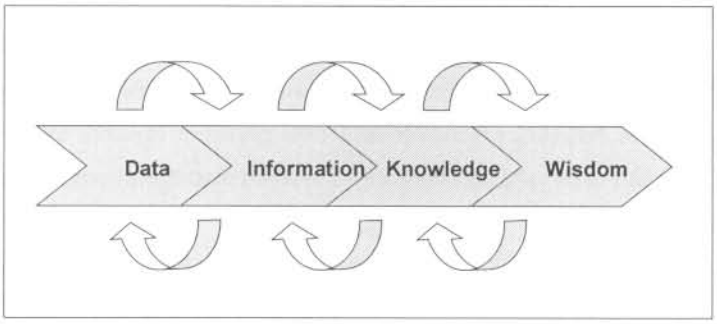

Figure 12: Non-linear progression of data to wisdom

From this description it is clear that knowledge has some distinct characteristics that differentiate it from other products, assets or resources. Due to these unique characteristics, it will therefore require alternative ways of management.

5.1.4. Tacit versus explicit focus

The researcher defines knowledge as interpreted information put into action through use in processes, procedures, documents and repositories, to add value to the resulting activity of an individual, team or organisation. Knowledge can be split into two distinct categories, namely tacit knowledge and explicit knowledge. Tacit knowledge is defined as a combination of skills, experiences, perceptions and expertise that is hard to articulate and codify, and it mostly resides in people's heads. Explicit knowledge is defined as knowledge that can be shared through and captured in a common language.

It is important to differentiate between these types of knowledge, as knowledge management addresses each differently. Knowledge management's focus is more on tacit knowledge and the transformation of tacit into explicit knowledge, than it is on explicit knowledge. This is one of the most distinguishing factors between knowledge management and information management. If the role of e.g. communities of practice is researched, it is clear that the purpose thereof is the sharing of tacit knowledge in the form of experiences, skills and intuition. This is also true of discussion forums, newsgroups, etc. Although the sharing of explicit knowledge in these forums cannot be ruled out, the focus is more on tacit knowledge.

Knowledge management also addresses explicit knowledge in the form of making documents, manuals, forms containing knowledge, articles, etc. available through mechanisms such as intranets, extranets and databases. It also assists in the creation of these documents or knowledge nuggets, as well as in the indexing, storage, retrieval, application and destruction thereof.

Explicit knowledge is easier to manage than tacit knowledge. Once knowledge is made explicit, it is easier to get the creator of the knowledge to share it, either through giving it away to someone else, or via selling it to someone at a cost. Once explicit it is easy to make it available for retrieval through indexing and / or taxonomy creation and logging it onto a database, intranet or other electronic platform. It can also be shared in paper-based format.

On the other hand, if an organisation has a number of employees with very valuable knowledge, and this knowledge is not made explicit, it can be very difficult for the organisation to manage that knowledge in terms of identification, categorisation or indexing, and sharing. These individuals may choose to leave the organisation with the knowledge, whereby it is lost to the organisation that has not managed to turn it into explicit knowledge, available in codified format to others. To get individuals to translate their tacit knowledge into explicit knowledge is, however, often a difficult process. People still cling to the view that "knowledge is power" and are therefore often reluctant to part with it.

Often these individuals need to be incentivised in some way to translate their tacit knowledge into explicit knowledge. Incentivising people to share knowledge in tacit or explicit format, is critical to the success of the knowledge management programme. Examples of such incentives and rewards are tying knowledge sharing and participation in the knowledge management programme to the annual performance appraisal of a staff member. Other ways are to give prizes, e.g. weekends away. Recognition through newsletters or announcements at staff meetings is also ways to incentivise people to share knowledge.

However, even incentives and rewards may still not be enough to encourage individuals to part with their knowledge. Once individuals decide to translate their tacit knowledge into explicit knowledge, it must be taken into account that a percentage of knowledge will be "lost" in the explicit account, as tacit knowledge can never be translated one hundred percent accurately, as it is based on beliefs, intuition and perceptions.

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The challenge of knowledge management therefore lies in creating and managing processes, platforms and mechanisms through which tacit knowledge can be managed *per se*, through which it can be translated to explicit knowledge as effectively as possible, and through which explicit knowledge can be managed using a structured approach.

5.1.5. General aspects of the nature of knowledge management

5.1.5.1. Knowledge management as management discipline

Knowledge management is a management discipline. It can be defined as such because processes can be defined and implemented to capture and tend to knowledge, to make it available to staff, to keep track of who is contributing to knowledge repositories, who is applying knowledge to the benefit of the organisation, etc. These are techniques that can be defined, taught, learned and customised and applied to yield predictable outcomes. Technology is used as an enabler and a knowledge management policy provides the required structure. From this perspective, knowledge management has the same characteristics as other management disciplines (Havens & Knapp, 1999). Knowledge management as a discipline interfaces mainly interfaces with Information Science. It also interfaces with other disciplines such as business administration, communication science, organisation psychology, sociology and information technology (Van der Spek & Kingma, 2000, p.22).

PricewaterhouseCoopers (1999g, p.7) sees knowledge management as a new business process for managing intellectual capital with a similar discipline as other corporate assets. Knowledge management produces business results by driving reuse, innovation and collaboration. As a business process, knowledge management requires an organisational structure, strategic and operational planning, business goals, well-designed operational processes, a budget, etc. Organisations that manage their knowledge successfully do it as a mission-critical process.

5.1.5.2. Knowledge management lifecycle

Knowledge management addresses knowledge in the various stages of its lifecycle. These stages are:

- Creation / Acquisition

An organisation either creates new knowledge or acquires it, or revises existing knowledge (Gilbert et al., 2000; O'Dell & Grayson, 1999).

- Refinement

Before adding knowledge capital to a knowledge management system, an organisation subjects the knowledge to a refinement process, including value added processes such as labelling, cleansing, indexing, sorting, abstracting, standardising, integrating and re-categorising (Gilbert et al, 2000; O'Dell & Grayson, 1999). There may also be an approval process through which knowledge is approved in terms of the value of its contents to the business.

- Storage and retrieval

Storage and retrieval stage includes repository creation and knowledge distribution (Gilbert et al., 2000; O'Dell & Grayson, 1999). Knowledge distribution may take the form of searches performed by a knowledge manager, who then forwards the required knowledge to the person that requested it.

- Distribution

Distribution includes mechanisms an organisation creates to make content repository content accessible (Gilbert et al., 2000; O'Dell & Grayson, 1999).

- Presentation

The context in which an organisation leverages knowledge influences the value of the knowledge to the business. Organisations have to develop capabilities that enable flexibility to arrange, select and integrate knowledge for presentation purposes in the business context (O'Dell & Grayson, 1999).

- Application

This refers to using or applying knowledge, e.g. for problem solving (Parlby & Taylor, 2000).

- Destruction

When knowledge is no longer valuable to the organisation, it may be weeded from the knowledge management system and destroyed (Gilbert et al., 2000).

The two main balance activities in the knowledge management lifecycle is knowledge creation and knowledge application (Van der Spek & Kingma, 2000, p.22).

5.1.5.3. Knowledge management services

The main focus of knowledge management is knowledge sharing. In terms of knowledge sharing, content delivery is the main service delivered by the knowledge management function in the organisation. Content delivery can take place in one of three modes (Votsch & Linden, 2000):

- Provider controlled

The owner of the content, application or site delivers content through a user interface according to predefined criteria as set by the owner. Access may be controlled in terms of

content or functionality. The business professional user can manipulate the rules of content delivery in most instances with intervention from the site owner.

- End-user controlled

The consumer of the content sets criteria according to which they would like to view the content. An example is portal content, e.g. Yahoo that users can control. The content can be controlled by push and pull means, e.g. new items on a specific topic may be sent to a user's mailbox, or a user can access a menu of favourites to view information on a specific topic.

- Data-controlled

Data-controlled content delivery implies that content is filtered based on affinities or similarities, e.g. on Amazon's site books of other similar authors are suggested.

To enable content delivery in any of the three modes described above, knowledge in a knowledge management system is organised and hence retrieved according to a knowledge management taxonomy. GartnerGroup (1999a) describes the taxonomy as constructed according to business usage of knowledge and topical entries in the taxonomy are labelled in business terms. These taxonomies function as navigation directories and maps to enterprise knowledge assets.

Knowledge management can provide a range of functions and services, mainly focused on content delivery. These services are:

- Repackaging of knowledge

Knowledge packages are developed to meet ad hoc business requirements. This implies that information is filtered and value added. Examples are current awareness services and on demand research (Kennedy, 1996).

- Knowledge integration

Knowledge is used to build intelligence across functional groups in an organisation, e.g. competitor intelligence is merged with sales information to create knowledge useful to sales, marketing and product development groups in the organisation (Kennedy, 1996).

- Business process design

Knowledge is used to optimise business processes. Information is used e.g. to review current business products and its forecasted performance (Kennedy, 1996). Decisions based on this information and conclusions arrived at create new knowledge for the organisation.

- Pro-active knowledge harvesting/imagineering

This involves creating knowledge environments to assist organisations in gaining competitive advantage, e.g. evaluating "what-ifs" and subsequent repositioning of the business based on the possible scenarios. Examples include environmental scanning, trends analysis, systematic review, synthesis of key technological and management developments (Kennedy, 1996). Business intelligence tools can play a large role in creating these scenarios.

- Create and exploit business opportunities through knowledge provision

Exploiting of business opportunities can take place due to decision-making on knowledge that identifies opportunities or pitfalls in competing strategies (Kennedy, 1996).

5.1.5.4. Elements of knowledge management

Knowledge management as discipline can consist of a variety of elements. These elements include, but are not limited to:

- Knowledge vision

This is a strategy for the acquisition and sharing of knowledge, and identification of responsibilities for knowledge management activities in the organisation (Ernst & Young, 1999e).

- Knowledge centres

Development of knowledge centres with dedicated staff that assists in developing formal procedures for the sharing of knowledge, as well as for the organisation and retrieval of knowledge (Ernst & Young, 1999e).

- Knowledge networks

A knowledge network is a network of expert practitioners that can create, share and package their knowledge (Ernst & Young, 1999e; Hickins, 1999; Van der Spek & Kingma, 2000, p.22). These networks can also be referred to as communities of practice or communities of interest. Innovation Centres of Excellence are created in many organisations with the focus of problem solving and creation of knowledge (Ernst & Young, 1999e). These networks can also be divided into subnetworks. This has been used successfully at large, multinationals like Shell, Accenture and McKinsey (Hasrgaddon & Sutton, 2000; Van der Spek & Kingma, 2000, p.22s). Guides may be created to identify members of these networks. These guides may take the form of a yellow pages directory (Ernst & Young, 1999e).

- Packaged knowledge

Knowledge is organised, reformatted and updated by experts to ensure easy access (Ernst & Young, 1999e).

- Yellow pages

A directory aimed at making expertise in the organisation visible. It is a means of understanding who knows what in the organisation (Mudge, 1999). Accenture and McKinsey found this to be particularly useful (Hargaddon & Sutton, 2000).

5.1.5.5. Types of knowledge to be managed

Knowledge in a knowledge management system can be categorised into various types or categories.

Chait (1999) is of the opinion that a knowledge management system should contain key elements of an organisation's knowledge capital, e.g. knowledge on staff, clients, methodologies, and tools.

O' Dell & Grayson (1999) is of the opinion that organisations should strive to have the following in their knowledge management system:

- Meaningful concepts, categories and definitions (declarative knowledge)
- Processes, actions and sequences of events (procedural knowledge). Procedural knowledge is about how something happens or how actions are performed. Shared procedural knowledge is the foundation for co-ordinated activities in an organisation.
- Rationale for actions or conclusions (causal knowledge). Shared causal knowledge enables organisations to co-ordinate strategies to achieve set goals.
- Circumstances and intentions of knowledge development and application (specific contextual knowledge). Knowledge retained and shared has to be codified together with its context. This requires defining contextual categories and relationships meaningful to the organisation as a whole.
- Linkages among the various types of knowledge.

Hall & Andriani (2000, p.45) categorise knowledge as follows:

- Undistributed tacit knowledge / "personal knowledge".
- Undistributed explicit knowledge / "specialisms".
- Distributed explicit knowledge / "protocols".
- Distributed tacit knowledge / "embedded organisational routines".

Van der Spek & Kingma (2000, p.23) divide the content of a knowledge management system into three distinct areas:

- Processes and tools for corporate-wide accessibility of knowledge and information about best practices, guidelines, experiences, good ideas, results of projects, etc. An example is Arthur Andersen's Knowledge Space and Accenture's Knowledge X-change.
- Learning tools for individuals and teams to improve performance on projects and team activities and to bring a learning perspective into daily work activities. Examples at BP are peer assists, after-action reviews and retrospects.
- Inventories of knowledge areas to answer specific questions, e.g. what are the relationships between processes and key knowledge areas. An example is Unilever tying their knowledge base to the organisation's value chain.

The researcher believes that knowledge management systems should contain knowledge that is strategic to the organisation. This could include knowledge on individuals and their expertise, either internal or external to the organisation. It should also contain knowledge on

competitors and where opportunities and threats lie with reference to these competitors. A knowledge management system should definitively include knowledge on customers – their requirements, their behaviour, etc. (the link between knowledge management and customer relationship management knowledge is explained later in this study). A knowledge management system should also contain knowledge on methods and processes employed by the organisation, or that may be useful in the organisation on an ad hoc basis. Knowledge on markets that the organisation operates in is essential to ensure the competitive advantage of the organisation through anticipation of opportunities and / or threats. Finally a knowledge management system should contain knowledge on the organisation's products and services. Any other knowledge strategic to the organisation may also be included in addition to the mentioned categories, depending on the strategy and identified needs and requirements of the organisation.

5.1.5.6. Knowledge management frameworks

The way in which a knowledge management system is integrated into staff's daily work depends on the type of model chosen for the organisation. There are four knowledge management framework strategies (Donaghue, Harris & Weitzman, 1999) as shown in Figure 13:

- Transaction model

There is a low degree of both interdependence and complexity. Work done is routine work, which is highly reliant on formal rules and procedures and training, and little discretion is expected of the workforce.

- Integration model

There is a high degree of interdependence and a low degree of complexity. Work is systematic and repeatable, and relies on formal processes, methodologies and standards, and depends on tight integration across functional boundaries.

- Expert model

There is a low interdependence and high complexity. Work requires judgement.

- Collaboration model

There is a high degree of interdependence and complexity. Work involves improvisation and learning by doing, and relies on deep expertise across functions and the use of flexible teams.

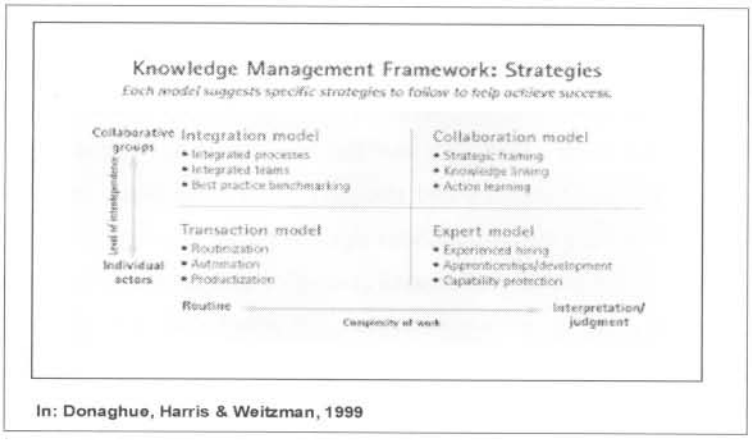


Figure 13: Knowledge management framework strategies

According to the researcher, the way knowledge management is implemented will be highly dependent on which framework is applicable within an organisation. These differences in the management of knowledge will lie in the types and complexity of knowledge repositories, the kind of technologies deployed, and the nature of the processes implemented in each model.

5.1.5.7. Knowledge management methodologies

The researcher could not find any specific methodologies for knowledge management implementations in the literature. The researcher knows of two management consultancies that have their own knowledge management methodologies, but these are proprietary and cannot be shared.

The researcher is, however, also of the opinion that only very generic methodologies exist. Each organisation's situations and requirements are so unique, that most knowledge management solutions are unique to a particular environment and circumstances.

5.1.6. Specific issues regarding the nature of knowledge management

There are specific issues relating to knowledge management that needs to be addressed in this chapter. These include the fact that knowledge management is an integral part of business processes, that it is not only a technological issue, that culture plays a large part in it and that knowledge management is faced by a myriad of challenges.

