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## INDIVIDUAL ASSIGNMENT COVER SHEET

Please complete **ALL** sections in CAPITAL LETTERS and attach to the front of your assignment.

<b>LECTURER</b>	MRS RENU AGARWAL
<b>ASSIGNMENT NAME</b>	KNOWLEDGE MANAGEMENT AS COMPETITIVE ADVANTAGE AND ITS ROLE IN THE VALUE CHAIN
<b>DUE DATE</b>	24/04/2007
<b>PARTICIPANT'S DETAILS</b>	
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### CERTIFICATION

Please confirm that your assignment meets with **ALL** of the following requirements by ticking each box and signing below. Assignments that do not comply with the following requirements **MAY NOT BE MARKED**.

- ✓ I have read and understood the Unit Outline for this course. This assignment has been prepared and submitted in accordance with the guidelines for preparation and submission of assignments set out there. I understand that failure to meet any of these requirements will lead to a deduction in the marks awarded for this assignment.
- ✓ I have attached the relevant marking criteria sheet for this assignment as provided in the Unit Outline for this course. I have read and understood these marking criteria and understand that these criteria will be applied in the assessment of this assignment.
- ✓ I certify that this assignment is my own work, based on personal study and research, and that all material and sources in the preparation of this assignment have been appropriately acknowledged. I have read and understood the policy on plagiarism set out at <http://www.student/mq.edu.au/plagiarism/> and understand that any student found to be plagiarising will be penalised.
- ✓ I have submitted an electronic version of this assignment via an email attachment sent to the lecturer and understand that a mark for this assignment will not be assigned unless this electronic version is submitted. I understand that the University will hold the electronic version of this assignment, which may be tested now or in the future for evidence of plagiarism.

SIGNATURE     S. Gassner    

DATE   19.4.2007

**BUS803 Strategic Operations Management***Mrs Renu Agarwal***Criteria Used in Marking Individual Written Assignments**

Student Name: \_\_\_\_\_ Student ID: \_\_\_\_\_

	Very High	High	Mod.	Low	Very Low
<b>1. Relevance 30 %</b>					
Topic is clear and relevant throughout	5	4	3	2	1
There is an appropriate, explicitly identified central theme	5	4	3	2	1
Evidence of careful thought about the theme	5	4	3	2	1
Key sub-themes are identified	5	4	3	2	1
Sub-themes are critically and logically analysed	5	4	3	2	1
There is logic and coherent argument	5	4	3	2	1
<b>2. Organisation 20%</b>					
There is an explicit conceptual structure	5	4	3	2	1
Clear statement of theme, aims and conclusion	5	4	3	2	1
Referencing system is consistent & appropriate	5	4	3	2	1
Report is well presented (looks and reads well)	5	4	3	2	1
<b>3. Research 30%</b>					
Evidence of adequate reading	5	4	3	2	1
Relevant concepts are well researched	5	4	3	2	1
Arguments and assertions are supported by evidence/references	5	4	3	2	1
Evidence of understanding of the area	5	4	3	2	1
Application of reading to analysis	5	4	3	2	1
Additional literature researched	5	4	3	2	1
<b>4. Innovation 20%</b>					
Creative synthesis of themes	10	8	6	4	2
Creative argument employed	10	8	6	4	2

TOTAL \_\_\_\_\_ % \_\_\_\_\_ mark

# KNOWLEDGE MANAGEMENT AS COMPETITIVE ADVANTAGE AND ITS ROLE IN THE VALUE CHAIN

## Abstract

The evolution of Value Chain Management is the answer to many changes and challenges in the business world during the past twenty years. Today, virtual organisations compete against each other rather than single firms. At the same time, various techniques are applied in order to boost the Value Chain’s performance. One of those is knowledge management. This paper will show the impact of knowledge management on Value Chains and evaluates if it could be used to create value for all stakeholders.

## Value Chain Management as the answer to more competitive markets

Some twenty years ago, Michael Porter (Porter 1985) first described the idea of Value Chain. It was his thought that a company consists of supporting and primary activities and that the combination of those creates value (referred to as margin, as shown in figure 1).

