INTELLECTUAL CAPITAL

Intellectual capital (IC) concerns, on the one hand, intangible or knowledge-based assets, which are becoming increasingly important in the knowledge economy. On the other hand, from an accounting perspective, IC can be defined as the amount by which the market value of a firm exceeds its financial capital, i.e., physical and financial assets, less liabilities.

Intellectual Capital and knowledge has often been used to describe the same kind of phenomena, however IC has become the popular concept in the so-called intellectual capital reports. These are documents used for reporting – externally or internally – about intellectual capital with the aim of making IC manageable with a strategic perspective.

There might be many reasons for the interest in knowledge and knowledge management in practice, but as a general theme or trend, most authors emphasize that the difference between market value and book value of companies was increasing by the end of the 1990s. At that time the IC concept was introduced in the management vocabulary, and managers and possibly also investors began to take an interest in the reasons for this phenomenon.

Although IC is fundamental for value creation in all types of firms, including firms in the public sector, IC has especially been emphasized in firm with high Book-to-Market ratios (i.e. the value of a company by comparing the book value of a firm to its market value) as IC is defined as the difference book value and market value). This is a characteristic for many service firms although many research and development intensive firms also have high Book-to-Market ratios.

In this entry we describe the components of IC, i.e. human capital and structural capital and the arguments for focusing on IC. Further, a strategic framework for identifying, managing and reporting on IC is presented. This framework is based on a narrative expression of the company's ambition to increase value form its services, a set of management challenges that identify how knowledge resources should be developed or strengthened, and finally a set of indicators that makes IC visible and manageable.

Elements of Intellectual Capital

In general IC is 'composed' of intangibles, typically classified as human capital, customer capital, structural capital, as well as their interrelationships. Figure 1 shows the model used in most intellectual capital research. Although the actual meaning of the elements and the way in which they interrelate vary, most applications of IC adopt a similar structuring of the components of IC.

[Insert Intellectual Capital Figure 1 about here]

Figure 1. The breakdown of market value into financial and intellectual capital

The categories

Human capital is the value that the employees of an organization provide through the application of skills, competencies, know-how and expertise. Further, employee's capabilities and motivation to act are the objects of human capital. As human capital is inherent in people, it cannot be owned by an organization, and it is often emphasized that human capital leave an organization when people leave, even when employees go home at night.

The *structural capital* includes systems, concepts, processes and databases, patents, procedures and knowledge that do not go home at night. As shown in figure 1 structural capital can be classified into customer and organizational capital. *Customer capital*, or more generally relationship capital, consists of customers, brands, image, supplier relationships etc. if the more general concept relationship capital is used. *Organizational capital* comprises process and innovation capital where *process capital* includes the techniques and procedures. Finally, *innovation capital* includes *intellectual property* such as patents, trademarks, and copyrights. *Intangible assets* are the residual component.

Leveraging IC by combining the categories

Skandia, a Swedish insurance company, was among the first to consider IC as a product of human and structural capital. According to Skandia, intellectual capital is the result of relations between these components, which means that human capital is leveraged by structural capital. Here, the relationship is at stake, and therefore the assets found in human and structural capital are only metaphorically separate.

It has often been said that the importance of IC lies in the fact that it can help 'explain' the difference between the market and book values of a company. This explanation should not be taken too literally. Figure 1 illustrates the breakdown of market value into financial and intellectual capital, and IC into its components. The breakdown has appeal because it can be expressed, as shown in the figure. However there is no simple mathematical way in which the objects can be added to obtain a value. Rather, the IC model should be seen as a template for more detailed analysis.

Why Intellectual Capital?

Some companies have also published IC reports to communicate the development of their knowledge resources and competencies. An intellectual capital report expresses links in the firm's activities to develop IC and monitors the development of the IC components. Such firms that have worked explicitly with IC in their strategies and management processes cite numerous reasons for its importance and potential as a management tool.

Managing knowledge based resources

Intellectual capital is a way of managing a company's knowledge resources, and, through improved management of its knowledge resources, creating increased value. The process of identifying IC includes both designing a knowledge management strategy and identifying initiatives to implement this strategy.

In particular, this takes a starting point in the company's mission and visions, and it must be reflected in the methods that make the management of knowledge resources consistent. The IC categories help to focus on what the company does to develop its knowledge resources, and on the results of these activities, such as satisfied employees and customers, increased sales of new products, or a consistent basis for making processes and activities work. In short: Making IC measurable makes it manageable.

Developing the culture

Knowledge sharing presumes a motivation, which does not come automatically. A knowledge sharing culture involves the exchange of experiences as well as the ability to identify and cooperate with people in the organization who have complementary competencies. Many companies have used the intellectual capital statements to support the development of a knowledge-sharing culture and a common identity. This may be particularly relevant in connection with a merger or with generational change or rapid growth.

However, developing a knowledge sharing culture, faces both motivational and technological barriers. It demands leadership to take action both to outline the knowledge management strategy and to implement levers to reduce barriers to effective developing of firms knowledge resources.

Overcoming organizational barriers

Motivational barriers that employees need to overcome include *hoarding* – knowingly or unknowingly of resources, *unwillingness to share* knowledge because of fear of losing status and power, internal competition, narrow incentives or general busyness and the *not-invented-here* syndrome. Again fear of showing vulnerability, self-reliance, status differences across the organization and isolated sub cultures might be knowingly or unknowingly reasons develop IC.

