THE CHOICE OF APPROPRIATE TOOLS FOR MEASURING INTELLECTUAL CAPITAL AS A DETERMINANT OF SUCCESS WITH SPECIAL EMPHASIS ON THE TEXTILE AND CLOTHING MARKET

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Abstract:

The observation of the market indicates that material assets as determining the value of the company and as the determining factors of its success are increasingly becoming less important. On the other hand, the factor, whose share has an increasing significance in the success of the organisation, is the ability to utilise intangible resources, meaning the intellectual capital.
The aim of the current article is to present the essence of the intellectual capital and different instruments of estimating its level. There was also an attempt made to measure the intellectual capital with the use of one of the available methods. The companies from textile-clothing sector quoted at the Warsaw Stock Exchange were selected as a target group.

Keywords:

Intellectual capital, methods of valuation, textile-clothing market

Introduction

A modern market, which is shaped by globalisation, strong competition and growing requirements of consumers, places in a difficult situation business entities operating within it. It is not easy to determine the success factors which contribute to achieving persistent competitive advantage. The sources of success, which were commonly known till recently, such as products, technological processes or financial resources, are no longer priorities in management. A growing significance is given to the ability of managing intangible goods. They create potential for the companies, which are dependent mainly on the abilities and capabilities of employees, using unique organisational and managerial solutions, possessing rights to intellectual properties and relations with external partners (clients, suppliers, etc). These aspects are the main components of intellectual capital (IC) which, if effectively and capably used, provide the enterprise with huge competitive advantages and contribute to building its success.

The essence of IC

In the literature of the subject one can find many definitions concerning IC, despite the fact that it is a new concept functioning for only a dozen years. However, none of them is considered as a proper one and well established. It results from the complexity of IC and the necessity of taking into consideration more and more new elements, which have to be taken into account while building a knowledge-based strategy.

The most often cited definition of IC is the definition of Edvinsson and Malone who claim that IC is knowledge, experience, organisational technology, relations with clients and personal skills, which contribute to the success of the company [3]. According to another precursor of this concept, Steward, IC is the sum of knowledge which is in the company and it is its possession and skilled utilisation of it that creates the competitive advantage [8].

A similar concept is presented by Bratnicki who reckons that the IC is the sum of knowledge possessed by people connected with a given enterprise and can in a practical way process this knowledge into components creating the value of the company [2]. Sveiby, a creator of one of the methods of measuring the IC, says that this concept is strictly connected with knowledge [3]. On the other hand, Booth presents an opinion that IC involves the abilities to process new ideas into unique products and services that distinguish the company in the market [1].

While analysing the definitions presented above, one can notice that the authors always connect IC with knowledge, which is not taken into consideration by many companies during the development of their strategies.

To sum up the review of the concepts connected with IC presented above, it certainly has to be postulated that modern management must be connected with utilising and managing knowledge, not only referring to the functioning of a unit, but to the development of the whole system of the economic policy [5].

Knowledge-based management where employees' skills and experience are treated as an organisation's key asset should become a paradigm for entrepreneurs. A reference to the theories developed by the most prominent management expert, Professor Peter Drucker, is very relevant at this point, according to whom productive use of knowledge is at the core of modern management [11]. Because management concerns humans rather than techniques or processes, enterprises need to modify their entire philosophy of action and lay stress on

the implementation of IC strategies. Figure 1 shows asset categories that every enterprise has. Because the priority today is given to the building of a "knowledge-based economy", it must be assumed that intangible assets have higher value for an organisation and that they bring measureable benefits, when managed competently [4].