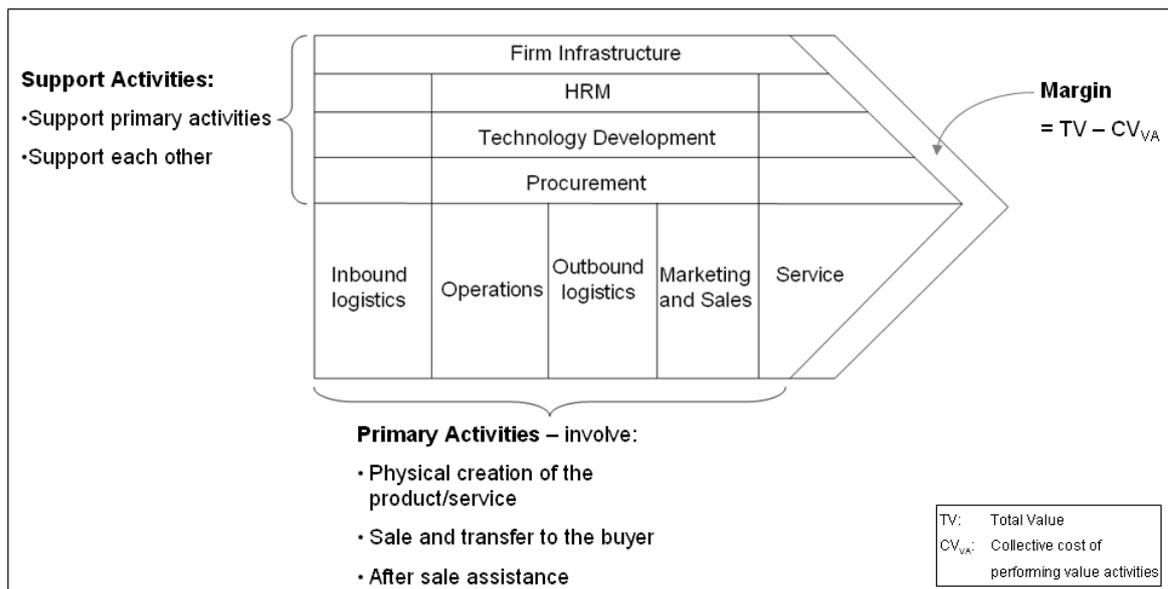


Figure 1: Michael Porter’s Value Chain Model (adopted from Porter 1985)

It was also Michael Porter (Porter 1996) who introduced the concept of competitive advantage and made clear, that in order to achieve such a distinctive competency, it is necessary to either compete at a low price level or through product differentiation. He concludes that this will enable the company to survive through growth and profitability.

Today, those assumptions are well known all over the world. But they seem to be rather outdated. With increasingly competitive markets, globalization of business and the ever growing rate of application of information and communication technology, it is important to emphasize on a Value Chain, inter-firm perspective, rather than an intra-firm perspective.

A definition, of what the term Value Chain exactly means is almost impossible to obtain, since the underlying concept is rather holistic and broad. It could be described as a virtual organisation, within each partner adds the optimal value for the benefit of all stakeholders. Value Chains “identify, produce, deliver and service customer value” (Walters & Rainbird 2007, p. 164). It is the Value Chain approach that combines both, the efficiency (doing things rightly) driven Supply Chain and the importance of effectiveness (doing the right things, e.g. meeting customer’s expectations) in the Demand Chain.

If you take a closer look into the evolving new business models for the “new economy”, you can see three major trends. Firstly, it is predicted that, if not already the case, whole Value Chains will compete against another, rather than just single firms. Secondly, connectivity and process excellence within the Value Chains are major challenges (Walters & Rainbird 2007). Thirdly, although intangible assets account to some 70 to 90 per cent of the value generated by the corporate sector already, intangible assets, such as knowledge, processes, relationships and strategic alliances, technology and brands will become even more important than today (Eustace 2003). In Australia for instance, the labour force used to produce intangible assets almost doubled from 16 per cent in 1971 to some 31 per cent in 1996 (Eustace 2003).

