VALUE CHAIN ANALYSIS AND ITS POSITION WITHIN OTHER VALUE-ORIENTED CONCEPTS

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Abstract: *The competitive business environment has rapidly changed during last 20 years. Market place changes have required companies to update and improve their understanding of how to gain and maintain competitive advantage. The aim of the value chain analysis is to help the company position itself against its competitors in the pursuit of sustainable competitive advantage as it offers a starting point for companies to recognize their advent and demands. Since Porter introduced value chain model in 1985, several approaches to this concept have evolved. The purpose of this paper is to compare approaches to the Porter's traditional value chain analysis, while also strengths and weaknesses of all mentioned approaches will be discussed.*

Keywords: *Strategic Planning, Competitive Advantage, Customer Value, Value Chain Analysis, Value Shop, Value Network, Core Competencies, Reversed Value Chain, Balanced Scorecard.*

1. Introduction

Over the years the market place has completely changed as technological and information components of products have increased and market boundaries have been eliminated by internet capabilities, e-commerce and globalization. Moreover, companies face other challenges such as reduced product lifecycles, and increased global market fragmentation [14]. These advancements in technology and market globalization introduced rapid changes in competitive strategy development. Nowadays, companies intend to increase value to their customers as the customer-centric approach is generally required for survival in the global business environment. All companies make decisions that affect their long run competitive position, effectiveness and profitability. Formulating effective strategies for achieving business goals has been, still is, and will continue to be one of the most important concerns of business leaders [8]. The question of strategic success for all companies has shifted during current financial crisis from one of based on profit growth to one of survival. This presents a need to review the meaning of sustainability in an increasingly turbulent environment [1].

Value chain analysis and evaluation offers a starting point for companies to recognize its advent and demands. Value chain analysis is a strategic cost management method that involves the process of decomposing the processes from suppliers to final customers into strategically relevant activities as a way of managing costs [3]. Additionally, segmenting the organization into activities allows an organization to identify the activities that are a source of competitive advantage, activities in which it is equal to competitors and activities in which it is weaker in relation to competitors [9]. Porter introduced this concept as one of the techniques that are useful in understanding and analyzing both intra-organization and inter-organization processes. The purpose is to help the company position itself against its competitors in the pursuit of sustainable competitive advantage.

Current texts for strategic management explain that 25 years after the conception of value chain analysis a variety of conceptual frameworks have been proposed for guiding this process as companies faced increased competition at all levels. Recently, lots of economists have strived to present a working model for evaluating the impact of the value chain on the corporate strategy, and to modify it toward better utilization and management of the components of the value chain under turbulent economic conditions and environment.

The purpose of this paper is to compare several approaches to the basic value chain analysis that have evolved since Porter's value chain model was introduced, while also strengths and weaknesses of all mentioned approaches will be discussed.

2. Theoretical Background

Strategic planning framework provides a means of combining internal data about the company's capabilities with external information about the competitive environment in a manner designed to guide resource allocation. The Porter's value chain approach to strategic planning is also addition to this family of planning frameworks [4].

In the context of value chain framework in this contribution, there is a clear distinction between resources, activities and capabilities and relationship between them. **Resources** are what organizations dispose to perform activities. Tangible resources include resources that can be quantified and observed (physical and financial resource), whereas intangible resources include resources that are deeply fixed in an organization's systems and have been developed over time (brand names, reputation, technological and marketing know-how, human resources). **Activities** include the deployment of tangible and intangible resources and they refer to the processes that have to be coordinated and integrated. Activities enable a company to create and deliver products and services to their customers. The term **capability** refers to the ability of the organization to deploy resources in order to perform activities in relation to both competitors and suppliers [9].

In this rapidly changing global economy, it has become necessary for companies to find and use their **competitive advantages** in order to remain or become competitive and prosperous. The notion of a competitive advantage was mentioned by Porter in 1985 [11], when Porter discussed the basic types of competitive strategies companies can possess. Later, Prahalad and Hamel [12] in 1990 observed the need for companies to develop new advantages that will keep them one step ahead of competitors while searching for ways to differentiate themselves from competitors. In 2000 Hoffman [5] noticed that it is an external focus on competitors that allows a company to recognize and create unique resources, while uniqueness gives a firm the advantage. The advantage is sustained as long as the unique strategy provides added value to customers, and as long as competitors cannot duplicate it.

