

Intellectual Capital – A Fundamental Change in Economy: A Case Based on Service Industries

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The paper deals with a modern and actual theme concerning the issues of intellectual capital in service industries. Although the field of intellectual capital is relatively young, it is old enough to set the issues that allow a more systematic research of it. We propose a definition of intellectual capital for service industries which includes a static and a dynamic view. We also discuss many different classifications of intellectual capital. By comparing and studying them we could model and propose our own intellectual capital classification for service industries, in our opinion the most useful one. It classifies intellectual capital into four elements: human, structural, non-customer and customer capital. We propose intellectual capital sub-elements, and their components which should facilitate a further study about intellectual capital in service industries.

THE SURGE OF INTELLECTUAL CAPITAL

The concept of intellectual capital is not new. It has been around since the first vendor established a good relationship with a customer (Brooking 1998, 12), but its role has increased by new economy, information technology, and communications. Nowadays it is the primary source of production. In the past a great part of the value was a result of tangible assets included in the financial statements, today the greatest part of the value is created by intellectual capital. That is the reason why companies in all industries invest much more in intellectual capital than in tangible assets. Thus, the value creation process is changing. In the 19th century, when markets were local or national, the communication took days or weeks, work was unskilled or manual, workers were uneducated, stability was a rule, and physical capital was a scarce resource; meanwhile today, when markets are global, electronic highways enable instant communication and rapid competitive responses, work involves the creation, transmission, and manipulation of information and knowledge, and workers are highly educated, the critical capital resource needed for survival changed from tangible physical assets to intellectual capital (Be-

lasco and Stayer 1994). Some service companies (such as tourism, transportation, construction) will probably never have such a great part of intellectual capital in their market capitalization as technological companies, but this does not diminish its importance.

Awareness and an increasing interest in intellectual capital started in the early 1990s with the publication of one of Stewart's articles (Stewart 1991). Till then the concept of intellectual capital has been the subject of many researches by academics and practitioners. The importance of intellectual capital is usually stressed with the difference between market and book value of the company. Lev (2001, 8–9) states that the market-to-book ratio is frequently invoked to motivate the focus of intellectual capital, but market-to-book ratios substantially exceeded 1 also in the 1950s and 1960s. What is new is the unique combination of two related economic forces, which have dramatically changed the structure of corporations and catapulted intellectual capital into the role of the major value driver of business in developed countries (Lev 2001, 9):

- intensified business competition, brought about by the globalization of trade and deregulation in key economic sectors (for example, telecommunications, electricity, transportation, financial services), and
- the advent of information technology, most recently exemplified by the Internet.

Both economic forces are characteristics of service industries. Today's consumers have access to much more information than in the past, the competition on the market is strengthening, and the importance of knowledge is increasing. All these require new ways of doing business that should be focused on intellectual capital. Innovativeness, creativity and knowledge 'stock' increase are fundamental for value creation of the product and consequently for business performance.

THE DEFINITION OF INTELLECTUAL CAPITAL

The literature offers different definitions of intellectual capital such as:

- Intellectual capital is the possession of the knowledge, applied experience, organizational technology, customer relationships and professional skills that provide a competitive edge in the market (Edvinsson and Malone 1997, 44).
- Intellectual capital is the term given to the combined intangible assets which enable the company to function (Brooking 1998, 12).

- Intellectual capital is intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth (Stewart 1999, xx).
- Intellectual capital is quite simply the collection of intangible resources and their flows (Bontis et al. 1999).
- Intellectual capital of the company is the sum of knowledge of its members and practical use of this knowledge (Roos et al. 2000, 19).
- Intellectual capital is knowledge that can be converted into profit (Harrison and Sullivan 2000, 34).
- Intellectual capital is a claim to future benefits that does not have a physical or financial (stock or bond) embodiment (Lev 2001, 5).