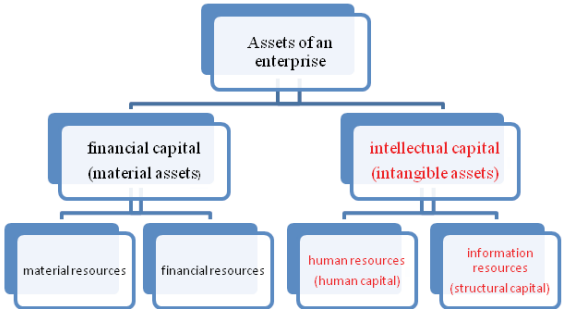

Figure 1. Enterprise assets
Source: own elaboration on the basis of L. Edvinsson, M. S. Malone, Kapitał intelektualny, Ed. PWN, Warsaw 2001 [3]

Obviously, the awareness of the necessity of using intangible assets as main sources giving competitive advantage is differentiated, often depending on the size of a company or branch. However, a shifting of the emphasis can be more and more often noticed, from an earlier optimising of only material resources to the contemporary direction of effective utilisation of intangible assets, or at least a skilful balancing of both [6].

Review of the methods of measuring the IC

Due to the complexity of the term 'IC' there are many methods of measuring it. In the literature of the subject one can find descriptions of different models that are used in an attempt to estimate IC. The diversity of these methods results from the fact that intangible values are hard to define, and that is why measuring their value is not simple.

One of the most common and comprehensive elaborations concerning the review of measuring methods is the selection proposed by a Swedish professor of knowledge management – Karl Sveiby [7]. The review of the instruments helpful in estimating IC is presented in Table 1.

The selection of a proper method of measuring the IC depends on many factors. Above all, it depends on knowledge and skills of the person performing the measuring, available data and the goal of performing the measurement.

Measurement of IC in selected companies from textile-clothing sector: results of own research

The research was aimed at analysing the level of IC of Polish companies from the textile-clothing sector quoted on the Warsaw Stock Exchange in the years 2009–2012. In order to select the specific companies, data from Polish financial and business portal www.money.pl [12] were used. Only those companies of which stocks were quoted on the Warsaw Stock Exchange in all years under consideration were taken into consideration. Such criteria were fulfilled by 13 companies from the analysed market.

One of the measuring methods, based on market capitalisation, was used for examining the level of IC, which enabled to determine the difference between the book value of the company and its real value [9]. Market value to book value indicator was used. The market value of the company was calculated as a product of the number of shares of a given company and the closing price of one share at the end of each of the years under consideration. The book value was obtained from the yearly reports published by the companies.

The second indicator, with the aid of which the level of IC was determined in the examined companies, was the ratio of IC to the market value of the respective investigated objects, which was expressed in percent. Due to using this indicator, it was possible to determine which of the investigated companies has the highest share of intangible values in generating its market value [7]. The level of IC was determined for companies from the textile-clothing sector quoted on the Warsaw Stock Exchange. The list of the companies is given in Table 2.

Using the research methods presented above, the comparison of both indicators was obtained for the investigated companies from textile-clothing sector.

Based on the obtained results, it can be concluded that:

- In case of majority of the investigated companies in the examined period of time, there was a decrease of the percentage share of IC in the market value of the company. Certainly, the reason for such a situation was the branch determinants. Traditional textile-clothing sector still senses the effects of economic crisis, which is translated into the level of IC seen in the results of research.

- Exceptions also can be noticed. One of them is unarguably Próchnik company which in the last year has recorded a significant growth of IC value.

- The percentage share of IC in the market value in the respective companies was quite differentiated at the level of a few to several dozen percent. In many companies it was negative due to higher level of book value than the market value.

- In case of many of the investigated companies, the level of their book value was higher than that of their market value, which may indicate that there are no intangible assets in the company that could be equated with the IC.

Generally, the presented results of research denote a poor condition of the companies from the textile-clothing sector. It is a branch for which the intangible values are of secondary significance. Obtaining lasting comparative advantage can in this case be very hard if the companies do not change their operational strategy, by changing the management model to such in which IC will have priority significance. It can also

Table 1. Key methods and indicators of measuring the intellectual capital (IC)