According to current business environment a focus on delivering customer benefits and value is now more crucial than ever before. Therefore the keystone of competitive advantage lies in **customer value.** Weinstein [17] describes value as "the strategic driver that global companies and small businesses use to differentiate themselves from others in the minds of customers". According to Weinstein only progressive companies that create maximum value for their customers will survive and thrive. What is more, they will be able to carve sustainable competitive advantages for themselves. As a result, to succeed in the 21st century, which is characteristic in rapid changes in product developments and consumer preferences, companies must do a great job of creating customer value.

3. Value Chain Analysis

Value chain analysis is a method for decomposing a company into strategically important activities and understanding their impact on cost behavior and differentiation. It must be emphasized, that the value chain is not a collection of independent activities. Complex interdependencies provide opportunities for optimization and problems of coordination between activities within the chain, with the value chains of buyers and suppliers, and with the value chains of other strategic business units within the same corporation [4].

The competitive advantage is understood by disaggregating the value creation process of the company into discrete activities that contribute to the company's relative cost position and create a basis for differentiation [13].

McIvor [9] considers value chain analysis as a useful approach for identifying resources, activities and analyzing organization capability. It provides a framework for segmenting an organization into a number of activities and identifying organizational capability in these activities. A useful starting point in segmenting the organization into a number of activities is to identify the resources owned by the organization in order to perform activities that create competitive advantage.

The value chain can be applied in a manufacturing context with high levels of service (fast-food restaurants, hotels, retailers) where inputs are processed into outputs right from new product development to after-sales service. Outputs are measured in volume terms while unit cost is an important measure of efficiency.

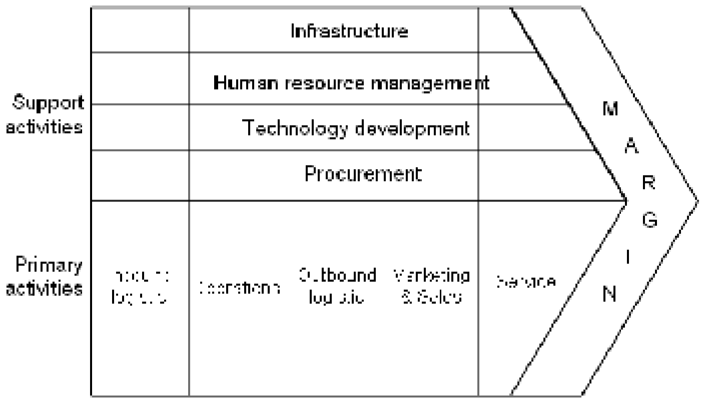

Fig. 1: The value chain diagram (Porter, 1985)

According to Porter [11] the value chain represents an organization as a chain of activities for transforming inputs into outputs that customers value. The process of transforming these inputs into outputs involves primary and support activities (Fig. 1 illustrates the Porter's value chain diagram). Primary activities represent in the value chain the activities of physically creating the product or service and transferring it to the customer as they move from left to right in the value chain. Therefore, **primary activities** are directly involved in creating and adding value for the customer and they include following:

1) inbound logistics (activities relating to receiving, storing and distributing the inputs to the product or service);

2) operations (activities relating to the transformation of inputs into finished products and services);
3) outbound logistics (activities relating to the distribution of finished products and services to customers);
4) marketing and sales (activities related to advertising and promotion, market research and planning);
5) service (activities associated with providing service to enhance or maintain the value of the product).

Performance of the primary activities is supported and improved by a number of **support activities** that include the following:

1) procurement (refers to the activities performed in the purchasing of inputs that are used in the value chain);
2) technology development (includes product and process research and development, equipment design, computer software development);
3) human resource management (involves all the activities relating to the recruitment, training, development and rewarding people throughout the organization);
4) infrastructure (includes the organizational structure, planning, financial controls, and culture designed to support the value chain).