It can be derived that intellectual capital has not a unique definition. All the above definitions consider knowledge as an asset of the company. Bontis (Bontis et al. 1999) exposes intellectual capital flows as a dynamic component with which intellectual capital is changing over time. Intellectual capital creates value through knowledge transfers or knowledge flows among employees, processes, technology, culture, management philosophy, customers and other subjects who represent the environment of the company. Therefore, we should clearly underline the dynamic component of intellectual capital. This leads us to make our own definition of intellectual capital as follows: ‘Intellectual capital is an asset, based on all kinds of knowledge, being developed through flows of knowledge among its holders.’

There are many synonyms for intellectual capital such as invisible assets (Itami 1987), core competencies (Hamel and Prahalad 1990), intangible resources (Haanes and Lowendahl 1997), intangible assets (Sveiby 1997). Guthrie and Petty (2000 158) state that intellectual capital is treated as a synonym of intangible assets, but the distinction between them has been always vague. Thus, there is not a universally accepted term and we can use all these terms interchangeably, as Lev (2001) does.

INTELLECTUAL CAPITAL CLASSIFICATIONS

Before any intellectual capital research can be done, researchers should know well what exactly constitutes intellectual capital. Many classifications have been done for this reason. Their collection in this chapter is the result of a long study of the author of this paper (Nemec Rudež 2004). The study enables choosing the most appropriate classification for a spe-

cific research. Since the study has been extensive, only the principal results are presented.

A Two-Side Intellectual Capital Classification

A two-side¹ intellectual capital classification divides intellectual capital into two main elements: human capital and structural capital. All individual capabilities, the knowledge, skill, and experience of the company's employees and managers, are included under the term human capital (Edvinsson and Malone 1997, 34). Structural capital is owned by a company and can be traded. It is used to say that structural capital is knowledge that does not go home at night. Each of these two elements can be further divided. According to Roos et al. (2000), human capital can be divided into competences, attitude to work and intellectual agility. Structural capital usually comprises organizational capital and customer or relationship capital.

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Customer capital includes relationships between a company and its customers and does not include all relationships that a company has with its environment (for example relationships with business partners, media, local community, government, public, financiers etc.). More recent definitions have broadened the category of customer capital to include relationship capital which in effect encompasses the knowledge embedded in all the relationships an organization develops (Bontis et al. 2000, 88). Customer capital is in this way broadened and includes relationships with subjects that we mentioned above. Although there are differences between customer and relationship capital we still find that both terms are used in literature.

A Three-Side Intellectual Capital Classification

Some authors (Saint-Onge 1996; Sveiby 1997; Bontis 1998; Stewart 1999) propose a three-side² intellectual capital classification which divides intellectual capital into human, structural and customer or relationship capital. These authors use different terminology for these concepts.

The three-side intellectual capital classification differs from the two-side classification because it separates customer and structural capital and considers customer capital an equivalent to structural and human capital. It is an interesting idea, suggesting both that the relationship of a company with its customers is distinct from its dealings with employees and strategic partners, and that this relationship is of absolutely central importance to the company's worth (Edvinsson and Malone 1997, 36).

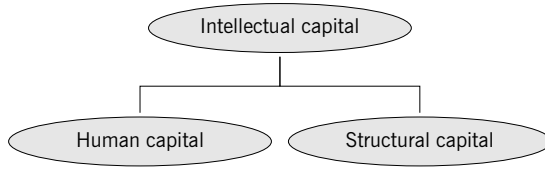


FIGURE 1 A two-side intellectual capital classification

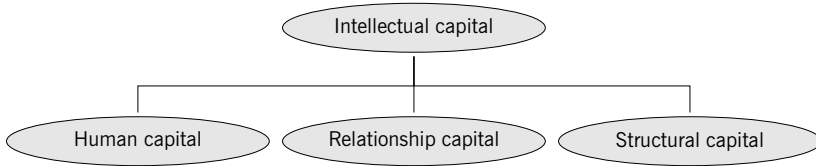


FIGURE 2 A three-side intellectual capital classification

Sveiby (1997) uses different terms for the three elements of intellectual capital: individual competence, internal structure (represented by flows of knowledge within an organization), and external structure (represented by the external flows of knowledge in customer or supplier relationships). This division is equivalent to human, structural and relationship capital. The particularity of Sveiby's classification is the division of employees into two groups: professional and support staff. Professionals include people who are directly involved in client work (people who plan, produce, process, or present the products and solutions) and represent individual competence; meanwhile support staff includes people who are not directly involved in client work (for example accounting, administration, reception) and represent the internal structure.