No.	Category of the measuring methods of the IC	Essence of the method	Tools belonging to the given category
1.	Methods based on market capitalisation (Market Capitalisation Methods)	They are based on indicating the differences between the book value and a real value of a company, which allows to estimate the IC value	Market value indicator in relation to book value
			Tobin's q indicator
2.	Methods based on Return on Assets	They are based on dividing average profits before taxation of companies' sales for a specific period of time by the average value of intangible assets in that period. The obtained result is later compared with the average obtained in the analysed sector. The product of the obtained difference and the average value of intangible assets determines the average profits from intangible assets. The value of IC will be obtained by dividing those profits by an average cost of capital	EVA™ – Economic Value Added
			Calculated Intangible Value
			Knowledge Capital Earnings
			VAIC™ – Value Added Intellectual Coefficient
			Human Resources Costing and Accounting
3.	Methods of direct measurement of IC	They are based on estimating the money value of respective elements of the IC	Technology Broker Model
			Citation-Weighted Patents
			IVM™ Model – Inclusive Valuation Methodology
			IAC Model – Intangible Assets Valuation
			Total Value Creation Model – analysis of a set of measures showing the results of the company in the face of expectations
4.	Scorecard Methods	They enable to identify and measure IC with the aid of intangible indicators	Balance Scorecard – analysis of perspectives of: finances, clients, inner processes and innovations, and learning
			Skandia Navigator™ – business planning model
			Intangible Assets Monitor – method of measuring intangible assets
			IC – Rating™ – analysis of perspectives of effectiveness, risk and recovery, and development

Source: own elaboration on the basis of: Sopińska A., Wiedza jako strategiczny zasób przedsiębiorstwa, Analiza i pomiar kapitału intelektualnego przedsiębiorstwa, Wyd. Szkoła Główna handlowa, Warszawa 2010 oraz Stańczyk J., Kryński Z., Metody pomiaru wartości kapitału intelektualnego przedsiębiorstwa, Zeszyty Uniwersytetu Rzeszowskiego, Nr 10/2007

be concluded that such weak results are caused by lack of introducing innovations in the companies, which could influence the increase of IC. Perhaps the management should take into consideration a possibility of cooperation with the research–development sphere to introduce to their companies modern technologies and solutions through commercialisation.

Certainly, the presented method of measuring the IC has some disadvantages, which may influence the results and distort them. The main flaws of the method based on the indicator of market value in relation to the book value are:

• The market value does not always reflect the real value of the company. It can be connected with the current situation on the capital market. One also has to take into account that the investors are often directed by intuition, and not by factual analysis. If there is a long-term decline in the market and the decrease of share value has a long-term character, then the market value of the companies also decreases, which influences the value of IC [7].

• Lack of considering external factors, mainly those connected with an overall external surrounding, so the macroeconomic aspects on which the management of the company has no influence. Random events, temporary problems or economic situation are also not taken into account.

However, the measurement of IC with the aid of this method is very popular, mainly due to the possibility of obtaining data in an easy way. This method is also used for comparing organisations operating in the same branch, which is why its utilisation is fully justified.

On the basis of the obtained results, a ranking of the investigated companies was done from the highest to the lowest value of IC. It is presented in Table 4.

Table 2. List of companies quoted on the Warsaw Stock Exchange representing the textile-clothing sector