The term “**margin**” means that company generates a profit margin which depends on its ability to manage the linkages within all activities in the value chain. The margin is then the difference between the sum of costs of all activities in the value chain and a price which the customer is willing to pay for product or service. A company must perform a series of activities in order to deliver a low-cost or differentiated product. Then it is obvious that each of the primary and support activities incurs costs and should add value to the product or service in excess of these costs. In addition, the value chain of an organization is not isolated, but it is also a part of a value system. Thus, gaining and sustaining competitive advantage depends upon understanding both the organization’s value chain and how the organization fits within the overall value system.

In conclusion to this part, benefits and difficulties that occur while applying basic value chain model in real conditions must be identified. Value chain is obviously an important tool in corporate strategy as it helps in eliminating redundancy and inefficiencies. It allows making a detailed analysis of company's cost position to obtain the competitive advantage by performing activities in a cost-effective way or better than its competitors. Using this model in order to analyze costs and so to identify company's strengths and weaknesses is much more useful than traditional cost accounting practice. The very simple strength of the value chain also arises even when management tries to ask the right questions and this force managers to think about which activities truly create profits. Thus, this model provides useful insights even if the firm is unable to estimate the precise value of the variables analyzed in the model.

On the other hand, obstacles occur when management strives to identify and measure all the resources required for particular activities. The essential problem is that traditional cost and management accounting data are often used for value chain analysis. It is evident, that value chain analysis is not easy to apply especially for small companies due to difficulties in complex calculating, identifying a value for intermediate products, identifying linkages within activities and so in calculating margins. The value chain is also more concerned with efficiency and with the process of creating and delivering the product rather than innovation-related activities such as new product development. Another weakness includes ignoring the importance of information to maximize value. Traditional value chain doesn’t count with the emergence of information technology and is oriented to physical value chain involving the creation of physical goods. Therefore, while using value chain model, managers should consider analyzing and utilizing information in current information system field to meet the requirement of new economics.

4. Other value-oriented concepts on the basis of value chain analysis

In last 25 years, several approaches to the value chain analysis have evolved since there were difficulties in applying the original value chain framework in practice. The overall value-creating logic of the value chain with its generic categories of activities is valid in all industries. However, there is a serious problem in applying this value chain framework. The primary activity typology of the value chain appears well suited to describing and understanding a traditional manufacturing company, whereas the typology and underlying value creation logic are less suitable to the analysis of activities in a number of service industries. What activities are vital to a given company's competitive advantage is seen as industry dependent. Due to limited usage of analysis in the value chain, Stabell and Fjeldstad [13] have proposed extension of Porter's original value chain framework in alternative value configurations called the **value shop** and the **value network**. These models should have erased drawbacks of the traditional value chain model. In 1990 Prahalad and Hamel [12] first introduced the concept of **core competencies** which was a major evolutionary step following Porter's original value chain model. Also Webb and Gile [16] used the basis of value chain analysis in their research; however, they are convinced that companies start with the wrong end of the value chain. Therefore, they proposed "**reversed value chain**" which indicates the need of starting with the customers first to understand their changing needs. In 1992 a concept of a **Balanced Scorecard** was created by Kaplan and Norton [7]. This concept added strategic non-financial performance measures to traditional financial metrics as it allows managers to describe also intangible assets which can also potentially create value for the organization. All these approaches will be discussed in the following part of this paper.

4.1. Value shop

Stabell and Fjeldstad [13] explain that the value shop framework reflects the nature of professional service type organizations that provides a highly customized product or service to its customers (e.g. medicine, engineering, law, architecture). These organizations sell the talents, skills and abilities or their professional staff, so they add value by solving the problems of clients in a creative and effective manner. While the value chain framework performs a fixed set of activities that enables it to produce a standard product in large numbers, the value shop framework schedules activities and applies resources in a fashion that is dimensioned and appropriate to the needs of the client's problem. What is important – value shops rely on an intensive technology.