Other Intellectual Capital Classifications

Sullivan (2000) divides intellectual capital into human capital and intellectual assets. Human capital is tacit by nature and lies in people. He defines human capital as the capabilities of employees, contractors, suppliers, and other company-related people to solve customer problems. For Sullivan human capital includes also relationships with other groups and subjects outside the company. Intellectual assets represent the codified, tangible knowledge owned by a company. This classification is fundamental for extracting value from intellectual capital and consequently for intellectual capital management since human capital requires different management than intellectual assets. This classification is completely

different from the previous ones because it defines structural capital as the support to human capital and it also comprehends physical assets.

Brooking (1998) classifies intellectual capital into four elements. Human centred assets comprise the collective expertise, creative and problem solving capability, leadership, entrepreneurial and management skills embodied by the employees. Market assets are derived from a company beneficial relationship with its market and customers; they comprise the brands, reputation, repeat business, distribution channels, favourable financing and other types of contracts which give a company competitive advantage. Third, intellectual property is an element of property derived from a mind. The fourth element, infrastructure assets, is the skeleton and glue of the organization and provides strength and cohesion between its people and its processes. Infrastructure assets comprise management philosophy, corporate culture, processes, information technology systems, networking systems and financial relations. Roos et al. (2000, 24) state that the four elements of Brooking classification represent different levels of intellectual capital; the 'internal' view of intellectual capital comprehends two parts: infrastructure assets and intellectual property. Roos and co-authors believe that intellectual property does not deserve to be treated separately and that it is a part of the organizational structure.

Haanes and Lowendahl (1997) speak about intangible resources and not about intangible assets or intellectual capital. Their classification is oriented towards intellectual capital ownership and control. Intangible resources are divided into competence, that is the ability to perform a specific task, and relational resources, which comprehend reputation, loyalty and relationships. Lowendahl (1997) divided both further into individual and collective resources, regarding their source that can be in individuals or an organization. Organizational capital or Sveiby's internal structure can be classified by Lowendahl as collective competence.

Classification of Intellectual Capital for Service Industries

The purpose of intellectual capital research can tell us which intellectual capital classification is the most appropriate to use. Sullivan's classification is more useful than others if we consider the intellectual capital management. Brooking classification focuses more on technology companies. Therefore, it is not much useful in traditionally oriented service industries. The use of Lowendahl classification is reasonable when intellectual capital ownership is the object of study. The study of intellectual capital contents in service industries requires two-side or three side intel-

TABLE 1 Intellectual capital classification for service industries

Intellectual capital elements
1. Human capital
2. Structural capital
3. Relationship capital divided into: <ul style="list-style-type: none">• customer capital and• non-customer capital

lectual capital classifications. Since relationships with customers are crucial for service industries (much more than in primary or secondary industry), customer or relationship capital should be separated from structural capital. The characteristic of services is that it is very difficult to repair mistakes or improve the service after it is delivered to the customer. Reliability, courtesy, attentiveness, helpfulness, care, friendliness, understanding the customers, responsiveness, communications, are critical for service industries. Thus, the importance of customer care indicates that the three-part intellectual capital classification is more adequate than the two-side one in service industries.

Some three-side intellectual capital classifications handle with customer capital, others with relationship capital. Their comparison shows that the concept of customer capital is incomplete since it does not contain relationships with other subjects as already mentioned above. Therefore, it is reasonable that the three-side classification considers relationship capital, the element of intellectual capital shaped by relationships with the whole environment. Relationship capital is a broader and more complex concept than customer capital. From the view of value creation, we found necessary to divide relationship capital into two parts:

- customer capital, defined as an asset shaped by relationships between the company and its customers, and
- non-customer capital, defined as an asset shaped by relationships between the company and every subject in its environment but customers.