A successful Value Chain is able to describe exactly how it identifies, creates, communicates, delivers and services a distinctive value (as shown in figure 2). Every

5 Knowledge management as competitive advantage and its role in the Value Chain concept that aims to be applied in the Value Chain has to contribute to those five core activities.

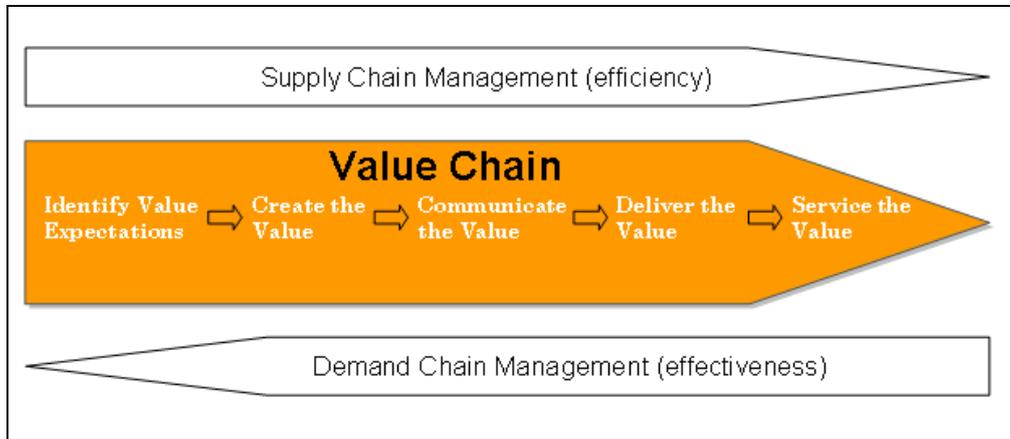


Figure 2: Value Chain as the integration of supply and demand chain (adopted from Walters & Rainbird 2007, p.324)

Concepts such as technology management, process management, relationship management and knowledge management (as shown in figure 3) are considered feasible to create added value (Walters & Rainbird 2007) and therefore boost the Value Chain's performance. The focus in the following will be on knowledge management and its impact on the Value Chain's performance.

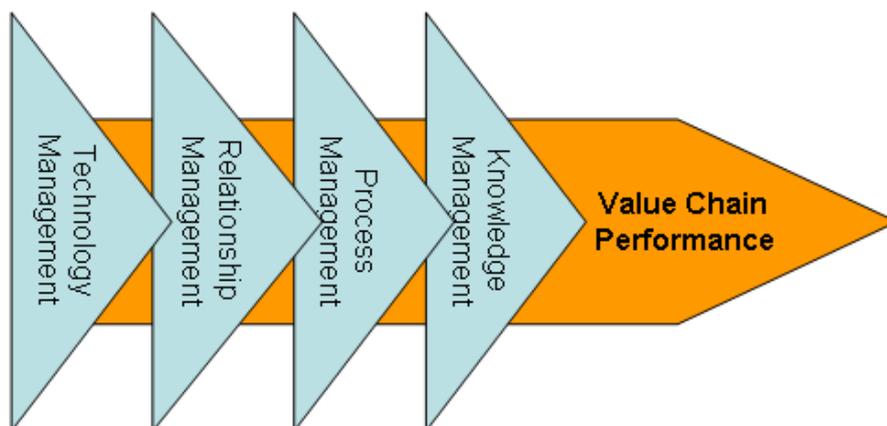


Figure 3: Different concepts empowering the Value Chain (source: own design)

### **Information, knowledge and knowledge management**

Knowledge is much more than just gathered and stored information. It is structured and organised, ready to be applied in the correct situation, in order to take optimal decisions (Walters & Rainbird 2007). That is the reason why the Internet revolutionized the way of doing business much more than the introduction of the Personal Computer did in the 1970s. Whereas the PC was just able to store information, the Internet is now able to connect to numerous sources and link information to achieve better decisions (Picot & Reichwald & Wigand 2003).