Further, technological barriers such as search problems – problems finding the right information or the right persons – and transfer problems, e.g. tacit knowledge, no common frame of reference or weak ties might also hinder knowledge transfer from one person to another or from one place to another. By focusing on the strategic importance or developing knowledge resources and the complex interplay between various categories of resources and organizational factors the management of IC has in many firm been part of more general change management agenda.

Attracting and retaining employees

Working with intellectual capital, especially when IC reports are prepared, companies focus on the employees. Many companies have focused their work with IC on attracting qualified employees. Potential employees may find a company with an intellectual capital statement interesting since it documents that the company takes intellectual capital, including employees and competence development, seriously. Experience shows that this effect is, for example, reflected in the fact that the company receives more unsolicited job applications and that such applicants are both more qualified and fit the company profile better.

Communication with customers

Finally, an IC focus, and again especially when information on IC is made public, may also lead to better communication with the company's customers. It can give them a better idea of what the company is doing, thereby creating a better basis for dialogue. Some companies have also gained contact to new customers and increased business with existing customers through the intellectual capital statement, since it presents a clear account of what the company stands for and where it is going.

The strategic management of IC

Changes in the nature of value creation have made new reporting metrics and frameworks for IC necessary. This has led governments, trade organizations, and the European Commission to draw up guidelines and reports discussing best practices. In some, mainly Scandinavian countries, firms have actually published intellectual capital statements.

One of the characteristics of knowledge society firms is their ambition to develop performance measurement systems and practices that emphasize the management of intangibles, which traditionally are said not to be a central management concern. Not only firms, but also the capital market, recognize the need to develop such insights for management and reporting purposes. The challenge is to develop, communicate, monitor, and evaluate company knowledge based strategies.

The IC reporting framework

IC reports are documents which make knowledge management a general management activity and not just a matter for the individual or middle manager. Knowledge becomes related to general activities, which concerns everybody, and intellectual capital statement circulates ideas about how knowledge should be developed, anchored and used.

Often, a company has an unclear idea of what the IC statement must contain, because it does not have a clear knowledge-management strategy. For many companies, this strategic analysis is the most important motivation for, and an integrated part of, working with IC. The strategic management of IC consists of an analytic process resulting in the company's knowledge-management strategy, e.g., stating the company's need for knowledge management as well as the initiatives required to strengthen the company's intellectual capital.

This strategy can be seen as consisting of four elements which together define the company's knowledge management in the sense that they link users of the company's goods or services with the company's need for knowledge resources.

The four components

One element is a *knowledge narrative*, which expresses the company's ambition to increase the value a user obtains from its goods or services. The knowledge narrative describes the types of knowledge resources that are required to create the use value the company wants to supply. This ambition establishes a narrative because it merges the user's and the company's knowledge resources into a whole. The narrative is held together by such words as 'because', 'therefore' and 'in order to'. In this way, the knowledge narrative argues for how knowledge is supposed to lead to improvements for the user.

A second element is a set of *management challenges*. These identify the knowledge resources that need to be strengthened through in-house development or outsourcing. This can be achieved by intensifying co-operation with innovative customers, by developing greater expertise in specific fields, or by acquiring greater insight into the company's control processes. Management challenges tend not to change every year, since they are closely linked to the knowledge narrative, and thus also to the individual knowledge resources within the company.

A third element is a set of *initiatives* to improve knowledge management, i.e., how to compose, and develop intellectual capital, as well as how to monitor the effects of the initiatives. This could, for example, be achieved by investing in IT, hiring more engineers, or training employees in company processes and procedures. When comparing initiatives between years they most often have a degree of stability.

A fourth element is a set of *indicators* which show whether initiatives have been launched or whether management challenges are being met. Indicators make initiatives visible by making them measurable. It is therefore possible to determine whether an initiative has been started and what effect it has had. Some indicators are directly related to specific initiatives, such as 'training days' or 'amounts invested in IT'. Others are related only indirectly to specific initiatives, such as 'number of R&D consultants' or 'newly appointed software engineers'.

Combining the four elements

The four elements are interrelated. Their relevance only becomes clear when seen in the context of each other. With indicators and the knowledge narrative both become more understandable. With management challenges and efforts, both are more understandable. Therefore, with all four elements, all four elements have been given definitions that make the whole a connected proposition. The elements work together.

By focusing the strategy on the components of IC, knowledge is translated into manageable objects on which action can be taken, and the intellectual capital statement can be seen as a tool for systematically keeping an eye on how the company combines, develops, and uses its IC. Thus, while the focus is still on employees and their knowledge, the knowledge-management strategy must specify how intellectual capital should create value in interaction with other resources, such as customers, processes, and technology.

Reporting IC

The publication of the intellectual capital statement is a communication activity that not only reflects the company's strategy for knowledge management and knowledge management activities – both internally and to external partners – but also documents whether there actually are actions and activities behind the words. By virtue of this communication, a number of obligations develop between the company's management and current and potential employees, as well as current or potential customers. Further, the communication helps to adjust expectations, and it motivates employees, customers, and other stakeholders to get involved in the company's development.

Finally, it should be noted that the preparation of the intellectual capital statement is an essential part of the company's realization of its knowledge management strategy. The publication of the intellectual capital statement involves a communication activity, which not only reflects the company's knowledge management principles – both internally and to external partners – but also documents whether there are actions and activities to support it.

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See also Balanced Scorecard; Critical Success Factors; Knowledge Management; Performance Management; Service Management

FURTHER READINGS

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