The study of intellectual capital in service industries should consider the classification of intellectual capital which is presented in table 1.

INTELLECTUAL CAPITAL COMPONENTS
IN SERVICE INDUSTRIES

The aim of this part is to present all the components of intellectual capital in service industries by following the proposed classification. On the

first level of intellectual capital division there are four intellectual capital component elements; on the second level there are what we call intellectual capital component sub-elements. This is necessary to avoid confusion in terminology.

Employees and their value creation constitute human capital. Knowledge and competences of employees are the starting point to develop the entire intellectual capital. Knowledge is defined as everything that employees have learnt; meanwhile competences are talent and skills of employees. The employee's attitude to work depends on his personal characteristics, which can be partly improved with his motivation. This is the reason why a constant search of new ways for motivation and rewarding should go on. Innovativeness of employees is dictated by an even sharper competition, unexpected initiatives of competitors, and a new technology. Innovative companies are rich in intellectual capital, and their culture and philosophy can continually enrich the intangible assets of a company (Brooking 1998, 154). Different employees create different value, so they should be awarded and directed in a different manner. Value creation depends on the kind of people the company has. Fitzenz argues that human capital is unique in that it is the only asset that can be developed (Stovel and Bontis 2002). Human capital development requires employee education and training, which should be systematic and should derive from a classic to flexible and self-organized human capital development, strongly connected with the environment.

Structural capital is, from the company viewpoint, much easier to control than other elements of intellectual capital. On the other hand, this element cannot be developed by itself like human capital, but at the same time it allows the potential of human capital to be exploited. According to Stewart (1999, 132) structural capital should serve two purposes. One is to preserve the recipes that might otherwise be lost; the second is to connect people to data, experts, and expertise – including bodies of knowledge – on a just-in-time basis. Our study about intellectual capital (Nemec Rudež 2004) has found out that there are five intellectual capital sub-elements that can be adapted to specific service industry. They are management philosophy, corporate culture, business processes, information technology, and franchise agreements. Bontis (2002, 30) states that intellectual property and intellectual capital are considered mutually exclusive but the former can be considered an output of the latter. Thus, intellectual property is not a sub-element of structural capital, neither a component of intellectual capital.

Leaders in the era of intellectual capitalism have a new set of responsibilities. According to Belasco and Stayer (1994) at every level in the organization leaders must: (1) transfer ownership for work to those who execute the work, (2) create an environment for ownership in which each person wants to be responsible for his or her own performance, (3) coach the development of individual capability and competence, and (4) learn faster by learning themselves, and by creating the conditions under which every person in the organization is challenged to continually learn faster as well. It is fundamental to develop such management philosophy that stimulates the development of intellectual capital and value creation. Any other kind of management philosophy is not an asset for the company but just an obligation and represents only costs. Management philosophy should focus on customers and not on the management of the company since employees should work first for the satisfaction of customers and only then for the satisfaction of the management. Such management philosophy requires the transfer of power, responsibility, and independence to all employees. We are speaking about empowerment. The second structural capital sub-element, corporate culture, is represented by atmosphere and persuasion of employees, and is reflected in values and norms of the company. Creating the culture where knowledge is valued and shared effectively is one of the most difficult challenges faced in practise (Amidon 2002). Business processes as the sub-element of structural capital should contribute to the quality of service. We distinguish innovative processes as longer processes of value creation, represented in shaping and developing services, and operational and after-sale processes as shorter processes. Information technology as structural capital has also a huge impact on value creation since changes in preferences and customer decisions as well as changes in global competitive environment have created a close relationship between service industries and information technology. A fast development of information technology gives the opportunity to innovative companies to enlarge their role in value creation. The last sub-element of structural capital, franchise agreements, is important in service companies where products can be produced by clearly defined processes and formulas. In this way franchisee agreements enable external growth of the company.