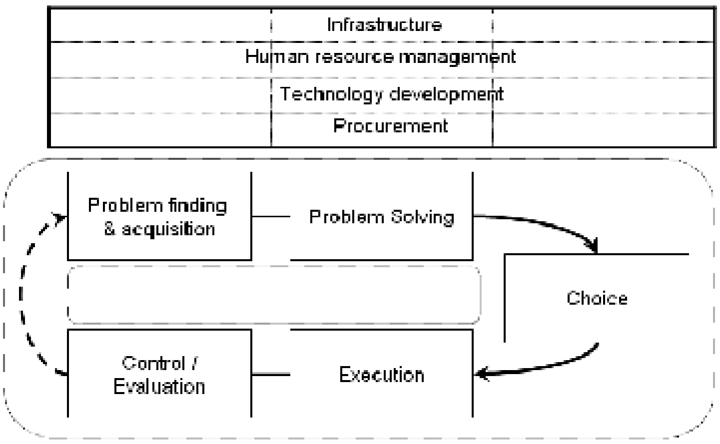

Fig. 2: The value shop model (Stabell, Fjeldstad, 1998)

As was mentioned above, companies that can be modeled as value shops are typically experts and specialists. Therefore, a common terminology for value shop primary activities abstracts focusing on special problem-solving as these are often couched in terms and sequenced in a form that is unique to each specialty and profession. As illustrated in Fig. 2, the primary activities are performed in a cycle and the **support activities** of the value shop are similar to the value chain. However, many of the primary and support activities are performed together. Stabell and Fjeldstad [13] have identified five **primary activities** associated with the value shop:

1) problem finding and acquisition (activities associated with the recording, reviewing, and formulating of the problem to be solved and selecting the approach to solving the problem);
2) problem solving (activities associated with generating and evaluating potential solutions);
3) choice (activities associated with choosing among the potential solutions);
4) execution (activities associated with communicating, organizing and implementing the chosen solution);
5) control and evaluation (activities associated with measuring and evaluating how implementing the chosen solution has solved the problem).

The value shop model is more suitable for professional service type organizations that provide a highly customized product or service to its customers (e.g. medicine, law, architecture) as it has completely different value creation logic than Porter's value chain model. Moreover, the value chain is more concerned with efficiency and with the process of creating and delivering the product whereas the value shop model is more connected to innovation-related activities such as new product development. In companies that can be modeled as value shops an additional strategic positioning option arises as value shop is the degree of incorporation of the problem object, which is a tool for both cost reduction and value creation.

4.2. Value network

Value networks rely on a mediating technology to link customers or users that are interdependent [13]. Huemer [6] explained that "in contrast to the value chain model, the value network model catalogues more accurately the activities of those actors who act as mediators, creating value primarily by connecting clients or customers who are or wish to be interdependent. Such actors rely on a mediating technology to handle and coordinate in standardized ways operations involving multiple clients who are distributed in time and space."

McIvor [9] observed that the value network represents a broker bringing together buyers and sellers and generating revenue and profitability by doing so. Value network-type organizations could be communications companies, retail banks and insurance companies.

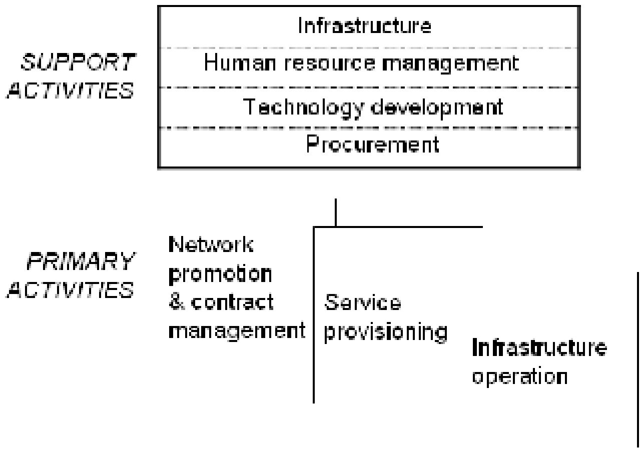

Fig. 3: The value network model (Stabell, Fjeldstad, 1998)

Stabell and Fjelstad [13] identified primary and support activities in the value network framework (see Fig. 3). The **support activities** are similar to those outlined in the value chain for a manufacturing organization. It must be emphasized that there are important linkages between the primary activities. The **primary activities** are:

[1] network promotion and contract management (involves marketing and promoting the network to potential customers or users and to potential providers; selection of customers or users; management and termination of contracts);

[2] service provisioning (includes activities associated with establishing, maintaining and terminating links between customers and billing for value received, while billing requires measuring customers' use of network capacity both in volume and time);

[3] network infrastructure operation (includes activities associated with maintaining and running the physical and information infrastructure).