5.1.6.1. Knowledge management as integral part of business processes

Knowledge management is not an administrative function according to the researcher. It is an integral part of the way people work and get their daily tasks done, i.e. it is embedded in the business processes. Davenport (1999) supports this viewpoint. Davenport argues, however, that the only way to ensure that knowledge management is part of the people's everyday work, is to design jobs from scratch by putting knowledge management activities in and taking other less critical activities out. In the literature a suggestion is made to try to find the people who are already thinking about or working on knowledge sharing and learning and turn them into leaders of knowledge management. These leaders or champions can then bring about change through leading by example. When enough people start working in new ways, there will be no turning back. So rather than controlling change in traditional ways, leaders can pave the way for it and guide it with new leadership behaviour and organisational constructs (Lessons learned on the knowledge highways and byways, 1996).

It is crucial that staff view knowledge management as "the way things are done". It should not be seen as additional tasks, or as something that would take time and focus away from their primary daily tasks.

5.1.6.2. Knowledge management is not a technology issue

It is clear from the literature that knowledge management is not deemed to be a technology solution. Knowledge management is not about technology – it is approximately 10% technology and 90% people (GartnerGroup, 1999a; Lessons learned on the knowledge highways and byways, 1996; O'Dell & Grayson, 1999; PricewaterhouseCoopers, 1999d, pp1-2). Stephenson and Davies (2000) emphasise that neither knowledge management nor innovation can result from the introduction of technology alone. A balanced combination of cultural, process, organisational leadership, content and environmental initiatives are required to make knowledge management initiatives successful.

However, technology is seen as an important enabler for knowledge management. "Technology, in itself does not constitute a KM program, but rather facilitates one, especially in large, geographically dispersed organisations..." (KPMG, 2000). Parlby & Taylor (2000) explains that technology can act as an enabler for knowledge management through:

- Finding an expert or a recorded source of knowledge by using on-line directories and searching databases.
- Sharing knowledge and working together in virtual teams over internal and external communication networks.

- Brainstorming with the help of advanced applications that provide process and technique support to group and individual creativity.
- Making a decision with the help of advisory systems, access to information on past cases and management information systems.
- Learning more about customer needs and behaviour by analysing transaction data.
- Monitoring both financial and non-financial indicators of organisational health using the balanced scorecard.

"...the stronger reason for buying technology for knowledge management is business-oriented: to optimise inter- and extraprise collaboration (human processes for sharing, creating and applying knowledge); and to leverage knowledge and collaboration to improve business responsiveness, reuse and innovation. Knowledge management requires cultural and business advancements, and the technology for knowledge management must stimulate and augment knowledge sharing, collaboration and innovation..." (GartnerGroup, 1999a).

Technology is critical to knowledge management, but equally so are knowledge management processes, as well as management of people and culture issues.

5.1.6.3. Knowledge management culture issues

The cultural issues around knowledge management are very important. A specific environment needs to be created to foster knowledge management. When creating new knowledge, for example, old thought patterns must be broken. Intuition should be encouraged in a knowledge management environment. Chaos is an imperative precondition for a new perspective or mindset (Stahle, 2000, p.41). Knowledge management is aimed at learning to understand the nature of the chaos, and to create methods, practices and culture that utilise the ability of chaos to self-organise (Stahle, 2000, p.42).

According to the researcher the values of an organisation plays a large part in the knowledge management cultural issues. If an organisation has the values of transparency and trust, knowledge sharing will take place more readily. If an organisation does not have a knowledge creating and knowledge sharing culture, it is a very difficult and slow process to bring about change, due to the fact that the organisation's and people's values have to change to create such a culture.

5.1.6.4. Challenges facing knowledge management

Knowledge management programmes are faced with many challenges.

The first is generating new knowledge. An organisation can do that in two ways, the first being through acquisition of knowledge in the form of appointment of skilled staff; the second being through research and innovation, utilising current skills and knowledge in the organisation (Ernst & Young, 1999e).

The second challenge facing organisations is the codification of knowledge. Codification of knowledge will always involve trade-offs between richness and reach. If application of knowledge is broad, the depth may have to be sacrificed and *vice versa.* In order to determine where the boundaries of the trade-offs lie, the organisation needs an understanding of the aim of the use of the knowledge, e.g. knowledge aimed at strategic decision making will need to have a high accuracy rating (Ernst & Young, 1999e; Ernst & Young, 1999f).

The third challenge is getting people to utilise knowledge management systems. These systems and the knowledge they carry have no value unless they are utilised. Utilisation can be stimulated through appointment of knowledge champions that can raise awareness of the knowledge management systems and newsgroups for specific knowledge areas. Utilisation can also be enhanced through ensuring that outdated knowledge is removed from the knowledge management system and more current knowledge added by means of a set of evaluation criteria for determining of relevance (Ernst & Young, 1999e; Lessons learned on the knowledge highways and byways, 1996).

The fourth challenge is turning tacit knowledge into explicit knowledge. There are various inhibitors to turning tacit knowledge into explicit knowledge. O' Dell & Grayson (1999) states that it may not always be culturally legitimate to articulate tacit knowledge, i.e. it may not be socially or politically correct. Making private knowledge public may also lead to a redistribution of power that organisations may strongly resist. The lack of a formal language or model to articulate tacit knowledge may impede efforts to make it explicit. The transformation of tacit knowledge into explicit may also have consequences for an organisation. If left unarticulated, organisations may lose the opportunity to leverage the knowledge and therefore lose its competitive advantage. However, attempting to make inherently inarticulable knowledge explicit, may result in losing the essence of the knowledge, rendering it less valuable. "Determining when to make articulable knowledge explicit...and when to leave inarticulable knowledge in its "native" form...is central to managing an appropriate balance between tacit and explicit knowledge" (O' Dell & Grayson, 1999).

Another challenge for knowledge management lies in applying the organisational reward system fairly and correctly. Generally a dual system of carrot and stick, i.e. push and pull factors, are used to incentivise people to create and share knowledge (Reiss, 1999;

Snowden, 2000, p.9). According to the researcher this is the factor most critical to the success of a knowledge management system. People will not share knowledge voluntarily due to the perception that "knowledge is power". Unless incentivised by being shown "what's in it for them", people will not share knowledge.

5.1.7. Role of communities of practice in knowledge management

Knowledge management is mainly characterised by collaboration within communities around business issues in which community members have vested interests. This is one of the distinguishing factors between knowledge management and information management (Havens & Knapp, 1999). These communities are called communities of practice, communities of competence or communities of interest.

Snowden (2000, p.13) sees communities of competence and communities of practice at the heart of knowledge management. The concept behind them is members of a common group sharing expertise. Merali (2000, pp.81-82) defines a community of practice as an interdependent group of people inhabiting the same information space and interacting with each other through (resource and other) relationships. Critical success factors for these communities include a clear identity, a sense of belonging and attachment for members, a clear idea of self, i.e. what falls within the community boundaries and what is excluded, and a voluntary commitment from members.

The knowledge-based community of practice is characterised by:

- Membership of knowledge workers.
- Level of access to internal and external information.
- High degree of individual autonomy with regard to what is done with personal knowledge.
- Need for a high level of co-ordination between individuals.
- Need to maintain a shared dynamic knowledge base.
- Complex, dynamic inter- and intra-organisational relationships.
- Dynamic, context dependent articulation of knowledge.
- Context dependent valuation of knowledge.
- Continual sensory awareness of the state of the environment.
- Co-ordinated intelligent behaviour in response to environmental threats and opportunities (Merali, 2000, p.83).

Merali (2000, p.82) also mentions six features that appear common in the development of communities of practice. The first is interdependence of individual endeavours. If individuals need to communicate and exchange knowledge and information for mutually successful outcomes of their endeavours, they are more likely to learn from each other and to articulate

their personal knowledge in a way that is useful to the community. The second is co-specialisation of knowledge. If synergistic relationships between people can be realised, such that the co-specialisation of their personal knowledge creates new knowledge, or enables the community to do something more effectively, the community will be better able to leverage its intellectual capital. The third factor is language and communication. A societal process mediates the transformation of individual knowledge to communal language. "New knowledge diffuses through the community as people work and communicate with each other and, over time, it becomes absorbed into the way that people do things. For knowledge to become absorbed in organisational practice, individuals need to make sense of it, talk about it, to reinterpret it, and to incorporate it into their own context. The language that is used to communicate new knowledge affects the ease with which it can be absorbed. A viable community will support the context-dependent evolution of the language for articulating knowledge as it traverses the organisation over time" (Merali, 2000, p.83). The fifth factor that Merali (2000, p.83) mentions, is environmental sensemaking. The community as a whole must have mechanisms through which they can ensure that local adjustment to external changes does not disrupt the network of community co-ordination. The sixth factor Merali (2000, p.83) mentions is co-evolution. To continue viable, dynamic operation a community must change over time. The requisite changes in individual behaviours and competence must be orchestrated in a co-ordinated fashion.

5.1.8. The role of the Chief Knowledge Officer (CKO)

A number of large organisations have appointed Chief Knowledge Officers (CKOs). These chief knowledge officers take on a variety of roles (Earl & Scott, 1999):

- CKOs need to have sufficient knowledge on technology to do technology selections.
- CKOs are responsible to create adequate environments for knowledge sharing, e.g. by creating communities of interest.
- CKOs are also designers of knowledge repositories, knowledge based systems and knowledge management processes, as well as knowledge exchange events and knowledge protection policies.

Earl & Scott (1999) distinguish CKOs from CIOs (chief information officers) quite clearly. CIOs have distinct responsibilities, namely IT strategy, IT operations and managing the IT function. They have not taken on any knowledge management responsibilities. Where a CKO exists, there is also likely to be a CIO, but the corollary is not necessarily true.

The researcher is of the opinion that a dedicated knowledge management professional has to take responsibility for the knowledge management function in an organisation. This

professional may be a CKO or just a knowledge manager (depending on the size of the organisation and its knowledge management requirements), but it should be this person's primary focus to manage all knowledge-related processes and systems to ensure maximum utilisation and optimal efficiency thereof. Knowledge management can never be a part-time responsibility of an organisational staff member. Practice has shown that in such a case, knowledge management is of secondary importance and always takes a back seat. The knowledge management culture can therefore never be created and maintained and the effort will invariably fail.

5.1.9. The value of knowledge management

In a following chapter, the value proposition of knowledge management is clearly stated, but a short overview is provided below.

The value and purpose of knowledge management lies in adding value to information or knowledge (Yu, 2000). This value adding can take a variety of forms:

- Delivery of personalised knowledge (GartnerGroup, 1999a; Yu, 2000). Profiling or personalisation has both a personal and a corporate view. Profiles work on behalf of the user to provide relevant content (GartnerGroup, 1999a).
- Ensuring the sharing of quality knowledge, therefore minimising overload (Ernst & Young, 1999e).
- Quick access to knowledge (Ernst & Young, 1999).
- Combination of knowledge from different areas of expertise (Parlby & Taylor, 2000).

The value and purpose of knowledge management also lie in the value added to the organisation in its day-to-day activities, through:

- Improved quality and speed of decision-making capabilities (Ernst & Young, 1999e).
- Re-use of knowledge and lessons learned in a variety of contexts (Hargaddon & Sutton, 2000; O' Dell & Grayson, 1999; Parlby & Taylor, 2000). This may take various formats, one of which may be "lessons learned", i.e. sharing knowledge on successes and failures and the reasons behind them (Hargaddon & Sutton, 2000; MacMahon & Moore, 2000, p.77). These experiental learnings are also called learning audits (MacMahon & Moore, 2000, p.77).
- Creation of communities of practice through which knowledge can be shared (Hickins, 1999).
- Better exploitation of existing knowledge (Van der Spek & Kingma, 2000, p.22).
- Faster and better creation of new knowledge in support of innovation (Van der Spek & Kingma, 2000, p.22).

5.1.10. Current knowledge management statistics

KPMG (2000) recently did a comprehensive survey on a wide variety of issues. To provide a better understanding of the nature of knowledge management, a few selections from the statistics in the survey are reported below, together with other valuable statistics from the literature.

According to KPMG (2000) the findings of the survey confirm that knowledge management is an accepted part of the business agenda, i.e. the benefits thereof are acknowledged and organisations with a knowledge management programme are better off than those without. However, the full benefits of knowledge management are not realised and organisations are failing to tackle the real knowledge management issues. In particular, organisations ignore the people issues surrounding knowledge management and still seem to see it as a technology solution. As a result employees complain of overload and no recognition for participating in knowledge management activities. Organisations are failing to recognise the impact of knowledge management on profit, share price and employee retention. Organisations are also failing to understand the culture changes that have to be effected to enable knowledge management to be a part of employees' everyday work. Moving to a culture that values and encourages innovation, openness, teamwork and knowledge sharing requires leadership and, possibly, changes in organisational structures, relationships, and the office environment in general (Parlby & Taylor, 2000). Organic growth in "new ways of working" inspired by knowledge management principles, allows change to happen at realistic speed (Van der Spek & Kingma, 2000, p.22). The appraisal and reward system for knowledge management also do not always get the attention it deserves. Recognition needs to be given freely to those who freely contribute and share expertise that is valued by co-workers. Incorporating knowledge management activities into job descriptions reinforces the importance thereof. This ties back to Davenport's statement that jobs have to be re-engineered to make knowledge management a part of daily work activities (see 5.1.6.1.).

Havens & Knapp (1999) of PricewaterhouseCoopers reported that 60% of CEOs participating in the World Economic Forum and PricewaterhouseCoopers survey responded that knowledge management is absolutely critical to the success of their companies. In Europe, the average of 5.5% revenue spent on knowledge management was set to increase (this is a 1998 figure).

According to KPMG (2000), the status of knowledge management programs in the UK, Europe and US is as follows:

- US: 34% of US companies have a program in place, 28% are currently setting up such a program, 17% are examining the need for such a program, 19% have no program and are not considering one, and 1% have considered and decided against such a program.
- Europe & UK: 39% of European/UK companies have a program in place, 31% are currently setting up such a program, 12% are examining the need for such a program, 14% have no program and are not considering one, and 1% have considered and decided against such a program.
- UK: 42% of UK companies have a program in place, 27% are currently setting up such a program, 16% are examining the need for such a program, 12% have no program and are not considering one, and none have considered and decided against such a program.

Knowledge management efforts in organisations have thus far focused on different things. KPMG surveyed of a number of organisations with a breakdown of what most implementors of knowledge management have done (KPMG, 2000). The statistics are as follows:

- Create a strategy (76%).
- Knowledge management training / awareness (64%).
- ERP systems (62%).
- Sharing best practices (58%).
- Knowledge policies (57%).
- Benchmark / audit current status (57%).
- Establish formal knowledge management networks (50%).
- Reward knowledge working (49%).
- Develop "communities of practice" (46%).
- Appoint knowledge officers / centres (42%).
- New systems for "communities of practice" (40%).
- Knowledge systems audit (40%).
- Design other key processes (32%).
- Create a knowledge map (30%).
- Measure intellectual capital (23%).

KPMG (2000) identifies some reasons why benefits of knowledge management programs failed to materialise:

- Lack of user uptake due to insufficient communication (20%).
- Everyday use did not integrate into normal work practice (19%).
- Lack of time to learn / system too complicated (18%).
- Lack of training (15%).
- Users could not see personal benefits (13%).
- Senior management was not behind it (7%).

- Unsuccessful due to technical problems (7%).

The five main knowledge management problems as identified by the survey of KPMG (2000), are:

- Information overload.
- No time to share knowledge.
- Not using technology effectively to share knowledge.
- Reinventing the wheel.
- Difficulty capturing tacit knowledge.

5.1.11. Knowledge management – South African governmental direction

The initial interest in knowledge management has been high. The Department of Communications has kicked off a knowledge management initiative to bring knowledge management awareness to all stakeholders and the public, particularly in rural areas. The programme focuses on targeting innovators and early adopters by reducing uncertainties associated with the nature of knowledge management and the associated benefits are. Knowledge management principles and tools, such as knowledge mapping, are utilised by the Knowledge Management Development team in their work (Gerber, 2001).

The objectives of the programme are:

- Initiating and co-ordinating a national knowledge management debate, increasing knowledge management awareness.
- Promoting knowledge management awareness in all tiers of government and implementing projects to ensure an understanding of knowledge management principles as well as leading practice.
- Building a capacity to increase understanding of the subject and to monitor international trends, developments and opportunities.