Contrary to tangible assets, knowledge is not worn out by usage but increases in value (Snyman & Kruger 2004). Using a Value Chain wide knowledge management, network externalities intensify these effects (Picot & Reichwald & Wigand 2003).

It is the task of knowledge management to “capture, codifying, transfer and sharing both tacit and explicit knowledge” (Maqsood & Walker & Finegan 2007, p.128). Tacit knowledge is “personal, context specific and difficult to communicate” (Sivakumar & Roy 2004, p.242), while explicit knowledge could be easily codified and transmitted. Concerning the Value Chain, tacit knowledge is hence incorporated in processes, corporate culture and employee’s qualifications. Explicit knowledge is readily available in documents, procedures and other forms of tangible assets. It is therefore the objective of knowledge management to make tacit knowledge “explicit enough through the use of technology and soft human-related factors like leadership, vision, strategy and rewards systems” (Maqsood & Walker & Finegan 2007, p.128) in order to produce innovation. It is easy to see that this also imposes a clear threat: With a higher degree of explicit knowledge, imitation is easier and more likely.

It is the nature of the Value Chain approach, that there are two sides of one medal: intra-company on one side and inter-company on the other. Therefore it is useful to introduce the concepts of internal and external knowledge management. Considered an enabler for business strategy, internal knowledge management needs to be aligned with the intra-firm capabilities. It stresses the importance of the knowledge of one’s core competencies and areas of excellence and the ability to continually develop them further. Unless a Value Chain is able to provide an adequate external knowledge management, the links of the chain will break and business cannot operate effectively.

7 Knowledge management as competitive advantage and its role in the Value Chain

To minimize wasteful activities, improve productivity and efficiency, it is vital to coordinate, communicate and share information with all Value Chain partners.

<b>External knowledge</b> Value Chain orientated	- Common goals - Relationship fit - Trust  ▶ Embedded in processes and communication between partners	- Design of the strategic alliance / virtual organisation  ▶ Embedded in contracts, quality agreements, etc.
	<b>Internal knowledge</b> Company orientated	- Corporate culture - Vision - Core values  ▶ Embedded in human capital
	<b>Tacit knowledge</b> Hard to imitate	<b>Explicit knowledge</b> Easy to copy

Figure 4: Various forms of knowledge (source: own design)

It is important to keep in mind, that there are always incentives for parts of the Value Chain to retain information from the knowledge management system. On the one hand, it is not in the commission-hungry salespeople’s interest to share their contacts with others (internal knowledge management), on the other hand, confidentiality is a major concern for both, customers and Value Chain members (external knowledge management) (*Joined-up thinking* 2007).

Snyman and Kruger (2004) derive critical success factors for internal knowledge management. In the following they are applied to both external and internal knowledge management, rather than just to the internal view. Knowledge management therefore

- 1.) must be linked (and aligned) to the strategic direction of the (virtual) organisation.

- 2.) requires an organizational culture that promotes and supports knowledge sharing, collaboration across and among employees and business units (and all members of the Value Chain) and a drive towards innovation.
- 3.) must be enabled by robust business and human processes.
- 4.) needs long-term commitment and a high atmosphere of trust (Maqsood & Walker & Finegan 2007)
- 5.) depends on a compelling technology environment, automation of processes and support of collaboration and transparency

### **Knowledge management and the Value Chain**

Introducing knowledge management might give a Value Chain the capability to distinguish its value proposition, creation and delivery. It might also lead to a non-imitable way how to create value and therefore to a long term, sustainable competitive advantage. The next two sections will show, if this is the case.

### **Knowledge management and innovation**

Throughout the Value Chain literature innovation is considered key when it comes to establishing or retaining a competitive advantage (Snyman & Kruger 2004). It is the goal of every Value Chain to create an effective and efficient “innovation machine” (Snyman & Kruger 2004) to obtain a position in front of the competitors as markets become increasingly mature. Hence it is critical to continually renew the Value Chain’s capabilities and exploit all intangible assets.