The development of relationship capital is in close interaction with the environment of the company, but the management of human, structural and relationship capital has no value if customer capital, the part of relationship capital, is not being developed. Customer capital is the only

one of all four elements where intellectual capital is transformed into financial results. Thus, customer capital can be seen as the bond between intellectual capital and financial performance. All other intellectual capital elements should be directly or indirectly applied to customers, their needs, wants, and requirements. Human, structural and non-customer capital should be 'conducted' over customer capital. In this manner intellectual capital creates value for customers and consequently financial performance. We divide customer capital into three sub-elements: satisfaction and loyalty of customers, brand and image, and direct distribution channels. Stewart (1999, 241) states that happy customers should exhibit at least one of the three measurable characteristics: loyalty (retention rates), increased business (share-of-wealth), and insusceptibility to the rivals' blandishments (price tolerance). Thus, satisfied customers are very important for service companies. A loyal customer can be defined as a customer who repeats its purchases in the same company. Therefore, it is an asset for the company. The value of a satisfied and loyal customer can be defined as the present value of all purchases that will be made by him or her in the future. Stewart (1999, 77), Brooking (1998) and Sveiby (1997, 12) classify brand as relationship capital; meanwhile others classify it as structural capital. The brand is probably the most obvious market asset that most of us are aware of (Brooking 1998, 20). Brand combined with the image of the company is the sub-element of customer capital because it strengthens the relationships between the company and its customers. Distribution channels are a bit more difficult to classify since there are many different types of them. Our study (Nemec Rudež 2004) divides distribution channels into direct and indirect. Direct ones, like internet, mobile devices, IDTV (interactive digital television) constitute customer capital, meanwhile traditional distribution channels are in fact business collaborations or partnerships and constitute non-customer capital.

Non-customer capital is shaped by many of its sub-elements. Strategic partnerships that constitute one of them are becoming more and more important in service industries. Brooking (1998, 31) states that the ability to collaborate easily is an asset as it enables partners to come together to pursue a business opportunity which they would not have been able to pursue independently. In a rapidly evolving world of uncertainties facing the new millennium, and of all the trends sweeping across the business landscape, few will have more of an impact on companies into the next decade than strategic alliances or partnerships (Elmuti and Kathawala

2001, 215). There are also relationships with the media, local community, government, public, financiers, special interest groups etc. that constitute non-customer capital; each of them refers to the specific kind of subject, group or organization in the environment and constitutes non-customer capital sub-elements.

The review of intellectual capital components, given above, is fundamental for any intellectual capital study or research in service industries. It can be the starting point for the study of the internal structure of intellectual capital in any service industry; the variables for each intellectual capital sub-element should be shaped for a specific service industry. The components enable the measurement of intellectual capital sub-elements and elements, more exactly the level of their development, and consequently the level of the development of intellectual capital as a whole. This is the so called intellectual capital gradual measurement. In the first stage we need intellectual capital variables, specific for a certain service industry. In the second stage, the development of intellectual capital sub-elements is computed. The weighted average of variables is used for this purpose. The number of variables and the weight of each variable can be subject to debate. The development of intellectual capital elements is computed at the same manner as the development of intellectual capital sub-elements. At the end, intellectual capital as a whole is computed; it can be computed for the specific company or industry. In the case of industry, all companies in the industry should collaborate.

CONCLUSION

We have discussed issues that should be considered by intellectual capital researchers in service industries. There is still much to do and learn about this field. The present theoretic discussion is only the starting point for empirical researches about intellectual capital in service industries. Studies about intellectual capital management and managers' consideration of intellectual capital in service industries, the connections and mutual development of intellectual capital components, and their impact on financial performance should be done. A little part of this has been made in the tourism industry in Slovenia (Nemec Rudež 2004), but there is a great need for other empirical studies about intellectual capital in specific service industries. Hopefully, they will be done in the near future.

NOTES

- 1 The term was introduced by the author of this paper.

2 The term was introduced by the author of this paper.

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