"Knowledge management enjoys top-level government support in South Africa. It is ongoing and not a quick fix to the challenges in Africa. Knowledge management is the way of the future and no longer a choice, especially in Africa" (Gerber, 2001).

5.1.12. Relevant quotations from the literature

The nature of knowledge management can be summarised by the following quotes from the literature:

- "Knowledge management is complex and multi-faceted; it encompasses everything the organisation does to make knowledge available to the business, such as embedding key information in systems and processes, applying incentives to motivate employees and forging alliances to infuse the business with new knowledge. Effective knowledge management requires a combination of many organisational elements – technology, human resource practices, organisational structure and culture – in order to ensure that the right knowledge is brought to bear at the right time" (Donaghue, Harris & Weitzman, 1999).
- "KM takes aim at evolving people's attitudes and work behaviors to effect new heights of collaboration – the intentional sharing of ideas, information, knowledge, and work itself – in support of a business need. It's about changing people's value paradigm from "my information is power" to "sharing is power". It's about large-scale cultural change, new incentive systems and performance metrics, and learning and education. It focuses on (re)shaping the attitudes and behaviours of people so they can ensure the ready availability and resolute application of both personal and institutional knowledge" (Havens & Knapp, 1999).
- "...we might define the spirit of knowledge management as:
  - Knowing individually what we know collectively and applying it
  - Knowing collectively what we know individually and making is (re)usable
  - Knowing what we don't know and learning it "

  (Havens & Knapp, 1999).

5.2. eBusiness

5.2.1. New business models versus traditional business models

Means & Schneider (2000, pp.6-7) describe the new eBusiness business model compared to the old, traditional business model (see Figure 14). The authors see businesses changing focus in the eBusiness environment. Traditional businesses have a high focus on physical capital and working capital due to the fact that most of these organisations do not outsource, but are responsible for their own core business processes. They therefore have a smaller focus on human capital and brand capital, having a production and sales "push" focus. On the other hand eBusinesses have a low focus on physical and working capital due to outsourcing and direct delivery to the customer (i.e. limiting the roles of intermediaries). These businesses may move to e.g. manufacturing nothing at all and having finished products shipped by their outsourced network to their fulfilment centres or directly to consumers. They have a high focus on human capital and brand capital with a high focus on the customer. A customer "pull" focus is paramount. Clearly, spinning off manufacturing and related operating processes, generally to an outsourced network, frees up large amounts of capital that can be focused on

brand development, customer ownership, supply network management and other industry leadership processes. It is clear from this that eBusinesses require a completely different business model than traditional businesses.

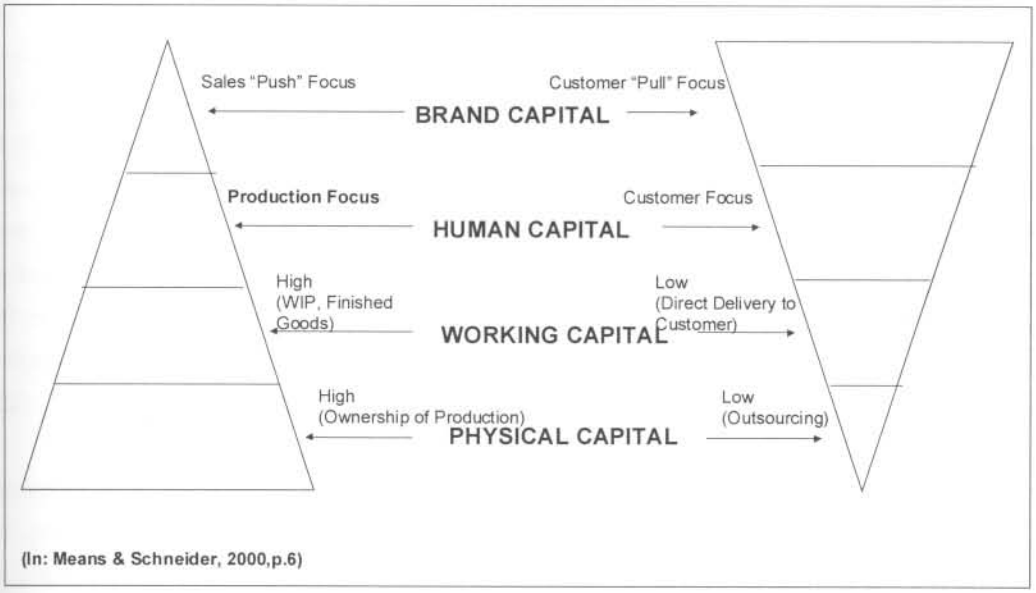


Figure 14. The transformation from old to new business

5.2.2. Electronic marketplaces

Electronic marketplaces are defined by Means & Schneider (2000, p.20) as networks internal to brand-owning companies. They address supply chain issues involved in producing and delivering products. They supply shared services and related backroom outsourced processes. They provide interfaces along the entire length of the supply and demand chains, including the brand owning company and its customers. They also supply industry specific information of all kinds.

Electronic marketplaces are also known in the literature as hubs, e-hubs, metamediaries or value-added communities.

5.2.2.1. Nature of electronic marketplaces

The electronic marketplace is central to the business-to-business eBusiness environment.

A brand-owning company can be considered a member of the electronic marketplace whether it initiates or controls the overall community. Electronic marketplaces may take the initiative in

selecting specific brand-owning companies as alliance partners. eBusinesses may decide to transfer many of its internal business processes – such as financial accounting, human resources, and maintenance, repair, and operations procurement – into outsourced networks. These networks may have a captive outsourcing arrangement, supplying services directly to the company through the outsourced units. Or they may be a larger "shared services" provider designed to deliver process excellence and economies of scale to more than one branding company (Means & Schneider, 2000, p.21). In any of these scenarios, the Internet creates unprecedented opportunities for companies to participate in, and create powerful online trading communities or electronic marketplaces. By doing this they can achieve cross-company optimisation without direct capital investments. Well-organised electronic marketplaces will offer ongoing optimisation that exceeds performance levels of organisations with wholly owned resources. Lower capital, brand-owning organisations can achieve greater performance than traditional, vertically integrated organisations (Means & Schneider, 2000, p.22).

Electronic marketplaces will become great enablers of eBusiness. Electronic marketplaces will optimise an entire network of businesses. They create value for particapating buyers and suppliers in previously unattainable ways. Through the introduction of new efficiencies to the supply chain and new ways of buying and selling products and services, they revolutionise trading relationships and business-to-business eCommerce. They reduce product, process and sales costs by providing a centralised platform for transaction automation, information aggregation, improved market liquidity and extended market reach. Electronic marketplaces use the network effect in the sense that they create selling and buying communities that become more valuable to members as the number of trading partners increases. In future these electronic marketplaces will exhibit some degree of intelligence, becoming complex adaptive systems. Companies that do not join these electronic marketplaces will be limited by their own infrastructure and market power. An example of an electronic marketplace can be seen in Figure 15 (Means & Schneider, 2000, p.23).

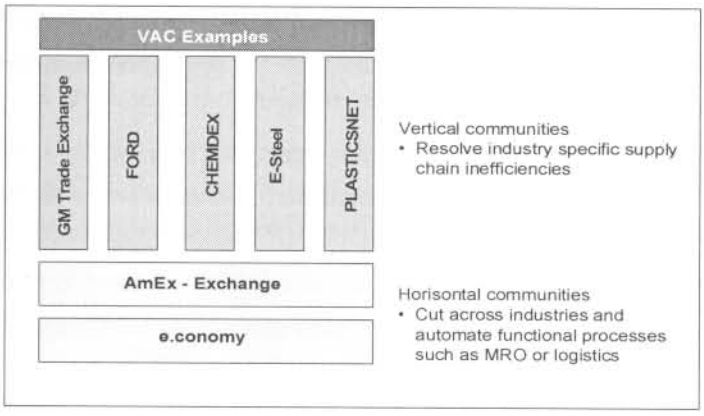


Figure 15. Example of a marketplace/value added community

The value proposition of electronic marketplaces is (Means & Schneider, 2000, pp.28-29):

- Purchasing power

Electronic marketplaces derive purchasing power from aggregating demand in a buying consortium. This results in benefits such as volume pricing, sophisticated information for supplier negotiations, consolidation of suppliers and spending and control reports.

- Process efficiency and operational excellence

Cost of acquisition of goods, services and customers are reduced by integrated sourcing, purchasing, billing, and payment. Electronic marketplaces that offer process efficiency, build functionality, which reduces workflow and transaction costs. These communities may add additional value by achieving additional operational excellence in the management of procurement and processes, including strategic sourcing and monitoring and control of spending.

- Supply chain integration

The value proposition here may include disintermediation, reintermediation, improved visibility across market supply chains, reduced lead times, reduced inventory levels, and improved logistics management.

- Aggregated content/community

This includes value gained from knowledge shared in the network, through e.g. best practices, knowledge management, benchmarking, etc. Categories include discussion forums, product information and reviews, frequently asked questions and newsletters.

- Market efficiency

Online marketing mechanisms are provided that match buyers and suppliers to improve both market and product liquidity and remove search time from the buying and selling processes. By creating such an electronic marketplace of buyers and sellers, the marketplace provides members with broad access, improved market knowledge, and new sales opportunities for both buyers and sellers.

- Accelerated market growth and customer control

Brand owning electronic marketplace participants can expand market reach and responsiveness to their customers through leveraging of human and financial capital as well as Internet channels to the customer.

- Collaboration

Its members to plan jointly, e.g. production planning and capacity management, can use transparency provided by the electronic marketplace.

According to Kaplan & Sawhney (2000) electronic marketplaces create value by using two fundamentally different mechanisms – aggregation and matching:

- Aggregation

Electronic marketplaces use aggregation to bring together a large number of buyers and sellers under one virtual roof. They reduce transaction costs by providing one-stop shopping.

PlasticsNet.com, for example allows plastics processors to order hundreds of plastics products from diverse suppliers through one purchase order. The aggregation mechanism is static in nature as prices are prenegotiated. The aggregation mechanism works best where cost of processing purchase orders are high relative to the cost of items procured, where products are specialised, where the number of individual products is extremely large, where the supplier universe is very fragmented, where buyers are not sophisticated enough to understand dynamic pricing models, where purchasing is done through prenegotiated contracts, and where a metacatalog of products carried by a large number of suppliers can be created.

- Matching

The matching mechanism brings buyers and sellers together to negotiate prices on a dynamic and real-time basis. In the matching mechanism, the roles of players are fluid – buyers can be sellers and sellers can be buyers. Adding any new member therefore increases the market's liquidity and benefits both buyers and sellers. Matching is a more powerful business model, but far more complex. It works best where products are commodities or near commodities, where trading volumes are massive relative to transaction costs, where buyers and sellers are sophisticated enough to deal with dynamic pricing, where companies use spot purchasing to smooth the peaks and valleys of supply and demand, where logistics and fulfilment can be handled by third parties, and where demand and prices are volatile.

5.2.2.2. Types of electronic marketplaces

Electronic marketplaces can be categorised by looking at distinctions in business purchasing. There are two distinctions in business purchasing. The first is the distinction between manufacturing inputs vs. operating inputs (Kaplan & Sawhney, 2000). Manufacturing inputs are the raw materials and components that go directly into a product or a process. These goods vary from industry to industry and are therefore bought from industry specific or vertical suppliers. They also often require specialised logistics and fulfilment mechanisms. Operating inputs (MRO) are not part of finished products. Operating inputs are often called maintenance, repair and operating goods, and they include things like supplies, spare parts, and services. Operating inputs are not industry specific, and as a result organisations buy them from horizontal suppliers, and they do not require specialist shipping. The second distinction in business purchasing is how products and services are bought. Organisations can either engage in systematic sourcing or spot sourcing. Systematic sourcing takes place when contracts are negotiated with qualified suppliers. These contracts tend to be long term, often creating and maintaining long lasting relationships. In the case of spot sourcing, the buyer has a need that requires immediate fulfilment at the lowest possible cost. Commodity trading, e.g. oil, steel and energy exemplifies this approach. Spot transactions rarely involve a long-term relationship with the supplier.

Kaplan & Sawhney (2000) use this two-way classification scheme of manufacturing inputs vs. operational inputs and systematic sourcing vs. spot sourcing, to classify business-to-business electronic marketplaces into four categories:

- MRO marketplaces

MRO marketplaces are horizontal markets that enable systematic sourcing of operating inputs. Operating inputs tend to be low value goods with high transaction costs, so these marketplaces provide efficiencies in the procurement process. Examples: ProcureNet, MRO.com.

- Yield managers

Yield managers are horizontal markets that enable spot sourcing of operating inputs e.g. labour, manufacturing capacity and advertising. These electronic marketplaces add the most value where there is a high degree of price and demand volatility, or where there are huge fixed cost assets that cannot be acquired or liquidated easily. Examples: Youtilities (electricity), eLance (human resources), CapacityWeb.com (manufacturing capacity) and Adauction.com (advertising).

- Exchanges

Exchanges are vertical markets that enable spot sourcing of manufacturing inputs. The exchange maintains relationships with buyers and sellers to ensuring easier negotiations and signing of contracts. Examples: e-Steel (steel industry), PaperExchange.com (paper industry), Altra Energy (energy industry).

- Catalog electronic marketplaces

Catalog electronic marketplaces are vertical markets that enable systematic sourcing of non-commodity manufacturing inputs. These marketplaces create value by reducing transaction costs. The marketplaces are industry specific and may have a buyer or seller orientation. Examples: PlasticsNet.com (plastics industry), Chemdex (speciality chemicals industry), SciQuest.com (life science industry).

Ticoll & Tapscott (1998) have identified 4 types of eBusiness communities:

- Open market

Like the stock exchange, this is the electronic version of the town market. No one is really in control and integration is relatively low. An example is eBay.

- Aggregation

This is a community in which one company leads in hierarchical fashion, positioning itself as an intermediary between buyers and sellers. Value integration is very low. An example is AOL, who aggregates 19 000 chat sites and more than 325 retailers.

- Value chain

In value chains, the focus is on process effectiveness between a manufacturer and its supply partners. A primary company leads in hierarchical fashion, maximising value integration through operational effectiveness. Unlike aggregators, who typically offer a mix of branded

products and services, value chains typically focus on integrated and single branded solutions.

- Alliance

An alliance aims to achieve high value integration in the absence of hierarchical control. In the Java Alliance, for example, Sun Microsystems, IBM, Oracle and Netscape are working towards mobilising an entire industry behind a new computing platform as competition to the Microsoft-Intel Alliance.

5.2.2.3. Electronic marketplace orientation: buy-side, sell-side and neutral models

According to Berryman et al. (1998) and Kaplan & Sawhney (2000) there are three types of electronic marketplaces - those controlled by sellers, those controlled by buyers and those controlled by neutral third parties:

- Electronic marketplaces controlled by sellers

A single vendor that seeks business with multiple buyers usually sets up electronic marketplaces controlled by sellers. Its aim is to create or retain value and power in the market in any transaction where sellers act as aggregators that amass supply and operate in a downstream supply chain. Sellers are the most vulnerable participants, because they will have to compete with other vendors in a transparent environment. Members of these electronic markets benefit from less costly products and services, more efficient ordering and fulfilment processing, and value based product information (Deise et al, 2000, p.124). An example is Cisco Systems' website where buyers can configure their own routers, check lead times, prices, order and shipping status and confer with experts in the technical field. By giving customers access to order information and by publishing technical documentation on the website, Cisco has saved approximately $270 million annually on printing expenses, order and configuration errors and telephonic technical support.