In contrast to the value chain model, the value network model rely on a mediating technology to link customers or users that are interdependent, and it assesses more exactly the activities of mediators, creating value primarily by connecting interdependent customers. Such actors rely on a mediating technology to handle and coordinate in standardized ways operations involving multiple clients who are distributed in time and space.

4.3. Concept of Core Competencies

Prahalad and Hamel [12] first introduced the concept of core competencies in 1990. This was described as "the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technology". If core competency is about harmonizing streams of technology, it is also about the organization of work and the delivery of value. Busbin et al. [2] say that core competencies could include diverse business skills including flexibility, rapid response, specialized relationships, unique customer service abilities, product creation ability, technological expertise, IT operations, etc.

The concept of core competencies was a major evolutionary step following Porter's original value chain model, which was applied to an individual, vertically integrated, production oriented firm performing all of functions in-house. As the market has evolved, ownership of critical value-adding capabilities as described in the value chain concept is less important. Outsourcing began to be developed and was seen as the tool that allows companies to focus on their core competencies. Questions about what to outsource and what not to outsource were raised. The contribution of core competencies helped answer this question - according to Thompson et al. [15] “a company should generally not perform any value chain activity internally that can be performed more efficiently or effectively by its outside business partners – the chief exception is when a particular activity is strategically crucial and internal control over that activity is deemed essential”. Further, outsourcing came to be used in support of the core competency concept in that outsourcing non-core functions eliminated distractions and forced a firm to concentrate on core functions [2]. Generally, core competencies provide potential access to a wide variety of markets, should make a significant contribution to the perceived customer benefits of the end product, and should be difficult for competitors to imitate.

To sum up, the key idea of this concept is that companies should focus capabilities which are critical to the company's long term growth and may lead to leadership in a range of products or services. In these critical areas of the company the most value is added to its product. The less imitable the core activities are, the more they grow to be the factors for corporate success, and the greater is their economic return. The problem comes in assessing which activities has core competency as the answer depends on how company defines the economic environment and company’s place in it. Therefore, the strategic skill that is critical for success is to figure out what is core competency and what is not. However, focusing on core competencies and reinforcing them continually enables companies to offer more advanced products than those of their competitors.

4.4. Reversed value chain

When companies want to build competitive advantage, most of them start with the high value-added internal activities (core competency) while using traditional business value chain analysis (see Fig. 4). Webb and Gile [16] criticized traditional value chain model focused on core competencies at first step. They claim that companies start with the wrong end of the value chain. Their argument is that “companies focused on their own cores can be blindsided if customer requirements shift in a direction counter to the way core competencies are aligned”.

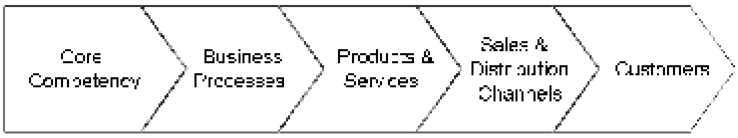

Fig. 4: Traditional value chain (Webb, Gile, 2001)

As a result, they proposed reversed approach to this value chain model - **reversed value chain model**, which starts with the other end of the value chain – with the customer, what is truly important. (see Fig. 5). According to them, “the ability to concentrate on customers and understand their changing needs is the first step in focusing the organization on a winning vision”.

Fig. 5: Reversed value chain (Webb, Gile, 2001)

This model is focused on the customers as well as on the dynamic of a changing market. This concerns especially e-commerce field as Internet and communication technologies have rapidly developed. With these technologies, companies can connect directly with individual customers on a massive scale. This provides narrow linkages between buyers and sellers. By reversing the value chain, lots of companies could gain a significant competitive advantage over their competitors, and may potentially conquer their industries.

4.5. Balanced Scorecard

The Balanced scorecard (BSC) concept was created by R. S. Kaplan and D. P. Norton in 1992 and has been implemented in thousands of corporations and organizations world wide. The BSC is performance management approach that added strategic non-financial performance measures to traditional financial metrics to improve internal and external communications, and monitor organization progress toward its strategic goals. The BSC enables organizations to clarify their vision and strategy and translate them into action. Kaplan and Norton [7] described the innovation of the BSC as: "The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation."