Being the main source for innovation, knowledge is becoming essential for every Value Chain. Virtual organisations that are able to combine, coordinate and manage each member’s tangible assets and expertise in a new and distinctive way, will be able to create more value for their customers and gain a competitive advantage. It is stated that by acquiring knowledge (for example about the competitive environment), it might be possible, to even combine both of Porter’s strategies for competitive advantage: low cost and product differentiation (Snyman & Kruger 2004).

However, it is also important to stress the point that acquiring knowledge as the base for possible innovation is time and capital consuming. Nevertheless, knowledge

management is the main source of innovation, providing vital advantages for the Value Chain.

### **Is knowledge management a competitive advantage for the Value Chain?**

In order to create value for the whole Value Chain, knowledge management must be applicable to each of the Value Chain steps. It has to be able to provide solutions on how a company could better identify, create, communicate, deliver and service a distinctive value (Walters & Rainbird 2007).

With the aim of **identifying value expectations**, the market trends and customer demands have to be examined. Knowledge management can provide information for both parts. On the one hand, a Customer Relationship Management (CRM) system contains information about all customer related data, thus giving a clear picture of their expectations. On the other hand, gathered knowledge about the competitive environment (market rules, competitors, costs, etc.) is an important source. Another, quite important advantage of the introduction of knowledge management is, that each member of the Value Chain now knows its core competencies and is only willing to produce the products it has a competitive advantage in.

With the knowledge gathered in the first step, a value chain is now able to **create the value**, its customers really need. The design of products and services as well as the management of all processes, including the manufacturing and service processes can now be aligned to the identified value expectations. This does not only satisfy the demand chain side of the business, but also reduces costs (namely waste) and lead times on the supply chain side. Product innovation, as described in the last section, bears further promising advantages in this part of the Value Chain.

When it comes to **communicating the value**, it is crucial, that a Value Chain uses the right communication channels to both, internal and external recipients. Internal communication partners are all stakeholders, most importantly shareholders and employees. With extensive knowledge about the stakeholder's expectations and the

employees' strength and weaknesses, the Value Chain is able to satisfy the requirements in a more successful way. Providing employees with the exact training they need, empowers the whole Value Chain, leading to a learning organization (Maqsood & Walker & Finegan 2007). When it comes to external communication with customers, resellers, government or media, the gathered and applied knowledge offers clear value, especially during crises. Knowing exactly about the problems that occurred and knowing exactly which and how much information has to be provided, damage on the Value Chain's image could be minimized.

The **value delivery** is crucial, because it establishes an immediate link to costumers. Continuity, consistency, availability, frequency and reliability are major concerns of this Value Chain part (Walters & Rainbird 2007). With the employment of new information technology like RFID those goals could be achieved for physical products. RFID enables the supply chain side to track and locate products and therefore optimize product flows. For the demand chain side it provides up-to-date data and more consistent delivery. Learning from previous problems occurring during the delivery of products and services increases the Value Chain's responsiveness. Innovation in value delivery, most likely process innovation, could state a clear value proposition.

In Walters and Rainbird's (2007) model, **servicing the value** refers to after sales services. Installation, end of life services and product recall programmes are the major issues of this step. By already delivering the products and services (and therefore the value) the end customer expects, and with optimized design and production methods, product recalls and returns should not be of concern anymore. Installation time and assistance could also be reduced due to more user friendly products resulting from steps one and two. Knowledge management provides the Value Chain with information how resources used during value production could be recycled once the expected lifetime of the product is reached. Environmentally friendly products with a higher degree of recyclability could be innovated.

## Conclusion

As shown in the last section, knowledge management is capable of providing huge opportunities for each step of the Value Chain. Being a prerequisite for innovation, knowledge is the most valuable intangible asset that could not be easily copied or imitated, thus leading to a distinctive way of adding value for all stakeholders and a long term competitive advantage. With clear signs of increasing investments in knowledge, many Value Chains secure their future; others that don't might not be able to compete in the "new economy" that has started to evolve.

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