- Electronic marketplaces controlled by buyers

Electronic marketplaces controlled by buyers are set up by one or more buyers with the aim of shifting power and value in the marketplace to the buyer's side. A buyer-controlled electronic marketplace attracts a large number of buyers and then bargain with suppliers on their behalf. The marketplace focuses, not on individual products or services, but on the integration of a wide variety of information, products and services to satisfy the intentions of the community of buyers. The value lies in the entire partnership of products and services, rather than on the individual enterprise level (Friedman & Langlinias, 1999). Many of these marketplaces involve intermediaries, but some strong buyers have developed their own marketplaces. An example of this is Japan Airlines, who posts procurement notices on their website for consumable items such as plastic rubbish bags and disposable cups. Buyers' intermediaries act as agents or aggregators. An example of an agent is FreeMarkets Online, a small company that assists traditional industrial firms to locate a pool of competitive

suppliers for assembly parts such as iron castings. Being an agent, it offers offline consulting to buyers to refine their specifications and screen potential suppliers. Once contenders have been selected, they host an online bidding session, thereby guaranteeing the best prices for the buyers. Aggregators take a different approach, combining the purchases of various buyers to ensure competitive prices. TPN Register, a joint venture between GE and Thomas Publishing, is an initiative to consolidate purchases in all the divisions of GE. This initiative expanded to include 11 000 other leading organisations, e.g. Coca Cola, Textron and Hewlett Packard, in a buying consortium. The results have been reduction in order processing time and processing costs, and 10-15% lower prices. 60% of procurement staff has been redeployed and the interval between the identification of a need and signing of a contract to meet the need has been halved. Other vendors have saved 10-20% on cost of purchases, the savings coming from cheaper searches that provide access to a larger number of suppliers, from better co-ordination of buyer and seller through electronic requests for quotes, and from lower error rates of wholly electronic purchasing processes (Berryman et al, 1998; Nevens, 1999).

- Neutral electronic marketplaces

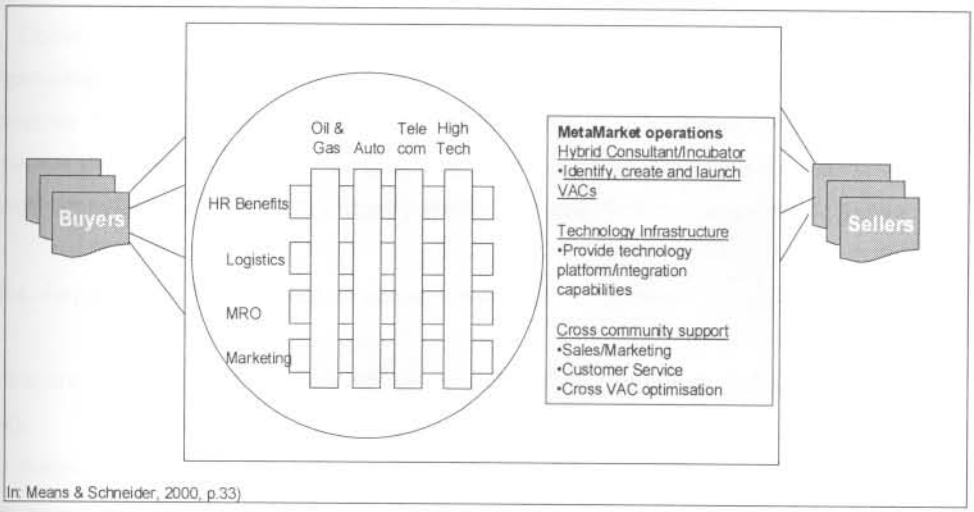
Neutral electronic marketplaces are set up by third party intermediaries to match many buyers to many sellers. Neutral electronic marketplaces are equally attractive to both buyers and sellers. To succeed, both suppliers and buyers must be attracted quickly to bring liquidity on both ends of the spectrum. These marketplaces add value through reduction in transaction costs and improving matching. Example: an electronic marketplace that sells nothing but caviar, may have insufficient volumes to achieve scale in its back-office organisation. However, an electronic marketplace that sells all kinds of gourmet food could be much more efficient (Berryman et. al., 1998). These electronic marketplaces are most likely to succeed in an environment where markets are highly fragmented on buyer and seller side. Infomediaries are also more likely to operate in a neutral marketplace, than in a buyer or seller oriented one, where controlling parties have less incentive to pass information on. In a neutral electronic marketplace a neutral third party can accumulate information about buying patterns that can be analysed and sold to sellers to help them improve their marketing. In a neutral marketplace participant's identities are protected, and they will therefore be more willing to share information (Berryman et al, 1998). An example of an intermediary is FastParts, which operates an anonymous spot market for the trading of overstocked electronic components. It receives notices of available stock from sellers, then matches buyers to sellers in an online auction. All parties benefit. Sellers get higher prices than through traditional brokers, buyers get market-driven prices plus guaranteed quality because FastParts inspect all items, and FastParts earns up to 8% commission. Neutral electronic marketplaces do not necessarily eliminate traditional intermediaries. Digital Markets, for example, established itself as an electronic intermediary for trading of electronic components. Its aim is to make buyers and sellers more efficient. It routes buyers' orders to their preferred distributors, checking for order

entry errors and suggesting substitute products. The intermediary then notifies the buyer of availability and passes on delivery and pricing information from the seller. Digital Markets also enables buyers to confirm and track their orders. For this, it charges a transaction fee to sellers when orders are placed. Buyers pay nothing.

5.2.2.4. MetaMarkets

According to Means & Schneider (2000, p.33) MetaMarkets will join electronic marketplaces together to bring even greater levels of value to online business systems (see Figure 16).

These MetaMarkets will be built on a common technology platform, providing a comprehensive range of products and services, through which buyers and sellers will be attracted. MetaMarket providers will rapidly develop new electronic marketplaces to compliment their offering for existing members. This continuous formation of electronic marketplaces will draw on the established customer base as well as underlying technology platform and back office shared services (Means & Schneider, 2000, p.34). "...strong network effects and economies of scale inherent in MetaMarkets will drive many industries to become true oligopolies, dominated by a few global players. The ultimate winners can be expected to emerge over the next few years. There is tremendous advantage for those who move quickly and decisively now to solidify their market positions through strategic partnerships, acquisitions, and joint ventures – the molecular biology of VACs and MetaMarkets" (Means & Schneider, 2000, p.36).



In: Means & Schneider, 2000, p.33)

Figure 16. The MetaMarket: a portfolio of value added communities

5.2.3. Stages in the development of an eBusiness

PricewaterhouseCoopers (2000b, p.152; 2000d) distinguishes four stages in eBusiness development:

- Presence

This stage in business to consumer eBusiness commonly involves creating an electronic presence in the business to consumer environment, usually a website, which presents information about the company's products, and its key differentiators. The corresponding stage in business-to-business development is use of electronic channels such as EDI to service customers and partners. The key is to improve timeliness, cost effectiveness and reach.

- Integration

Closer interaction takes place as customers and suppliers work together online and vendors customise content for their users. Exchange of critical information brings greater understanding for all parties, leading to bigger commitment from everyone. Legal, tax and risk management issues are coming to the fore. Prompt and effective customer service becomes critical.

- Transformation

Organisational transformation takes place as executives distinguish between core and non-core competencies. Operations can be unbundled more easily, and only those critical to the market position are kept. Other issues to consider at this stage are outsourcing non-core operations, making changes in processes and systems, and paying attention to legal and audit considerations.

- Convergence

Organisations can achieve true convergence with other organisations in or outside of their industries. Over time this will lead to cross-industry supply chains that will in turn create networked organisations and markets. Customers gain convenience and choice, and firms benefit from being part of cross-industry value networks.

5.2.4. Approaches in creating an eBusiness

There are three approaches in creating an eBusiness (Means & Schneider, 2000, pp.163-164):

- Bubble in

The parent organisation creates a laboratory-like environment to incubate eBusiness. The new entity is an autonomous skunk works, operating with senior management's support and protection. The bureaucratic constraints of the parent are kept at bay.

- Bubble out

The parent organisation creates an environment outside of itself in which the new entity can grow and thrive. The organisation can choose to create a new entity connected to the existing structure or form an entity that is entirely different from the parent organisation. The new unit may then consume the traditional business or spin off.

- Transformation

The organisation reinvents itself through web-enabling all customer facing, internal, back-end and enterprise processes. The parent is subsumed in the eBusiness.

5.2.5. Factors to consider in setting up and managing an eBusiness

5.2.5.1. The richness versus reach trade-off and the distinction between the economics of things and the economics of information

Two factors make eBusinesses, and specifically infomediaries, vulnerable: an embedded compromise between the economics of physical things and the economics of information, and secondly a compromise between information richness and reach (Evans & Wurster, 2000, p.69). There are two forms of disintermediation. In the first instance the competitor would attack the intermediary by offering greater reach and less richness. The competitor thus focuses on hard to reach customers who places less value on the richness provided by the intermediary. An example is Sears Roebuck, who in the 19th century displaced many of the local hardware and clothing stores. The catalog provided a less rich interface, but it provided greater reach in terms of a wider selection of products with the ability to deliver to remote locations (Evans & Wurster, 2000, p.71).

In the second instance of the richness / reach trade-off, technology allows the richness / rich curve to be displaced completely, allowing players to offer greater reach and greater richness simultaneously. This happens because technology allows businesses to deliver rich information to customers directly (e.g. Dell computers that sells their computers only through their website). Technology also allows a thorough deconstruction of the old value chain, because new combinations of free-standing players can match the capabilities of old vertically integrated businesses, e.g. independent brokers using information provided by Charles Schwab's website to deliver as good an investment brokerage service as Schwab's own integrated service (Evans & Wurster, 2000, pp.72, 93, 95; Rozwell, Reilly & Lehong, 2001).

"The losers in this new game of disintermediation will be players that may have been competitive in aggregate, but not in one piece of a deconstructing value chain...Any intermediating business could be vulnerable if it has what might be called "department store logic": one stop shopping, cross-selling, cross-subsidiaries, all anchored in a putative

"relationship" with the customer. Such businesses are especially vulnerable if the business system needs volume to cover high fixed costs, since a small loss of volume could mean a catastrophic decline in profits. The winners in this new game of disintermediation will be the players who are good at one thing, or more precisely, the smaller number of things that define advantage in a deconstructed business definition. Delivery services such as Federal Express, efficient warehouse operators such as Wal-Mart, and even Schwab functioning as a brokerage transaction platform could gain massively from using their specialised, focused capabilities (physical or informational) to support the new intermediating models of others. Their volume potential depends on the pace of disintermediation; their profit potential depends on their ability to achieve physical economies of scale" (Evans & Wurster, 2000, p.96).

New navigators derive much of their advantage – versus the established players and versus each other – by affiliating closely with the interests of the consumer. This tilt toward consumers is a direct and fundamental consequence of the blow-up of the richness / reach trade-off. The greater the reach of navigators across suppliers, and the more intense the competition among navigators for the loyalty and attention of consumers, the weaker is the navigator's bond to any one seller and the greater is the pressure on them to serve as buyers' rather than sellers' agents. This tilt in affiliation shifts the balance of power from sellers towards buyers (Evans & Wurster, 2000, p.125). The test of affiliation is where the consumer gains and the seller loses, e.g. navigators informing consumers of similar products provided by other suppliers, or sharing unflattering information regarding the effectiveness of a product or service (Evans & Wurster, 2000, p.127).

Once the richness / reach trade-off has been broken, navigators cease to be specific to sellers and become very cheap. Navigators then compete for consumers' attention based on two factors, namely reach and consumer affiliation (Evans & Wurster, 2000, p.133). For suppliers and retailers this raises issues to be considered. Struggling for critical mass, navigators push for reach, merge and concentrate. As their reach goes up, their affiliation to sellers loosens, which provides more advantage in competing for buyers. Some navigators gain critical mass and then become a monopoly in their respective search domains, i.e. winner takes all. Armed with superior reach, a high level of consumer affiliation and trust, and equivalent richness, that navigator is advantaged in navigation against retailers and suppliers (Evans & Wurster, 2000, p.134). Suppliers need to understand that these navigators can blunt the effectiveness of their sales forces, their advertising and product literature. Suppliers will have to look at alliances to address this affiliation problem. A group of suppliers may be able to create their own navigator with strong customer affiliation that is more comprehensive and more credible than any of its members (Evans & Wurster, 2000, p.136). Another option is for

the suppliers to deny the navigators critical mass by not supplying information on which comparisons with other products can be made. This is, however, not always in the interest of the seller as individual business, as denying information individually will not deny critical mass. Only if sellers collectively deny information, can critical mass be denied (Evans & Wurster, 2000, pp.139-140).

The explosion in reach will initially have the biggest impact on the shape of businesses in the future, but affiliation and richness will prove more powerful over the long term in terms of competitive advantage and profitability. Reach will eventually become the focus of competitive struggle and self-cannibalization will be accepted by incumbents as inevitable (Evans & Wurster, 2000, pp.121, 125).

5.2.5.2. Brand

Branding is an important competitive advantage in the eBusiness environment. Whether it is customer or product specific, sellers use rich information to lock in customer relationships and to lubricate the channels and habits of consumer choice in their own favour. Brand is rich in information on a product or service and other attributes in the mind of the consumer. The information stems from advertising, reputation, and prior experience. It may not be comprehensive, but it makes choice easy. Brand knowledge enables the consumer to short-circuit trying to make choices systematically (Evans & Wurster, 2000, p.150). The consumer makes the choice based on information provided by the brand. This choice is often made through use of advertising materials. Website content that is aimed at advertising an organisation's products or services can be categorised into three groups (Cartellieri et al, 1997):

- Experiental content

This type of content will allow the consumer to experience the product or service. A good example is where customers are allowed to test a product. Sharp's website allows a personal tour of the Zaurus personal digital assistant, for example. Virtual reality will make these experiences even more real for customers in the near future (e.g. they will be able to feel as if they are test driving a car or walking down the aisles of a grocery store).

- Transaction-oriented content

This type of content will invite consumers to buy a product directly from an advertisement. Advertising content will become more transaction oriented. The Internet has already changed customer behaviour in this way. Prospective car buyers, for example, can gain a lot of product information from manufacturers' websites, which means a sale is more likely to take place when they encounter the manufacturer or dealer.

- Sponsored content

This type of content will blur the line between editorial matter and advertising. A lot of sponsored content already exists on the Internet – it tends to resemble "brought to you by company ABC". The advances in more hybrid commercial-editorial content will be determined by consumers becoming resistant to banners or standard forms of sponsorship, and by advertisers' desire to influence attitudes in more subtle ways.

5.2.5.3. First mover advantage

First mover advantage is very important in the eBusiness arena. Evans & Wurster (2000, pp.112-113) emphasise this with the following example. Online classifieds are a navigation business where buyers and sellers are looking for each other. Buyers choose where to browse on the number of advertisers, and sellers select where to advertise based on the amount of browsers. Whoever establishes a clear lead will attract both buyers and sellers. Reach then becomes a self-fulfilling prophecy. Whoever has superior share gains share. Once one competitor establishes a strong lead, it is not clear that anybody would be interested in the second choice (Evans & Wurster, 2000, p.120). "The first to organise a virtual community may create a long-term advantage. Once a community has momentum, it may be difficult for a second would-be organiser to persuade members to switch unless the new community offers dramatically greater benefits. Thus there may be a cost advantage in being the first to organise the community and set the rules" (Stewart, 2000).

The gaining of critical mass, however, does not mean that the first entrant always wins. Latecomers can carve out and dominate segments that fit better into the search domains that some group of consumers really wants. These could cut across the terrain dominated by the first entrants, or they could be pockets within that terrain. In the latter case, the latecomers would have to outperform the first entrants on affiliation and richness (Evans & Wurster, 2000, p.120).

Deise et al (2000, p.127) is of the opinion that competition to create dominant electronic marketplaces will be fierce. Size and speed will matter. The largest and fastest electronic marketplaces will have the opportunity to create metamarkets that consist of a portfolio of electronic marketplaces. Operators of metamarkets have the opportunity to extend clout in the eBusiness world. Metamarkets will become the powerhouses of the new economy (Deise et al, 2000, p.127).

5.2.5.4. Aggregation / disaggregation

Ticoll & Tapscott (1998) are of the opinion that in order to develop an online commerce value proposition, companies should rely on a value reaggregation strategy. The strategy process begins with the assessment of current value, followed by redefining the value proposition by disaggregating its key components and envisioning how networked technologies can improve the customer relationship. A new strategy is created, typically supported by eBusiness community value creation. Reaggregation creates a new value proposition for the customer. The researcher is of the opinion that the essence lies in optimising strengths in the eBusiness and eliminating any weaknesses. An example is E*Trade, that disaggregated one feature of financial services, namely stock trading, from the traditional services offered by brokerages. By envisioning how low cost trading could be accomplished via the Internet, E*Trade was able to attract an audience of highly active stock traders who wanted to execute their own trades. Empowering these early adopters assisted E*Trade in building brand momentum in online trading.

5.2.5.5. People issues

eBusiness is all about changing the form of traditional relationships among companies, their customers, their distribution channel partners and their suppliers and vendors. Business technology provides all the players more information about each other. The key to decrease eBusiness risk is to develop the closest, most trusting relationships possible with all of the various players at each step of the value delivery process (Deise et al, 2000, p.174). To enable relationship building, all people issues must be considered.