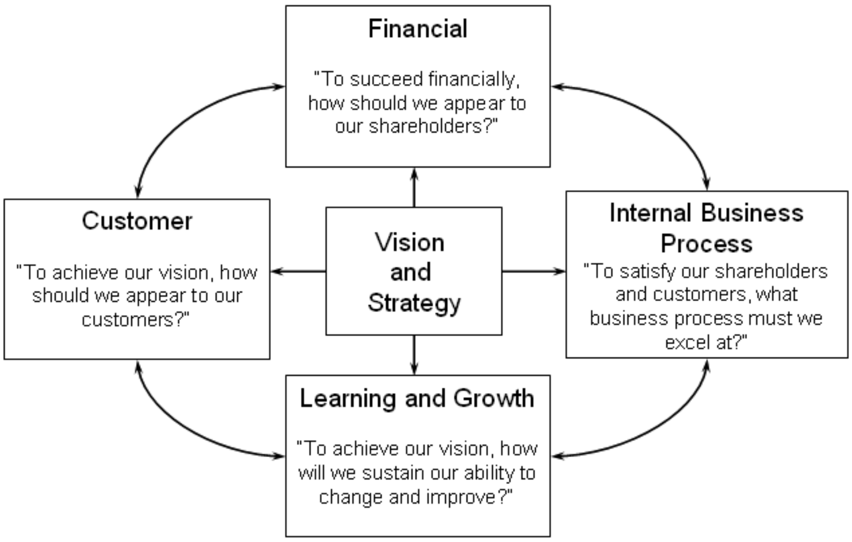

Fig. 6: Balanced Scorecard (Kaplan, Norton, 1996, p. 9)

The BSC translates the organization's strategy into four following **perspectives** (see Fig. 6):

1) financial (includes measures such as operating income, return on capital employed, and economic value added);
2) customer (refers to the importance of customer focus and customer satisfaction in any business);
3) internal business process (allows managers to know how well their business is running, and whether its products and services match to customer requirements);

4) learning & growth (includes employee training and corporate cultural attitudes as people are the main resource while learning and growth are the essential foundation for success of any knowledge-worker organization).

The primary benefit of the BSC is that rather than focusing on a specific (usually financial) area of performance, managers learn to consider the full spectrum of business performance. Defining the outcomes that are desired and identifying the assets and activities required to achieve them is essential for strategic planning.

In the BSC the measurements are derived from a description of the strategy that is called Nevertheless, there are no generally accepted frameworks for describing intangible assets (such as skills, knowledge, workforce, information technology, innovative climate) which can also potentially create value for the organization except the BSC. strategy map. The BSC enables the strategic hypotheses to be described as a set of cause-and-effect relationships that are explicit and testable. Through this logical architecture, managers are able to describe the indirect linkage between the intangible assets (the drivers of strategy) and the tangible results (outcomes). [10]

5. Conclusion

The competitive environment for business has rapidly changed during last 20 years. Market boundaries have been removed or eliminated by internet capabilities, e-commerce, and globalization. Such market place changes have required companies to update and improve their understanding of how to gain and maintain competitive advantage.

After Porter introduced the value chain framework in 80’, a number of approaches to this model and ways of creating value were developed. The value chain model has several obstacles in using as it was, above all, meant to be used especially in manufacturing companies. Thus, researches have hunted for its refinement. Two extensions of value chain model were introduced as a foundation for a theory of value configuring for competitive advantage. The value shop and the value network were introduced as a new view on application of value chain analysis – to erase weaknesses of traditional value chain model. These two expanded configurations are expected to give a better handle on competitive cost and value analyses. But still, all three configurations (value chain, shop and network) have in common a focus in critical value activities, and the distinction between primary and support activities. To sum up these three approaches, the manufacturing part of the organization is best analyzed through the value chain; the new product development area is closely related to the value shop model, and the value network model is suitable for companies relied on mediating technology, such as communications companies, retail banks and insurance companies.

Recent trends in management have been towards the advancement of the concept of core competencies. This concept was a key evolutionary step following value chain which helps companies to identify their core capabilities that enables companies to gain competitive advantage within their competitors.

However, also another view of core competencies was introduced - a reversed value chain that criticized companies starting with core competencies in the value chain. Authors suggest to start with the other end of the value chain – with the customers first as this is really important for organization. According to advances in technology, this model seems to be one of the most important in creating value for customers these days.