No.	Name of the company	Range of activities of the company
1	Lubawa	Lubawa capital group realises orders for the army, special forces, police, border guards, fire-fighters and needs of the officers of municipal police and security services employees. Since 2011, Lubawa realises the contracts for the branches of work safety products, safety of workers and tourists, and advertisement products
2	Novita	Novita SA is one of the leading national producers of technical nonwovens, especially for the shoe industry and geononwovens, and nonwovens by the method of water needlepunching (such nonwovens constitute 60% share of its sales). Products of Novita are offered, apart from shoe industry, to the clothing, sanitary–hygienic and car industries, mainly as exports, which constitutes about 65% of sales
3	Próchnik	The company is trading in male clothing: mainly coats and jackets, but also suits, shirts and ties. Recently, it withdrew from production and is concentrating on designing and managing sales
4	Sanwil	Sanwil Holding S.A. is a dominant unit in a Capital Group, whose activity is allocated in the following operational segments: production of coated products – Sanwil Polska Sp. z o.o. and Winisan Sp. z o.o.; sales of shoes, leather and textile products, clothing – Draszba Sp. z o.o.; activity of central companies and holdings – Sanwil Holding S.A.
5	Wistil	Silk Industry Factory Wistil in Kalisz is one of the biggest producers of silk and openwork products. The company is operating in a strong capital group, inter alia with Bielbaw (a producer of bed sheets), Haft (producer of lace curtains, curtains, etc), Lubiana and Chodzież (producers of table porcelain), Ariadna (producer of threads). Its main market is a domestic market, where it sells mainly through private wholesalers operating in the whole country
6	Bytom	The company is one of the oldest Polish enterprises from the clothing branch. The operation of the company consists of the productions of clothing and trading, and service activity in Poland and abroad. The company is producing male clothing (suits, jackets, trousers). The company took over the Dolwis company, which is producing viscose linings, and Intermoda Fashion that is trading clothing in companies' showrooms
7	LPP	The company is designing and distributing clothing in Poland and Central and Eastern Europe. It is outsourcing and controlling its production mainly in the Far East. LPP produces clothing of the following brands: Reserverd, Cropp, Re-Kids, Esotiq, Promostars, Henderson. Recently it took over Artman company from Cracow, which is trading clothing in House and Mohito shops
8	Lentex	The company is the biggest Polish producer of PCV floor coverings and technical nonwovens. The main categories of Lentex products are: floor coverings, nonwovens (flat, fluffy, needlepunched and water needlepunched), silicone dawn (Lentex-Ball) for filling duvets, sleeping bags and pillows; quilted products and quilting services, and ready-made products for the market. Around 60% of the production is sold on a domestic market. Main directions of exports are the Eastern markets (about 20%) and countries of the European Union (about 15%)
9	Mewa	Due to recently performed thorough restructuring, Mewa S.A. was converted from a production company into trading company that deals with purchasing and selling of clothing
10	Monnari Trade	Monnari is a company specialising in the segment of branded, elegant female and male clothing. The activity of the company is concentrated on designing of collections, selling clothing, shoes and accessories, and managing brands, such as Monnari, Pabia, Molton and Roy
11	Silvano-Group	The company is producing female undergarments. It is selling its products through the network of shops under the brand of Oblicie located in Russia, Milavitsa in Belarus, Lauma in Latvia and Splendo in Poland. The group is also selling female clothing under the brand of PTA through a retail network in Lithuania, Latvia, Estonia and Russia. Moreover, apart from its own shops, there are also franchise shops managed under the brand of Milavitsa in Russia, Ukraine, Moldova, Kazakhstan and other countries. Apart from the network of shops, the company also has three production facilities producing clothing and undergarments: in Estonia (Tallin), Latvia (Liepaja) and Belarus (Minsk)
12	Redan	The basis of the activity of Redan is designing, production, marketing and distribution of clothing. The company is functioning within a capital group, in which the respective companies handle development and sales of such brands as TOP Secret, Troll and Textilmarket. Production is outsourced to more than 100 factories in Poland and abroad. The company has its own network of shops, and acts as an organiser and manager for supply chains of products to the distributors
13	Vistula	Vistula Group S.A. is a company quoted on the Warsaw Stock Exchange, specialising in designing, production and distribution of jewellery and collections of female and male fashion. Currently it is concentrating its activity on development of the brands: Vistula, Wólczanka, W. Kruk and Deni Cler Milano

Source: Own elaboration based on the information from Money.pl portal and web pages of the analysed companies [12]

Table 3. The level of intellectual capital (IC) in the companies from textile-clothing sector quoted in a consecutively on the Warsaw Stock Exchange in the years 2009–2012