Online buyers are not a monolithic group. Customers in different sectors differ vastly. While a customer may be comfortable buying one type of product, they may not be comfortable to buy in other sectors. Even those who purchase across multiple product categories do not necessarily shop in the same fashion or use the same criteria to evaluate their experience in each product area (Chu et al., 1999). Customer behaviour and needs must be understood to enable relationship building.

Key characteristics of individuals who will thrive in a business environment include high risk tolerance, flexibility, teaming skills and the ability to appreciate and thrive in ambiguity, build relationships to achieve business goals, admit mistakes, and move forward (Deise et al, 2000, p.65).

"...the Net gives consumers more control, more power. It's a more competitive environment that tends to make good businesses better and weed out less capable ones. To succeed, you

need a certain lightness of foot, even a sense of humour. You have to be willing to be slightly experimental, even as your stockholders are asking why you're putting all this money into this thing called the Internet. But most of all, you need to have good, creative people, not just technologies or systems. These people need to be trained to represent your company effectively. A successful Web presence is something that needs to be grown. It just can't be constructed " (Andersen Consulting, 1998).

5.2.5.6. Technology and integration

When restructuring for eBusiness, there are technological and integration issues that need to be considered. The customer-oriented approach will necessitate changes to traditional IT processes, which were centred on product lines or management requirements. Businesses risk poor customer service by using their disparate systems for customer support. These systems do not provide one view of the customer due to lack of information sharing between the systems. Different service groups may also be used to manage different customer service channels, e.g. e-mail, face-to-face, telephone, etc. (Dhanji & Jablonski, 2000). Providing one view of the customer is the aim of customer relationship management. This is discussed in more detail later in this chapter.

5.2.6. New business realities in the electronic world

The Internet turns today's best practices paradigm upside down. An eBusiness enables an organisation to have both an internal and external focus, with Internet technology touching on all aspects of the enterprise. Customers, suppliers and employers are all online, they have better information and have the tools to be more efficient by orders of magnitude (E-business transformation, 1999).

The eBusiness environment poses many challenges to the traditional bricks and mortar businesses, which are struggling to evolve their business models and value propositions without losing their existing identities. These difficulties are due to the new realities of business in the online world, as detailed by Chu et al. (1999):

- New financial realities

The ability of eBusinesses to raise large amounts of capital enables them to quickly buy or build key capabilities. For example, Amazon's rising share price enabled it to buy firms such as Junglee, PlanetAll, and Livebid.

- Intensified competition

Due to low entry barriers, competition is increasing. Even previously non-competitive relationships are being tested as manufacturers and distributors begin to sell direct to the customer.

- Greater customer power

Customer disloyalty is being encouraged as more information on products and services become available on Internet sites. Retailers offer customers new and better services in a quest for market share. The cost to the consumer to switch is very small, creating many headaches for retailers.

- Organisational constraints

Legacy technologies and inflexible organisational structures are preventing retailers to compete effectively with Internet start-ups. Top management talent is also lured to the dot.com world with offers of a greater financial upside and the possibility of near instant success.

Deise et al (2000, p.xxvi) summarise the effects of this new business reality as follows:

- eBusiness employs "disruptive" technology. While it can improve and enhance business, it can also disrupt the value chain by changing the way players with it interact.
- eBusiness success is fundamentally not just about technology, but also about organisational change management and about people working in new ways. It is about using technology to enhance existing relationships and to create new relationships.
- In the eBusiness arena, the organisation that owns the relationship with the customer is king. Companies must determine if they are, or can become, the company in the value chain that owns the customer relationship. Leadership must not only know what it knows, but also what is doesn't know. It must be able to form relationships with organisations that can fill that knowledge gap.
- Companies will continuously be creating new services based on their digital assets (information and processes). Intermediaries will emerge within the value chain, others will be forced out. Old and new intermediaries will fight for position.
- Commodotisation of products and services will move farther up the value chain until ultimately everything upstream of the customer will be a commodity in the eBusiness arena, the organisation that owns the relationship with the customer is king. This means that companies will be fighting to be network or knowledge masters. Companies that fail to do so will face becoming low margin commodity producers.
- While rolling commoditisation will squeeze companies from upstream in the value chain, customers will continually use knowledge technology to squeeze margins from the downstream end. Confronting rolling commoditisation, intermediaries and increasingly knowledge-enabled customers, even network and knowledge masters will be hard pressed to maintain competitive advantage over long periods of time.
- All of this will lead to an environment where business strategy must be very flexible, where companies need to disintegrate over time, forming small nimble knowledge based companies to fight for position close to the customer.

eBusiness changes the rules of competition, levelling the playing field among large and small organisations and reducing the importance of issues such as physical distance. It leads organisations to re-examine their assumptions governing supplier relationships, time-to-market and the value propositions they present to customers (PricewaterhouseCoopers, 2000d).

5.2.7. Guiding principles for developing a strategy in the eBusiness environment

Evans & Wurster (2000, pp.222-229) suggest a dozen guiding principles that may help with the task of rethinking strategy in the era of deconstruction:

- No business leader today can presume that the business definitions in his or her business will still be valid a few years from now. Deconstruction means that traditional business definitions cannot be taken for granted. Suppliers, customers, industry, value chain, supply chain and relations with employees and owners all become variables – they are reshaped by shifting economics of information and by the strategies pursued by players who exploit those economics. The process of deconstruction is continual. Progressive advances in richness and reach will challenge successive business definitions with the possibilities of further deconstruction.
- Deconstruction is most likely to strike in precisely those parts of the business where incumbents have most to lose and are least willing to recognise it. The new opportunities for value creation lie where the underlying economics are shifting – managers need to focus on these opportunities. The products, segments, or functions where the economics are shifting, are likely to be precisely the areas where disproportionate value is created. Deconstruction has to create new value.
- Waiting for someone else to demonstrate feasibility of deconstruction hands over the biggest advantage a competitor could wish for: time. In Internet time, everything is a sprint. It is dangerous to deny deconstruction due to a history of previous failures by others. When pre-emption matters and new businesses evolve at breakneck speed, the first competitor that gets it right will have significant competitive advantage. By definition the first competitor ignored the evidence of a prior, unbroken series of failures. Fast follower strategies fail.
- Leaders need to wrestle with the full range of possible patterns of deconstruction. Businesses can be deconstructed in four possible ways. Some will break up into discrete components of the value chain, unlinked by the melting of informational glue that bonded them together. Others will deconstruct along their vertical links with suppliers, customers and consumers, when mutual relationships, stable franchises, and intermediary roles are undermined by reach. Others will see the segregation of information flows into businesses in their own right. Still others will deconstruct in their organisational relations, as employees, investors and entrepreneurs renegotiate roles, risks and rewards.

- Strategy really matters. Strategy creates economic realities. Whether a standard creates or does not create critical mass, who pre-empts whom, and who allies with whom, determine not just the path of competitive jockeying, but the end result itself. The interplay of strategies among competitors has an autonomous impact in shaping the outcome.
- The value of winning will escalate, as will the cost of losing. As a result of unbundling, the economics of businesses after deconstruction will often be simpler and therefore more powerful. Information flows, in particular, will tend to become either valueless or monopolies, and it really matters to understand which. If, within a given business, there is room for only one winner, getting strategy right becomes really important. It is therefore important to do some non-traditional experimenting, pre-empting, and pursuing of contrary strategies simultaneously.
- The reconstructed business definitions will rarely correspond to the old. New businesses will emerge and agglomerate in accordance with their own competitive logic. Successful competitors will have to build or acquire fundamentally new capabilities, build alliances with companies in previously unrelated businesses, and merge aggressively for pre-emptive scale and scope. Underestimating the requirement for acquiring new capabilities and overestimating the value of existing capabilities is a common trap.
- The hardest step for an incumbent organisation is the mental one of seeing the business through a different, deconstructed lens and then acting on this insight. Mentally deconstructing the business sounds easy, until the practical implications become clear. The reaction of every organisation is resistance. That is when the incumbent blinks and steals an unmerited but devastating advantage.
- The subtler pitfall is co-option and passive resistance by a sceptical and self-preserving organisation. Organisations have an uncanny ability to subvert whatever undermines their historical structures of power and reward, even when the new direction is the official strategy.
- Strategy in a deconstructing world has to be generally right, but need not be specifically right, as long as the organisation maintains a capacity to learn from its mistakes. Strategy in the deconstructing world cannot be planned in the same ways as in the past. In conditions of high uncertainty, error is inevitable and people unwilling to make mistakes will get it right too late to claim any reward for their meticulousness. Strategizing has to be continuous, it has to be partially improvisional, and it has to be flexible enough to recognise errors when they have occurred, correct them and move on.
- Incumbents can be insurgents, if they choose. Incumbents do not have to think of themselves as incumbents: that is to presume precisely the static business and industry definitions that deconstruction denies. They can take some capability of theirs into the heart of someone else's businesses and blow it up. It takes clarity of visions and consistency of purpose. It requires organising and rewarding differently, perhaps even owning differently.

5.2.8. eBusiness obstacles and pitfalls

There are a variety of obstacles and pitfalls in the eBusiness environment. PricewaterhouseCoopers (1999b) has identified barriers to the use of eBusiness by small and medium enterprises. They are:

- Low customer eCommerce use.
- Security concerns.
- Legal and liability concerns.
- Low supplier eCommerce use.
- High technology cost.
- Limited knowledge of business models.
- Limited knowledge of technology.
- Not convinced of benefits.
- Concerns about telecoms services.
- Firm computerisation too low.

PricewaterhouseCoopers (1999b) has raised the issue that legal and liability issues are great barriers to eBusiness. Conducting business through electronic networks have raised numerous legal questions, including the legal status and enforceability of electronic contracts, legal jurisdiction of international electronic commerce transactions, intellectual property rights and copyright protection for digital content, privacy of personal data, and the validity of electronic "evidence" in legal disputes.

Deise et al (2000, p.162) have identified 15 eBusiness risks:

- Strategic direction.
- Competitive environment.
- Dependence on others.
- Security.
- Reputation.
- Culture.
- Technology.
- Governance.
- Project management.
- Operations.
- Tax, legal and regulatory.
- Human resources.
- Business process controls.

- Currency.

Finally Chu et al. (1999) mentions the customer's desire for immediate gratification and the difficulty of returning purchased items as pitfalls (Chu et al., 1999).

5.2.9. Value added by eBusiness

A whole chapter is dedicated to detail the value proposition of eBusiness later in this study. In summary to what has been discussed above, it is clear that eBusiness has gone far beyond a mere means of communication; it is a way to build lasting relationships and increased revenues in the process (PricewaterhouseCoopers, 2000d). Business to business marketplaces make existing processes more efficient by automating transactions and by reducing cost of interaction for both buyers and suppliers. These marketplaces also redesign workflow across business in a specific industry. These workflow redesigners gain additional efficiency through integration with effectiveness gains from redesign of processes (Kaplan & Sawhney, 2000).

The main value proposition is therefore based on efficiency and effectiveness improvements.

5.2.10. Statistics and interesting findings on eBusiness

A PricewaterhouseCoopers study (1999c) provides interesting statistics gained from a survey:

- 89% of organisations participating in the survey have eBusiness strategies, but over half of the respondents said that they didn't know which proportion of their usual customer base was online. It points to a mismatch between strategy and a sound understanding of the customer.
- Sectors that are most aware of eBusiness are banking and securities.
- The biggest barrier to business initiatives is a lack of understanding.

PricewaterhouseCoopers (2000d, p.145) summarised their top five findings of an eBusiness survey. Firstly most executives identified their top challenges as meeting customer demands and managing technology, especially technology change and integration issues. The second finding is that executives primarily aim to gain competitive advantage through premium service, process streamlining, and cost control / efficiency. These executives showed an awareness of eBusiness, but only one in five ranked it as a source of competitive advantage. The third finding shows that executives have taken three stances towards eBusiness. One third of leaders are innovators, another third have decided to enter the field, but didn't know when, and the other third are undecided. The fourth finding shows that nine out of ten companies that participated in the survey are surrounded by eBusiness in the form of e-mail,

Internet websites, and intranet use. The majority of respondents indicated that they would expand their range of eBusiness tools. The fifth and most important finding is that most executives are measuring eBusiness success through not only improved quality of information, but also increased loyalty of customers.

PricewaterhouseCoopers (2000c) published some interesting findings after doing a study on eBusiness in large corporates in Europe:

- 26% of respondents would like to migrate more than 90% of existing customers to eBusiness, but only 1% of businesses have achieved this to date.
- Only 11% have fully implemented eBusiness solutions and as many as 48% are only at the early web site development stage.
- The aims of existing business strategies are defensive, with only 7% of businesses using eBusiness to strike into a new sector.
- Only 4% of organisations are investing more than 10% of revenues in eBusiness development, though this is expected to grow to 15% in three years time (2003).
- Business to consumer organisations consider increasing customer satisfaction and loyalty through the web and creating an appropriate brand strategy as the most significant challenges in creating eBusiness value. Business to business organisations consider achieving operational and cost efficiency improvement through the web as the greatest challenge.

5.2.11. Relevant quotations from the literature

The essence of the nature of business can be captured by the following quotes from the literature:

- "Business-to-business e-commerce in the US alone is estimated to exceed $1 trillion in 2003. That's ten times larger than business-to-consumer e-commerce. When companies transform into e-businesses, will have to be online too. Large companies and entire industries will form electronic business communities. If you're not connected, you won't survive and thrive" (E-business transformation, 1999).
- "But a greater vulnerability than legacy assets is a legacy mindset. It may be easy to grasp this point intellectually, but it is profoundly difficult in practice. Managers must put aside the presuppositions of the old competitive world and compete according to totally new rules of engagement. They must make decisions at a different speed, long before the numbers are in place and the plans formalised. They must acquire totally new technical and entrapreneurial skills, quite different from what made their organisation (and them personally) so successful. They must manage for maximum opportunity, not minimum risk. They must devolve decision-making, install different reward structures, and perhaps even devise different ownership structures. They have little choice. If they don't

deconstruct their own businesses, somebody else will do it to them" (Evans & Wurster, 2000, p.66).

5.3. Customer relationship management

5.3.1. The need for customer relationship management

The need for customer relationship management is clearly illustrated in the literature:

- "The customer economy is characterised by incredible customer expectations for speed, ease and quality of interactions. The fact is, customers today want what they have always wanted: choice, convenience and responsive service with a personal touch. The difference is that the sheer volume and complexity involved in delivering those benefits have changed dramatically. In the past, companies served a limited number of customers through storefronts and over the telephone. In the new customer economy, the contact channels used to interact with customers have multiplied, encompassing both assisted and self-service options. To compete effectively, companies must now be able to deliver the same consistent, personalised, high quality service across all interactions and all communication channels: Web, e-mail, chat, voice over IP, phone and fax. For example, today's customers want to use the Web to help themselves to information, compare prices and buy products and services. But they also want the option to send an e-mail or pick up a phone when they have a question, as well as fax an order or even chat online with a sales or service representative. Above all, they want to effortlessly switch channels at any point without breaking the thread of communication, being penalised for choosing the wrong channel or losing the entire history of their interactions when moving between channels" (Guleri, 2000).
- "Historically speaking, relationship management, as an art practiced by skilled individuals, is probably as old as business itself. Information about each customer was kept in some type of manual filing system...Later information systems became more and more automated and voluminous, until they evolved into giant data warehouses or more specialised data marts. Yet the basic task of managing customer relationships remains unchanged. The most effective personal bankers, stockbrokers, and insurance agents have always been those who achieved a deep understanding of their customers and were able to fulfil and even anticipate their needs" (Ernst & Young, 1999d).

5.3.2. Customer relationship management as integral part of the business strategy

Customer relationship management can only operate effectively within a well-defined marketplace that is determined by the organisation's business strategy. This foundation establishes the organisation's target market, its high level segmentation scheme for attacking the market space, the value propositions that it will offer customers in each of the segments,

and the operating model that will deliver on its value proposition (Ernst & Young, 2000a).

Customer relationship management is, however, approached differently by different organisations. Some equate it with technologies such as data warehousing and data mining. Others view it from the perspective of creating and maintaining strong relationships with valued customers. Others define it as a tactical approach of segmenting customers and creating a value proposition for each segment (Ernst & Young, 1999d). Ernst & Young is of the opinion that a lot of the confusion surrounding customer relationship management results from a lack of strategic focus. Many companies are going ahead with tactical approaches that are not rooted in a well-developed business case. An example is that of organisations buying data warehouses without understanding the limitations of the technology.