The Balanced Scorecard concept also brings another point of view on strategic planning as there is no other generally accepted framework for quantifying intangible assets. Thanks to the BSC concept, managers are able to describe the linkage between the intangible assets and tangible outcomes. Its Internal Business Process perspective could follow the basic value chain model while identifying tools and quantifying assets.

For the further research, there is a challenge for demonstrating usefulness of all these approaches and the way how they handle with costs and competitive advantage in practice.

References:

[1] ANTONIOU, P. H.; LEVITT, C. E.; SCHREIHANS, C. Managing value chain strategy. *Allied Academies International Conference: Proceedings of the Academy of Strategic Management*. 2009, vol. 8, no. 2, p. 8-14.

[2] BUSBIN, J. W.; JOHNSON, J. T.; DECONINCK, J. The Evolution of Sustainable Competitive Advantage: From Value Chain to Modular Outsource Networking. *Competition Forum*. Indiana: 2008, vol. 6, iss. 1, p. 103-108. ISSN 15452581.

[3] CHIVAKA, R. Strategic Cost Management: Value Chain Analysis Approach. *Accountancy SA.* Johannesburg: Aug 2007, p. 24-27. ISSN 02587254.

[4] HERGERT, M.; MORRIS, D. Accounting data for value chain analysis. *Strategic Management Journal*. 1989, vol. 10, no. 2, p. 175-188. ISSN 01432095.

[5] HOFFMAN, N. P. An examination of the sustainable competitive advantage concept: Past, present and future. *Academy of Marketing Science Review.* Alabama: 2000, no. 4, 16 pgs.

[6] HUEMER, L. Supply management: Value Creation, Coordination and Positioning in Supply Relationships. *Long Range Planning.* April 2006, vol. 39, p. 133-153. ISSN 0024-6301.

[7] KAPLAN, R. S.; NORTON, D. P. *The balanced scorecard: translating strategy into action.* Boston: Harvard Business School Press, 1996. 322 p. ISBN 0-87584-651-3.

[8] KEDIA, B.; LAHIRI, S.; LOVVORN, A. Seeking competitive advantage on distant shores. *European Business Forum*. London: 2005, iss. 21, p. 37-40. ISSN 14696460.

[9] MCIVOR, R. *The Outsourcing Process: Strategies for Evaluation and Management*. 1st edition. New York (USA): Cambridge University Press, 2005. 326 p. ISBN 978-0-511-12511-9.

[10] NORTON, D. P. Measuring Value Creation with the Balanced Scorecard. *Balanced Scorecard Report.* Balanced Scorecard Collaborative: 2002, vol. 2, no 3.

[11] PORTER, M. E. *Competitive Advantage: creating and sustaining superior performance.* New York: Free Press, 1985. 557 p. ISBN 0-02-925090-0.

[12] PRAHALAD, C. K.; HAMEL G. The Core Competence of the Corporation. *Harvard Business Review.* Boston: May/Jun 1990, vol. 68, iss. 3, p. 79-91. ISSN 00178012.

[13] STABELL, C. B.; FJELDSTAD, O. D. Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal*. May 1998, vol. 19, no. 5, p. 413–437. ISSN 01432095.

[14] SWAFFORD, P. M.; GHOSH, S.; MURTHY, N. N. A framework for assessing value chain agility. *International Journal of Operations & Production Management*. Bradford: 2006, vol. 26, iss. ½, p. 118-140. ISSN 01443577.

[15] THOMPSON, A. A.; GAMBLE, J. E.; STRICKLAND, A. J. *Strategy: winning in the marketplace: core concepts, analytical tools, cases.* 1st ed. McGraw-Hill, 2003. ISBN 0072847700.

[16] WEBB, J.; GILE, C. Reversing the value chain. *The Journal of Business Strategy*. Boston: May/Apr 2001, vol. 22, iss. 2, p. 13-17. ISSN 02756668.

[17] WEINSTEIN, A.; BARRETT, H. Value Creation in the Business Curriculum: A Tale of Two Courses. *Journal of Education for Business.* Washington: Jul/Aug 2007, vol. 82, iss. 6, p. 329-336. ISSN 08832323.

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