Name of the company	Value of IC				IC as % of the market value of the company			
	2009	2010	2011	2012	2009	2010	2011	2012
Lubawa	20 010 000	61 327 500	-72 118 200	-122 511 000	26.14%	55.56%	-92.96%	-160%
Nowita	1 100 000	-19 500 000	-31 925 000	-20 500 000	1.59%	-32.50%	-68.47%	-36%
Próchnik	29 395 200	58 790 400	7 348 800	49 795 309	66.67%	68.57%	21.43%	73%
Sanwil	-93 217 620	-54 126 360	-60 641 570	-56 475 378	-4650.00%	-128.57%	-366.67%	-537%
Wistil	-55 760 000	-42 120 000	-64 920 000	-67 930 000	-212.82%	-171.92%	-1202.22%	-596%
Bytom	71 316 100	120 037 002	51 545 301	-2 187 500	129.49%	147.83%	112.31%	-12%
LPP	2 090 095 000	3 033 922 500	2 654 276 800	7 119 609 650	75.12%	80.08%	74.72%	85%
Lentex	82 125 680	85 393 280	8 324 540	-101 235 810	32.67%	30.67%	3.41%	-33%
Mewa	0	-11 867 040	-5 209 920	-7 763 902	0.00%	-82.00%	-60.00%	-107%
Monnari	64 094 990	7 218 900	-37 832 200	-35 338 416	504.21%	11.02%	-148.78%	-99%
Silvano-Group	116 800 000	386 960 390	517 845 000	218 800 000	78.92%	90.21%	92.39%	46%
Redan	-7 003 880	87 279 120	-18 587 220	-25 102 683	-10.24%	51.43%	-26.95%	-110%
Vistula	-40 158 360	-59 122 031	-205 253 844	-188 429 445	-15.86%	-25.12%	-227.16%	-130%

Source: Own elaboration based on the yearly reports of the companies from textile-clothing sector

Based on the table presented above it can be concluded that the companies with the highest indicator of the IC value for the respective years were recurring. The leaders of the IC value were the same companies (LPP, Silvano-Group). A significant increase in the last investigated year could be noticed for Próchnik company. The company that lost its position the most in the investigated period was Lentex.

Conclusions

The problems connected with IC have brought much interest among researchers and entrepreneurs in recent years. It is caused mainly by the necessity of recognising the perspectives of development for the companies, which use their strategy of operation based on intangible assets.

Due to such a situation it is necessary to measure IC repetitively in order to get information concerning its condition. It is important to select a method from among those available in the literature, which will show the real value of IC in a given company. Certainly, it is not an easy task due to lack of explicitness in understanding the essence of IC which, in turn, is a reason for the many measuring methods and tools [7]. The method based on market capitalisation, used by the author, may raise some question, because we can have

Table 4. Companies from textile-clothing sector sorted from the highest to the lowest value of intellectual capital quoted on the Warsaw Stock Exchange in the years 2009–2012

	2009	**2010**	**2011**	**2012**
1	LPP	LPP	LPP	LPP
2	Silvano-Group	Silvano-Group	Silvano-Group	Silvano-Group
3	Lentex	Bytom	Bytom	Próchnik
4	Bytom	Redan	Lentex	Bytom
5	Monnari	Lentex	Próchnik	Mewa
6	Próchnik	Lubawa	Mewa	Nowita
7	Lubawa	Próchnik	Redan	Redan
8	Nowita	Monnari	Nowita	Monnari
9	Mewa	Mewa	Monnari	Sanwil
10	Redan	Novita	Sanwil	Wistil
11	Vistula	Wistil	Wistil	Lentex
12	Wistil	Sanwil	Lubawa	Lubawa
13	Sanwil	Vistula	Vistula	Vistula

Source: Own elaboration based on the results of research

a situation where the market value does not reflect the real value of the company, which results in certain overvaluations or undervaluations of the shares in the capital market. However, among the methods of measurement presented in this article, there is no method which would not raise any controversies and which would be fully credible. Their main flaw is based on excessive generality, not adjusted to the specificity of a particular branch. That is why the best solution would be to design such a model of measuring IC which would investigate its value with respect to a selected industrial sector. In-depth analysis of a given branch would provide a possibility of isolating the measurement criteria, which are characteristic for a particular sector of company activity. Certainly, it would increase the credibility of the measurement and provide a real image of the elements of IC which occur in a company.

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