Due to the fact that customer relationship management is closely tied to the business strategy, it will also change dynamically with the business strategy according to changes in the market (Bergeron, 2001).

5.3.2.1. Process approach to customer relationship management

Business processes are closely tied to the business strategy, therefore a process approach is appropriate to tie the customer relationship management strategy to the business strategy.

Customer relationship management requires a process-centred approach. The trend is towards managing all activities related to identification, attraction and retention of customers in an integrated fashion, i.e. managing them as a process that cuts across functional divisions (Patmore & Renner, 1997).

Customer relationship management should have a process orientation in general, according to Patmore & Renner (1997). It must be based on a process for identifying and targeting the customers most profitable to the organisation. Organisations should have processes to shift resources to serve these customers, and focus less on high maintenance, low margin prospects. A characteristic of such a process orientation is a focus on overall outcomes, rather than individual tasks. Such an approach means that customer relationship management is centered on the customer, rather than marketing or sales functions. Measurement and feedback drive the process. The organisation bases their actions on the objective of providing customer service, rather than on functional area.

The role of processes in implementing customer relationship management is of vital importance (Handen, 2000a, p.17). Identifying these processes are not very difficult – the difficulty lies in getting buy-in, developing performance measures to measure the

effectiveness of the processes and implementing technology to support these processes and to enforce their use. The customer relationship management process is the order in which direct marketing activities are executed. It is not complicated, but emphasises speed to market. Re-engineering therefore mostly concentrate on time saving in marketing activities. However, problems that arise most frequently are attributable to measuring and evaluating the process itself. Most organisations focus on acceptance rates of products and services, leading to a loss of focus on continuous improvement to their own processes. The role of organisational structure is equally important in implementing customer relationship management. A lot of organisations' marketing is media based, so they now have to make a switch to direct marketing, which can prove to be a challenge. Creating cross-segment marketing teams is essential for the purpose of learning and executing new styles of campaigns (Handen, 2000a, p.17).

5.3.3. Customer relationship management strategies

It is fundamental to understand that customer relationship management is not a product, but a strategy (Boulton, Gupta & Benton, 2000, p.295). The researcher agrees with this viewpoint – customer relationship management is not about tools like Siebel (although they have a role to fulfill), but about developing a strategy around the organisation's customers. To realise customer relationship management, organisations must foster behaviour, as well as implement processes and technologies that support co-ordinated customer interactions throughout all customer channels. Customer relationship management consists of five elements, namely strategies, processes, tactics, skill sets and technology (Nelson & Berg, 2000). The researcher is of the opinion that all five of these elements are equally important.

There are six types of strategies that make up a customer relationship management strategy: channel, segmentation, pricing, marketing, branding and advertising (Handen, 2000a, p.15). According to Gulycz (2000, p.330), providing and sustaining quality customer relationship management requires the appropriate mix and level of people and skills, structure, service and product offering, market strategy, process and infrastructure and enabling support. Channel, segmentation and pricing have the biggest impact. Segmentation will determine how clients, and therefore the marketing function, are structured. Pricing is the single greatest differentiator in a commodotised market and will determine more than half of the value of that offer. The channel strategy determines how the offer will be conveyed to the customer. It is important to revisit all of these strategies frequently. Difficulties in implementing and evaluating campaigns may be indicative of the need for changes (Handen, 2000a, p.15).

A customer relationship management strategy implementation requires areas of focus, namely: customer strategy, channel and product management strategy, and infrastructure

strategy (Brown, 2000a, pp.xxi-xxii):

- Customer strategy

The organisation needs to determine the key customer segments based on current and future customer needs. Unique customer groups with unique requirements have to be identified. Customers that should be offered unique products and services must be identified. The organisation also needs to determine whether any strategies are in place to ensure customer loyalty and retention, as well as for establishing win-win relationships with customers.

- Channel and product management strategy

Organisations need to determine whether their customers prefer to receive products and services through a particular channel of distribution, such as Internet, fax or mail, as well as the organisation's preferred channel to interface with the client. Organisations also need to determine the costs associated with the use of each channel. They also need to look at which channels are the preferred channels to distribute products and services through to customer segments, and they need to be on the lookout for channel conflicts and determine how they will address them when they arise.

- Infrastructure strategy

The organisation needs to determine what common technology infrastructure is required, as well as what technology will be required to create a learning organisation. They also need to understand what new customer relationship management processes, practices and tools are required, as well as what organisational and people competencies are needed to successfully implement their customer relationship management system.

Brown (2000c, pp.71-78) describes the five pillars for strategic customer care, which can be seen as elements of a customer relationship management strategy (also see Figure 17):

- Profiling customers

One of the basic principles of strategic customer care is that some customers are more valuable than others. Organisations looking at strategic customer care have profiled their customers in the most sophisticated way possible to enable them to focus on those customers that show the most promise and to enable them to evolve the relationship with the customer to levels of mutual respect.

- Segmenting customers into natural groupings

Segmentation is a key practice in the evolution of an organisation. Organisations need to see the need for differentiated service, using a robust segmentation strategy and tools that assist in identifying customers that deserves increased attention. Organisations can rank customers according to a list of critical criteria and score clients against the criteria. Criteria can include for example willingness to become a partner, the organisation's current share of the customer's business, current gross profit achieved from the customer, potential to up-sell or cross-sell, potential of customer to represent a significant share of the organisation's business.

- Researching customers' industries and concerns

Customer loyalty is not enough to ensure growth and success. Organisations should have rich knowledge of their customers' worlds. Technology is used to uncover and respond to customer needs, i.e. customer needs can be anticipated. This means that the customer does not need to look elsewhere for products and services, thereby creating a mutually beneficial relationship.

- Investing in technology to provide solutions to customers

Technology is used to gain information on customer needs. Organisations focus on enterprise applications that share knowledge, react more responsively to their customers and permit the organisation to be more proactive. Customer longevity is a critical success factor. Various technologies are used. Proactive database marketing systems are used to identify those accounts that should be more receptive to specific products and services and that leverage the organisation's information sources. Executive information Systems (EIS) are used to sort data and present it in a simplified manner, allowing the organisation to be more responsive to changes and shifts in market sectors and customer profitability performance. Application tools specifically geared to support the functions of the organisation's sales force are used.

- Managing customers through consistency of treatment

Strategic account management is essential. Individual action plans should be created for each segment, based on information gathered about customers and their unique needs. Gulycz (2000, pp.325-328) is of the opinion that a customer relationship strategy needs to include an assessment of where the organisation is with respect to three areas:

  - Understanding the customer

  This includes issues like who the customers are and what their needs are; customer purchasing patterns; impact of marketing and/or communication efforts; match between services and products and customer need; current levels of customer satisfaction.

  - Understanding the organisation

  This includes issues like people and skills available to satisfy customers; organisational alignment; infrastructure required; creating a market strategy; determining the products and services customers want; implementation of required systems and processes to be more customer responsive; performance measures; proper balance of controls.

  - Commit to continuous improvement in quality service

  This includes establishing customer relationship management champions; embedding customer service beliefs; defining and developing customer expectations and standards, as well as balanced scorecard, customer service surveys, and a complaint management process.

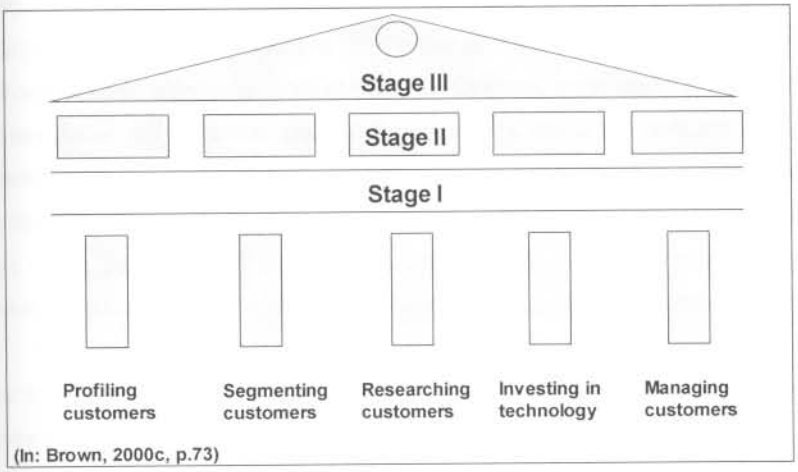


Figure 17. The five pillars of strategic customer care

In general, customer relationship management strategies differ between established and new organisations. The established company may be concerned about retaining customers, deepening existing relationships, and gaining new customers. The new organisation may focus exclusively on building market share by attracting and winning new customers. New companies have a distinct advantage in terms of technology use, as they do not have to consider integration of legacy systems like established organisations have to do (Ernst & Young, 1999d).

Customer relationship management strategies also need to take into account the pros and cons of old versus new customers. "...it is more profitable to keep existing customers than to acquire new ones. During the normal development of a customer relationship, the cost to market and sell to these customers gradually declines, and the potential for gross margin improvement increases" (Anderson & Jacobsen, 2000, p.61). Anderson & Jacobsen (2000, p.62) are of the opinion that in year one of customer acquisition, costs of the acquisition exceed gross profit potential. Over time, depending on the length and benefit of the relationship to both parties, profit exceeds cost. Cost per customer acquired is in fact reduced, as existing customers become advocates and create positive word-of-mouth advertising.

5.3.3.1. Segmentation

Segmentation can be done in a variety of ways, depending on the requirement of the customer.

Historically segmentation focused on a particular product or market, but recently organisations have used it to consider the value of the customer to the organisation. Today organisations are categorising and marketing to customers according to the customers' needs. Developing an accurate idea of those needs could be difficult. Organisations use segmentation effectively, organisations need to develop the right set of formulas for modelling the behaviour of customers. Organisations are often too nebulous and cannot fit customers to categories. This occurs when the organisation relies too heavily on projected behavioural traits, rather than on historical patterns and demographics (Handen, 2000a, p.16).

There are four basic situations in a customer relationship around which segmentation can be done (Anderson & Jacobsen, 2000, p.65):

- Customer is loyal and profitable

The organisation focuses on deepening the relationship, strengthening loyalty and optimising profitability through cross selling and up selling.

- Customer is loyal but unprofitable

The organisation should maintain the relationship and secure loyalty because the customer may still become profitable through cross selling and up selling. If not, the customer should be dropped.

- Customer is profitable but not loyal

The organisation should focus completely on strengthening the relationship and building loyalty.

- Customer is not loyal – and unprofitable

In this case it is worth considering passing the customer on to the competitor.

According to Assabi (2001), customers can be segmented according to their level of loyalty:

- Partner: someone has the relationship of partner.
- Advocate: someone who actively recommends the company to others.
- Supporter: someone who likes the organisation, but supports it passively.
- Client: someone who has done business with the organisation on a repeat basis but may be negative, or at least neutral towards the organisation.
- Purchaser: someone who has done business just once with the organisation.
- Prospect: someone whom you believe may be persuaded to business with the organisation.

In an Ernst & Young survey (Ernst & Young, 1999d), participants indicated that they segmented their customers as follows:

- By products and services (36%).
- By profitability of customers (25%).
- By total assets / income (21%).

The rest of the organisations had specialist segmentations for the remaining 18%. The survey also showed that North American firms place significant emphasis on customer profitability and product / service segmentation, while Europe shows a bias towards product / service segmentation over customer profitability.

Many organisations are providing multi-tiered service levels, providing a base level of customer service to core customers and expanding it in proportion to customer value. Differentiating between classes of customers based on their economic profitability may carry the risk of disenfranchising some customers and being branded elitist. Organisations can maintain fairness by publishing service policy openly and promoting customers to higher levels where it is warranted (Gordon & Roth, 2000, p.32).

Segmentation can be automated, which holds certain advantages, but also disadvantages. Automated segmentation is advantageous because it can answer ad hoc questions very quickly, e.g. number of customers of a certain age who has purchased product X. The disadvantage of automated segmentation is the cost of gathering the information, increased complexity and limited return on investment. The cost of gathering data has to be weighed against the possible profitability of the customer (Bergeron, 2001).

5.3.3.2. Channel strategy

Leading edge organisations are building synergy between channels and capitalise on the advantages of each of the channels to form seamless, efficient organisations. Some organisations also offer customers incentives to move to more cost effective channels (Gordon & Roth, 2000, pp.35-36).

The proliferation of old and new channels is allowing unprecedented customer access, but the same proliferation is simultaneously causing new problems. Channels are often not integrated with other initiatives or with existing channels. The lack of integration results in confusion, inefficiencies and duplication of effort, as the channel structure perpetuates the segregation of information in separate silos. Understanding which channels an organisation's customers will use, how frequently they will use it, and which channels they truly value is the core of any channel management strategy. Once the drivers are understood, the organisation can shape an effective program, for example through making available channels that customers really want with nominal discounts, while perhaps charging nominal fees for channels that are out of the norm and that most customers are indifferent about (Ernst & Young, 1999d).

5.3.3.3. Product / service expansion

In response to growing customer expectations, more companies are expanding their services to a 24-hour, 7 days a week service, supported by knowledgeable, trained people. Fed-Ex, for example, empowers their customers by allowing them to track packages on their website, thereby giving them information as and when required (AT Kearney, 2000a, p.5).

Product based expansion is the tool most commonly used to customise the digital customer experience because it is easy to apply and is generally true across numerous customer segments. An example is a sporting site offering a soccer jersey to a customer. They may also offer shorts, socks, and shoes. Group level customer expansion is more complex than product based expansion. It makes assumptions about individual values based on interactions with similar customers. It is more complex because there has to be an understanding of trends and differences across customer segments. Amazon.com, for example, has purchase circles where users can see what other customers are purchasing, who belongs to similar groups. Individual level expansion is about personalisation and is the most powerful tool to expand the digital customer experience. It is based on what a particular customer is buying. Personalisation should be based on what a customer has bought before, and what they are currently buying (AT Kearney, 2000).

5.3.3.4. Branding

Approaches to brand management will increasingly vary, according to customer loyalty. For brands that engender high loyalty levels, the emphasis will be on building customer relationships, cultivating mystique around the brand, tailoring products and services to customers' life stages, and differentiating the product through added service offerings. Brands that engender low levels of loyalty may face strategic decisions to collaborate with category managers (AT Kearney, 2000a, p.21).

5.3.3.5. Customer relationship management marketing and advertising campaigns

Handen (2000a, pp.9-11) comprehensively describes the anatomy of a customer relationship management / marketing campaign. Handen says that customer relationship management kicks off with the development of a marketing strategy based on factors that affect the organisation, e.g. regulatory, societal, market, and technological factors. Part of the strategy is to determine how customer relationship management decisions will affect marketing behaviour. The organisation then starts segmentation within its current and prospective customer base, using the marketing strategy as a foundation. Segmentation is a way of

characterising groups of customers with common characteristics for the purpose of delivering a targeted marketing message. Once the segmentation has been completed, a campaign will be developed to target one or more of these segments.

In building a customer relationship management strategy, the organisation decides what type of products will be included in the campaign, how it will be priced and promoted, and to whom it will be offered. Marketers also need to consider which sales channels are most appropriate. The campaign is then evaluated in terms of profitability, after which the content of the campaign is created. While the content is being created, the organisation defines which customers will be targeted. The customer database can contain a list of existing customers, customers who have recently defected, prospective customers, customers of affinity partners or a combination of all of these. These customers would have been segmented at this point in time. After selecting the target customers, the campaign is tested on a small number of customers, after which changes are made if required. The final step is roll-out, lead lists are generated and sent to the sales channels, final promotional and advertising material is produced and distributed, etc. The individual channels then execute the campaign and evaluate the responses (positive and negative responses).

There are four categories of customer relationship management campaigns (Handen, 2000a, pp.11-12). The first is win back and save. This is the process of convincing a customer to stay with the organisation at the point they are discontinuing service, or convincing them to rejoin once they have left. A win back campaign is very sensitive to time. Research indicates that a customer is most likely to be won back if contact is made within the first week after defection. Selectivity is also essential for a win back campaign. Leading organisations often filter their win back prospects to exclude customers who have frequently switched or whose usage is low. In recent years, organisations have often ignored customers who have a significant decline in usage or who discontinued some services as long as they remained customers. The organisations assumed that these customers were merely switching products, and there has been no way to disprove the theory. Recent work in this area has shown that many of these consumers are either reducing overall usage or migrating to a competitor's product. Some organisations are now including reduced-usage customers and partial disconnect into their portfolio of win back customers.

The second type of campaign is prospecting (Handen, 2000a, p.12). Prospecting is the effort to win new, first time customers. The three most critical elements of a prospecting campaign are segmentation, selectivity and sources. It is essential to develop an effective needs-based segmentation model that allows the organisation to effectively deliver on target. Selectivity is as important to prospecting as it is to winning back. Needs based segmentation defines what the customer wants from the organisation and profit based segmentation defines how

valuable the customer is and helps the organisation decide how much it is willing to spend to get that customer.

The third type of campaign is loyalty (Handen, 2000a, p.13). This category is the most difficult to measure. The organisation is trying to prevent customers from leaving and uses three essential elements – value based and needs based segmentation and predictive churn models. Value based segmentation helps the organisation to determine how much it is prepared to invest in retaining a customer's loyalty. It is possible that the organisation will invest nothing in customers that are marginally profitable and encourage unprofitable customers to leave (see Figure 18). Once the customer has passed the value based screening, needs segmentation can be used to offer a customised loyalty program. Most of these programs are based on the customer's revenue level and not tailored to their segments, though. As organisations focus more on the needs of individual customers, they find that they are able to achieve the same level of loyalty with less investment.

The fourth type of campaign is cross sell / up sell (Handen, 2000a, p.14). Customer relationship management is, amongst other things, aimed at getting the customer to spend more with an organisation. The organisation would therefore like to identify complimentary offerings that the customer would like. The nature of this complimentary offering would be determined through needs based segmentation, usage patterns, and reactions to previous contacts. Up selling is similar, but instead of offering a complimentary product, the organisation offers an enhanced one. An example is offering ISDN lines instead of normal telephone lines. Cross sell / up sell campaigns are important because the customers targeted already have a relationship with the organisation. When customers accept these offers, they will be more profitable to the organisation.

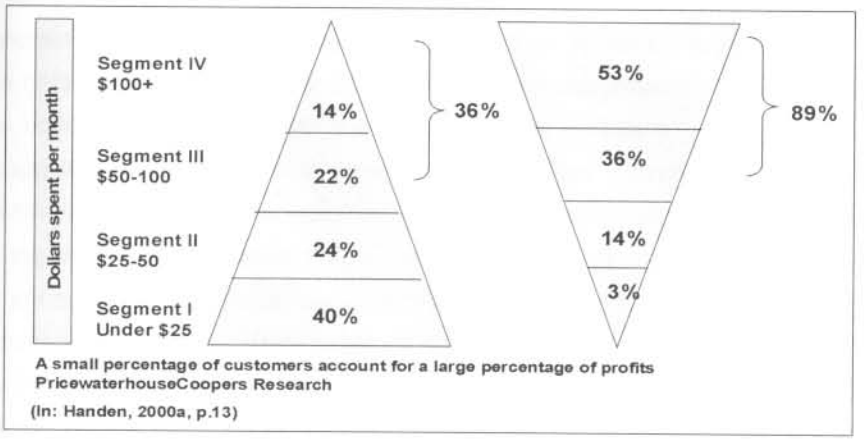


Figure 18. Value-based segmentation

5.3.4. Customer relationship management phases

The customer relationship management process can be divided into three phases:

- Getting to know the customer

Anderson & Jacobsen (2000, p.59) describe this phase as the courtship phase, where the organisation must get to know the customer. In this phase, loyalty is not strong because no relationship exists. The customer deals with products and prices and may easily switch to the competitor if their products and prices are better. A good example is the fierce price war in the mobile phone industry. Brown (2000c, pp.69-70) is of the opinion that in this phase the main focus is on customer acquisition. Attention is given towards building a customer base through the use of technology and initiative specific training to increase the effectiveness of sales people. In this phase companies tend to spend a lot of time on best practice benchmarking, analysing customer care processes and conducting initial customer research.

- Building a relationship with the customer

Anderson & Jacobsen (2000, p.59) describe this phase as the relationship phase. In this phase affection grows and a solid relationship is created. The enterprise engages with customer attitudes before and after the purchase. Loyalty is no longer based on product and price alone – the organisation listens to the customer as he or she gets to know the organisation. Loyalty is no longer seen as fleeting and both parties can see benefit in continuing to grow the relationship. Brown (2000c, pp.69-70) sees this phase as the customer retention phase. The focus now shifts to maximizing the customer relationship. Segmentation starts to serve clients more effectively.

- Maintaining long-standing relationships

Anderson & Jacobsen (2000, p.59) describe this phase as the marriage phase. In this phase a long lasting relationship is mutually agreeable, and both parties become inextricably linked. Loyalty is based on a high degree of satisfaction and the customer will get personally involved in the organisation. The feeling of customer satisfaction increases together with loyalty towards the organisation. This is the beginning of customer dependency. For the relationship to continue both the organisation and the customer must receive a positive benefit, even though disappointments will be experienced by both parties during their journey. Brown (2000c, pp.69-70) is of the opinion that this phase is about strategic customer care. During this stage the organisation realises that it cannot be all things to all people. While most customers are potentially profitable, some hold a more long-term promise than others. The ability to predict who these customers are is a required skill for strategic customer care. During this phase a core level of service is provided for all customers, and a distinctive, optimised level for their best customers. During this phase the organisation is dependent on the business for its success and vice versa.

5.3.5. Types of customer relationships

Ernst & Young (1999d), identifies three types of customer relationships. The first is transaction based relationships, the second is a relationship that includes an ability to provide technical advice in addition to transactions and the third is a full partnership based on extensive knowledge of the customer and an ability to provide transactions, technical advice, and a long term advisory role based on commitment to the customer's life goals. Each of these three types of relationships implies a general class of product offering. The transaction relationship implies a single product, the technical advisory relationship accompanies product and service bundles and partnership involves a theme-based array of products and services that change according to the customer's stage of life. Partnerships are built on a sense of trust. A partnership is highly complex, because it requires the customer to accept the advice given by the advisor. This level of trust is time consuming, intangible and difficult to nurture. An advisory relationship is a two-way street with mutual give and take.

5.3.6. eCRM

Frook (2000) predicts that eCRM systems will be built separately from existing, internal customer relationship systems because organisations cannot afford to come up with the latest Web advance. The author predicts that existing customer relationship management systems and eCRM systems will come together in a single stand-alone platform.

eCRM systems should include the following (Guleri, 2000):

- Multiple functions: sales, service/support and marketing.
- Multiple users: employees, customers, partners and vendors.
- Multiple connection channels: web, e-mail, chat, voice-over IP, phone and fax.
- Enterprise integration.
- Internet-class scalability.
- Actionable business intelligence, a flexible design environment.

The value of eCRM is explained by Guleri (2000): "The next generation of eCRM software is built from the ground up on an Internet-native architecture that provides both dramatic improvements in the speed and ease of deployments and a true blended application for customer care. These eCRM infrastructures can allow organisations to manage all marketing, campaign management, sales and services functions through a single application. All employees, regardless of function, can now work from the same application through tailored interfaces. They have access to the same set of customer information, delivering on the promise of a complete view of the customer. Additionally, because only a Web browser is

required to access the application, these innovative eCRM solutions empower companies to more easily extend the application out to partners, resellers, vendors and customers".

5.3.7. Front office applications

Customer relationship management front office applications fall into three categories:

- Customer service and support applications

These applications, which allow customer service representatives to track and manage customer requests, are the most mature applications. It includes traditional systems like call centre automation, customer care platforms, billing systems, automated e-mail management systems, customer care workflow applications, and POS support and teller automation tools. The ability to offer customer self-help options are emerging as a critical need. Customers are increasingly demanding direct access to their accounts and account support through the Internet. Therefore organisations are increasingly using a new class of front-office software that allows customers to gain access to their accounts, as well as customer support and marketing 24 hours every day of the week.

- Sales force automation

This type of tool helps salespeople manage their prospects and customers. It also enables managers to develop more accurate sales forecasts, which helps to increase the effectiveness of each customer contact.

- Enterprise marketing automation

This software enables marketing departments to generate leads, run marketing campaigns, and determine the campaign's effectiveness. Enterprise marketing automation is often referred to as a campaign management system, a business process that manages the lifecycle of a marketing campaign.

5.3.8. Customer relationship management outsourcing

Organisations have an option to outsource customer relationship management. Boulton, Gupta and Benton (2000, p.304) have a strong view that there is a downside in doing this. "World class companies have realistic expectations from outsourcing. They know that even though a vendor may be sufficiently capable of handling their day-to-day customer care activities, they cannot and should not abdicate customer relationship management to that vendor. They have to maintain a close watch on their customers' needs and expectations and measure how effective the vendor is in fulfilling those expectations. Moreover, in a dynamic business environment, customer needs are apt to change frequently as new products – and hence, new customer care programs – are introduced in the marketplace. Such changes are best managed by vendor in-house managed staff" (Boulton, Gupta & Benton, 2000, p.304).

5.3.9. Industry focuses

Customer relationship management has a different impact on different industries. According to Dull (1999) it has the biggest impact on the communications industry, followed by the chemical industry. It has the least impact on the retail industry.

5.3.10. Customer relationship data

The customer relationship management process depends on data. Concentrating on creating a single, logical, integrated database is the most important technical consideration. Other issues to consider are software for the database, data mining and decision support and campaign management tools, as well as call centre hardware and software. The biggest technology problem for many organisations is the set-up of the databases. Organisations often create multiple separate databases to support data mining, campaign management and call centres. This process is time consuming, expensive and difficult to reconcile (Handen, 2000a, p.16).

The customer data can be limited to demographic information, such as name and address, contact details, and product or service purchase history. This level of detail may be sufficient for some purposes, such as contracting customers who have purchased an older model product of a much improved model. However, the ideal profile may include additional information, including birth date, educational level, family and marital status, special interests, occupation, lifestyle and vacation habits. Such information may be industry specific. The profile may also include information on the customer lifecycle, which parallels the product lifecycle. By adequately profiling the customer lifecycle, the company can pro-actively offer appropriate products and services to its existing customers to extend the company-customer relationship. Dell, for example, can use customer information pro-actively e.g. warning customers of potential problems with software and hardware. An example was when Windows 2000 was launched. Many Dell laptops could not use the operating system without upgrading software drivers to the CD-ROM drives and peripheral hardware. Dell proactively called customers with information on websites that could assist them in solving Windows 2000 related problems, saving customers calls to customer support (Bergeron, 2001).

5.3.11. Relevant quotations from the literature

Adopting a customer relationship management strategy and achieving a customer process is a long-term process, not an event. "Success is a matter of degree as the institution moves along the continuum from a product to a customer orientation" (Faulkner & Gray, 1999). The essence of customer relationship management is captured in the following quotations from the literature:

- "The new electronic age of CRM means putting on the Web all those business functions that have anything to do with customers. These functions include everything from manufacturing to marketing, from sales to payment processing, support and beyond. Savvy business leaders today understand that the Web is the meeting place for customers, business partners, and others who contribute to the enterprise knowledge base" (Lent, 1999).
- "A market-intelligent enterprise...recognises that customer service is the face the company presents to its market. That organisation approaches the function more scientifically, first establishing its belief system, then designing a framework for customer service that reflects the vision the company wants to project. The company designs service so that at each touch point the customer experiences positive and consistent contact. Performance must meet customer expectations. A client who is informed that it may take one or two billing cycles before an address change appears on the bill will more likely accept that time lag graciously than one left guessing how long it will take" (Gordon & Roth, 2000, p.31).
- "The chemical industry is not alone in its enthusiasm for CRM, with analysts predicting explosive growth for CRM applications. AMR Research...forecasts that the total market for CRM will leap from $3.7 billion in 1999 to $16.8 in 2003, and investment house US Bancorp Piper Jaffray largely agrees, estimating that the CRM market will grow at a compounded rate of 96% per year to hit $17 billion in 2003" (Adding value through web-enabled CRM, 2000).

5.4. Conclusion

From the discussion above it is clear that knowledge management is an inherent part of the nature of both eBusiness and customer relationship management (see Figure 19).

5.4.1. The role of knowledge management in eBusiness

Just as knowledge management plays a large role in traditional brick and mortar organisations, it will play a large role in eBusinesses. It will, however, be more important and also requires a different approach and emphasis due to the fact that technology in the eBusiness environment causes the explosion of reach and therefore the explosion of the amount of knowledge available to and owned by an organisation. This makes the complexity of managing knowledge in an eBusiness different to that of a traditional bricks and mortar organisation.

5.4.1.1. Tacit knowledge versus explicit knowledge

Virtual communities are a prime feature of the eBusiness environment. A lot of tacit knowledge exchange takes place in these communities. It is essential that an organisation provides processes and mechanisms through which tacit knowledge created in virtual communities can be captured into explicit knowledge, independent of the physical location of the originator. Refer to section 5.4.1.6. on the impact of virtual communities on knowledge management.

5.4.1.2. Selling of knowledge

In the eBusiness world, knowledge is a commodity like any other and has a price. It differs from other commodities, however, in the fact that when knowledge is sold, both the seller and the buyer own the knowledge. This adds an interesting dynamic to the trading of knowledge and information, as well as to determining the value thereof. A mindset change is required by eBusiness to see that knowledge is a commodity and that selling of knowledge will become the norm.

The selling of knowledge in the eBusiness environment creates an environment for new roles in the knowledge brokering arena. These roles existed in traditional businesses, but their importance has grown in the eBusiness environment, and the reach of knowledge they broker is much bigger than before. Knowledge management organisations or entities can operate in a variety of formats (Hagel & Rayport, 1997b):

- Audience brokers

Audience brokers capture information about users across multiple websites to help advertisers reach the most appropriate audiences. Audience brokers also exist in the physical world, e.g. as print brokers in newspapers and magazines.

- Lead generators

Lead generators aggregate potential customers according to their profiles, preferences, and other criteria, translate this data into product and service related needs, and then direct customers to vendors whose offerings meet those needs. A prime example on the web is Auto-by-Tel, which provides a national network of 2 200 car dealers with consumer requests in exclusive sales territories in return for a fee per lead. Lead generators also exist in the physical world.

- Filters

Filters are likely to base their services on a flat fee per client. The fee will be limited due to customers' limited willingness to pay third parties to screen vendors on their behalf. An example of a filter is CUC International, a purchasing service that pre-selects vendors offering a range of products and services for a membership fee of $59 per annum.

- Agents

Customers will save time and money by using agents that can perform quick and efficient searches for the goods they need and negotiate prices with vendors on their behalf. In return, they will pay vendors a proportion of the savings they make. However, agents may seek to implement a flat fee pricing model initially in an effort to maximise incentives for consumers to purchase through infomediaries.

- Proxies

Proxies take commission on the revenues they generate for their customers by selling customer information to vendors.

- Vendor-oriented infomediaries

Vendor-oriented infomediaries will be paid a commission to help vendors target and reach relevant customers.

5.4.1.2.a. Infomediaries

Infomediaries are knowledge brokers that operate in the eBusiness arena. The role of these infomediaries will become increasingly important as eBusiness is implemented on a wider basis globally.

Infomediaries may offer to screen commercial Internet messages and weed junk e-mail messages. The infomediary may also offer a service based on the use of software agents to search for knowledge on products and services as prespecified by users, or they may use personal agents to provide a personalised knowledge service according to an individual's profile. If a user started to download information on home remodeling, the agent would automatically determine where in the area supplies can be bought, what financing may be required, etc. The infomediary could also assist customers in obtaining more value from vendors, by providing vendors with a customer preference and transaction profile so that the selected vendors can tailor the product and service offering to the client. The infomediary may assist customers in receiving payment from vendors in return for this information. The infomediary would act as intermediary. For example, the infomediary could offer an airline information on frequent fliers across all airlines. The airline would then provide the infomediary with advertising information to be provided to the frequent flyers e.g. through the infomediary's website. The airline would pay a fee according to how the information is delivered to the frequent flyers, e.g. through sending them a message, having them click on an advertisement on the infomediary's website, or getting the frequent flyer to request more information. These fees would eventually be paid to the customer with the infomediary taking a management fee (Hagel & Rayport, 1997b).

Vendor-oriented infomediaries will predominate initially, because of vendors' need to exploit the information provided by the web. As websites proliferate and an oversupply of information becomes imminent, the need will arise for help aggregate customer information across fragmented sites – an important function for audience brokers. Lead generators will also play an important role by helping vendors exploit scale advantages in marketing and by aggregating sales prospects. Customer-oriented infomediaries are likely to surge ahead by providing the necessary tools to maximise the value of the information captured, and through an aggressive marketing campaign to make customers aware of the value of information they hold. When this happens, vendor-oriented infomediaries will find it harder to survive since customer-oriented infomediaries will pre-emptively capture customer information on which they rely, and deliver the services they used to provide more efficiently (Hagel & Rayport, 1997b). Customer-oriented infomediaries will consolidate in future, prompted by economies of scale and increasing return dynamics. There are two main economies of scale to be reached:

- Infomediaries with large customer bases will enjoy a bigger advantage than those with more limited customer bases due to collaborative agent / filtering technology. This technology can identify clusters of customers who display similar needs or interests. When certain customers within a cluster buy a particular product or service, the collaborative agent / filter suggests to other customers within that cluster that they may also like that product or service (Hagel & Rayport, 1997b).
- Consolidation will be driven by insight derived from building a customer profile that encompasses many product categories. Early customer-based infomediaries are likely to emerge with specific product categories, but they will find out that they can deliver more value by expanding those product categories, e.g. when a couple seeks information about baby food they may soon find them in a position where they would trade in a sports car for a family car. In this way, product-focused infomediaries will give way to broad-based infomediaries serving the full range of their customers' product and service needs (Hagel & Rayport, 1997b).

Hagel & Rayport (1997a) conclude with the following prediction on the role of infomediaries: "We suspect that infomediaries will initially specialise in managing information for general, albeit vertical, product categories. We could see some infomediaries helping customers manage only their financial data and others focussing on addressing their travel information. But we might also expect to see such vertical infomediaries evolve over time into broad-based partners with their customers, managing more integrated and comprehensive profiles. That is likely to occur both because customers will find it inconvenient to deal with multiple infomediaries and because infomediaries will be able to offer even more value to their customers by exploiting cross-category information in their profiles".

5.4.1.3. Organisational model impact on knowledge management

The level of complexity of knowledge management implemented by eBusinesses will differ according to the business model chosen by the eBusiness. Most eBusinesses will follow the collaboration model, which implies a high degree of complexity and interdependence. This complexity and interdependence arises due to the spread of the business over geographical boundaries, the integration of organisational supply chains, and the development of products and services across organisational boundaries, amongst others. All of these factors as mentioned require highly sophisticated knowledge management systems to enable processes, empower individuals to act, and to distribute and make knowledge available in a usable format, anytime, anywhere.

5.4.1.4. Technology in eBusiness facilitates knowledge management

The eBusiness is fundamentally built on technology. Information technology is an enabler to share knowledge in a variety of formats for transactional or other purposes. It acts in general as an enabler for knowledge management to allow identification of sources of knowledge, exchanging knowledge in virtual communities within or outside the borders of the eBusiness, and making decisions based on transaction or other historical knowledge. It is, however, important to understand that technology is only an enabler in the managing of knowledge, just like knowledge management processes, people and organisational culture.

5.4.1.5. New, innovative work environments

eBusinesses provide new, innovative environments to work and learn in due to an element of uncertainty and chaos in a changing business environment, where traditional brick and mortar businesses' days are numbered, but the new eBusinesses models have not been exactly defined yet. Currently there is no "standard" eBusiness model. This environment of chaos and uncertainty is the ideal environment for the creation of new ideas and knowledge, and it is therefore important to ensure the retention and capturing of this newly created knowledge for future reference and use, therefore knowledge management becomes essential.

5.4.1.6. Virtual communities and knowledge management

Virtual communities will increasingly have a significant role in eBusinesses. Virtual communities will facilitate knowledge sharing and creation across geographical and organisational boundaries. It will lead to an explosion in both tacit and explicit knowledge. A virtual community made up of people in different countries may, for example, participate in creating a new product or service through the sharing and creation of knowledge on a

technological platform. Such a design or creation can also take place in an industrial marketplace amongst virtual community members in different eBusinesses. Technology allows exchange and sharing of knowledge any time, anywhere in applicable formats. This promotes collaboration in virtual communities. Knowledge will have to be managed in these virtual communities to facilitate the creation, sharing and leveraging thereof.

5.4.1.7. Value proposition of eBusinesses is underpinned by knowledge management

The value proposition of eBusiness is underpinned by knowledge management, as set out below:

- Purchasing power is one of the value propositions of eBusinesses. Purchasing power is created through demand aggregation, which is only possible through an understanding of the market and the demand in the market. For such an understanding, the creation and harvesting of knowledge is essential and therefore knowledge management is required.
- Process efficiency and operational excellence is also achieved through the analysis of knowledge pertaining to processes and operational bottlenecks and understanding how the knowledge can be applied to improve these inefficiencies.
- Supply chain integration requires knowledge on lead times, inventory levels and logistics for integration purposes. This knowledge needs to be integrated and managed on a real-time basis.
- The value proposition of aggregated content is provided through managing knowledge on best practices, benchmarking, etc.
- Market efficiency is achieved through matching of buyers and sellers to improve market and product liquidity. The matching of buyers and sellers is based on an in depth knowledge of a specific market or industry. Knowledge around this market or industry needs to be managed on a continuous basis to enable the matching of buyers and sellers.
- Accelerated market growth can be achieved through the expansion of the customer base through, for example, better branding and utilisation of interactive channels. Both branding and interactive channels have a strong knowledge component to them.
- The last value proposition of eBusinesses is collaboration. Collaboration is based on the creation and sharing of knowledge, therefore knowledge management plays a part in formalising the process of creation and sharing of knowledge, and ensuring the retention of knowledge for future reuse.

5.4.1.8. Branding

Branding is an important factor in creating competitive advantage in the eBusiness arena, due to the fact that branding knowledge is often all that the customer is exposed to due to geographical separation. Branding is built on knowledge of a specific product or company through experience, reputation and advertising. This needs to be managed to ensure a consistent message to the market. It is closely tied to the concept of intangible asset management.

5.4.1.9. The role of knowledge in building and maintaining customer relationship management

The eBusiness that owns the relationship with the customer, is king in the eBusiness world. Customer relationships are built around knowledge of the customer, and therefore the management of this knowledge is crucial. The role of knowledge management in building and maintaining customer relationships is explained in more detail in section 5.4.2 below.

5.4.1.10. Richness / reach trade-off

Technology displaces the richness / reach trade-off. In the eBusiness world it is possible to provide or to obtain rich information and knowledge from a wider variety of sources than in the traditional business environment. eBusiness is not bound by geographical distance due to the use of technology. This implies that eBusinesses may be confronted with large volumes of knowledge that they may need to manage due to the fact that they now play in larger markets, have more competitors and customers, etc.

Their "operating environments" have grown due to this richness / reach trade-off that has been displaced and companies have to implement sound knowledge management systems and procedures to ensure quick adaptation to this scenario where both richness and reach is possible, thereby enabling e.g. new business strategies, new business models, deconstruction of supply chains, optimal use of technology, etc.

5.4.1.11. Workflow changed by electronic marketplaces

If electronic marketplaces change the workflow within a specific environment, e.g. an industry, it is clear that the knowledge flows in these environments will change as well, as knowledge is always tied to business processes. This means that current knowledge management systems and processes may be inadequate and may need to be adapted or new ones may need to be created within the changing environment. It will indeed be a situation of adapt or die, as

eBusinesses are largely knowledge-based organisations and if the required systems are not put into place, the organisation will not be able to survive the changes in knowledge flows.

5.4.2. The role of knowledge management in customer relationship management

Knowledge management is essential in customer relationship management. All relationships with customers are built and managed on the basis of knowledge on the customer and his or her behaviour. It is therefore critical to understand the exact interface between knowledge management and customer relationship management as defined below.

5.4.2.1. Tacit knowledge versus explicit knowledge

In the managing of customer relationships, there is a lot of tacit knowledge exchange. This knowledge is usually crucial to the understanding of the customer and the nature of the relationship. This is due to the fact that context provides value to knowledge, and tacit knowledge is especially dependent of its context to provide value. A typical example is the exchange between a customer and a call centre staff member. To make knowledge useful, a call centre member should capture the context of a customer's complaint or requirement, as it may have a significant impact on future dealings with the customer. If a customer specifies, for example that the delivery of a product has to be made between 5am and 7am in the morning because of specific circumstances at his shop or factory, it should be captured so that if the customer calls again, it is clear why this request was made. The challenge of knowledge management is therefore in creating and managing processes, platforms and mechanisms through which tacit knowledge can be captured and translated into explicit knowledge as effectively as possible.

5.4.2.2. Virtual communities and knowledge management

Virtual communities will increasingly have a significant role in customer relationship management. Virtual communities will facilitate knowledge sharing and creation across geographical boundaries. Virtual communities may facilitate knowledge sharing on specific customer accounts and relationship issues. Through such a virtual community, for example, knowledge can be shared on dealings with branches of the same customer in diverse geographical locations, thereby providing one view of the customer irrespective of geographic boundaries. Knowledge created and shared in these virtual communities need to be managed to ensure retention and leveraging thereof.

5.4.2.3. Customer relationship management is a knowledge based strategy

All the components of a customer relationship management strategy are knowledge based, namely segmentation, pricing, advertising, branding, and marketing. To enable segmentation, pricing, advertising, branding and marketing, the organisation needs to have a good understanding of its customer base, based on knowledge of each of these customers individually. The following major knowledge components need to be created, shared, harvested and leveraged to enable customer relationship management:

- Knowledge on the customer's operating environment, e.g. the industry or industry segment the customer operates in.
- Knowledge on the customer's organisation, including its strategy, its products and services, its people and its size in relation to the market.
- Knowledge on the products and services the organisation has to offer this customer given the customer's operating environment and strategy.
- An understanding of how these products and services will satisfy the customer's needs.
- Knowledge on the values and culture of the customer.

There may be many more knowledge elements in addition to those mentioned above that need to and can be managed, but if these fundamental elements are not managed effectively, the customer relationship cannot be managed to its true potential and it will be impossible to build one view of the customer. All contacts with the customer should be knowledge based, preferably from the source that provides one view of the customer, to ensure continuity and consistency no matter where or when the contact takes place. Customer relationship management can therefore be described as a knowledge based strategy.

5.4.2.4. Knowledge management in the phases of customer relationship management

Knowledge of the customer is required throughout the customer relationship management lifecycle, namely getting to know the customer, building the relationship and maintaining the relationship. Firstly knowledge is the critical input in attracting the customer to the organisation's service. To understand the customer's needs and to portray to the customer how the organisation can fulfil his or her need, knowledge is required of the customer's business per se, and the customer's business environment, e.g. the industry space his or her business operates in. If the organisation does not create, share, harvest and leverage knowledge on customers and the environment that customers move in that trigger their needs, it will be difficult to systematically attract the right customers to the business. Knowledge management is thus of fundamental importance in this stage of the relationship. In

the second stage, once the organisation has the customer and is trying to build the relationship, it is important to build on the knowledge base that the organisation has of customers and their operating environments, thereby creating a single view of the customer. It is crucial to shift the focus from the already identified need to determine as yet unidentified needs to expand the relationship. It is also important to know what makes the customer tick and to ensure that those cues are acted upon in any contact with the customer, and to integrate the knowledge gained from those interactions to enhance a single view of the customer. To enable that, profiles of the customer need to be built, containing knowledge on all contact with the customer. The knowledge base of each customer is thus expanded in this phase. In the last phase, where relationships are maintained, a distinctive customer service must be rendered to the customer. This can be done by fully leveraging the knowledge base built in prior phases and applying it to satisfy the customer's needs and expectations. The knowledge base should act as a "roadmap" for all dealings with the customer. The knowledge base can still grow at this stage as customer expectations grow, but the baseline knowledge should be stable at this point.

5.2.4.5. Obtaining customer knowledge

Obtaining customer knowledge will become increasingly complex, especially in the eBusiness environment. There is an increased tendency towards customers selling knowledge pertaining to their organisations, rather than giving it away for free. This means that knowledge is increasingly being viewed as a commodity.

According to Hagel & Singer (1999), technologies will assist individuals and customers to protect their identities as they move around the Web, thereby preventing organisations from gathering knowledge on them. Examples are:

- Cookie suppressors

Cookie suppressors stop companies from planting information in the computers of people who access their sites, thereby preventing identification and behaviour tracking of these people.

- E-mail filters

E-mail filters prevent users from spam.

- Anonymous payment mechanisms

Anonymous payment mechanisms help people to buy products and services online without revealing the purchaser's identity.

- Reverse cookies

Reverse cookies give online consumers a way to keep track of their own behaviour and to store these related records.

The technologies mentioned above will enable customers to take control over personal knowledge and information, and to decide whether to keep it private or to share it with third parties. Customers will be able to get a more accurate view of their own commercial activities than companies ever could. Customers will base their decision to sell or not to sell this personal information based on what they receive from companies in return (Hagel & Singer, 1999).

The researcher is of the opinion that it will become increasingly difficult and more expensive to build and manage customer relationships in the future, and organisations will have to take a view on whether the cost of purchasing this kind of knowledge can be carried by the organisation. This may change the strategy of customer relationship management over a period of time, as it may lead to a segmentation of a different kind, namely segmenting the customer base into categories of affordability in terms of obtaining knowledge posed against the potential profitability of the customer. This may in the end lead to organisations to having a much smaller, but highly profitable customer base on which the business focuses, with an additional segment of customers that the organisation does business with, but without having the required, in-depth knowledge to build and maintain strong and sustainable customer relationships.

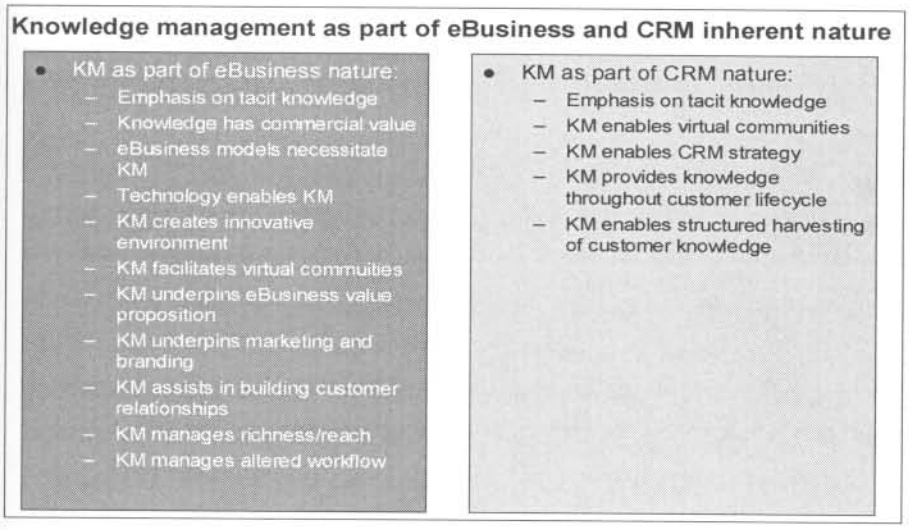


Figure 19. Knowledge management as part of the inherent nature of eBusiness and Customer Relationship Management

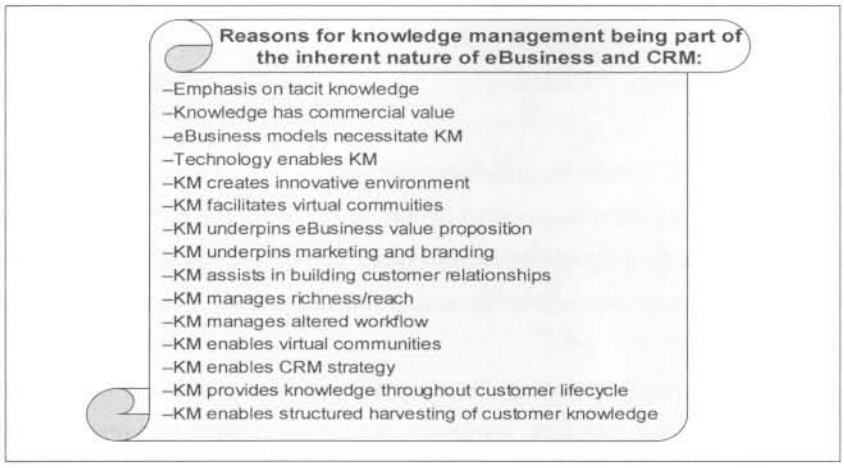


Figure 20. Reasons for knowledge management as part of the inherent nature of eBusiness and Customer Relationship Management