

# **Audit of Intellectual Capital in Polish Energy Company the Case Study**

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## **Abstract**

Intellectual capital, today one of the most important resources in companies is undervalued by Polish enterprises. The aim of this article is to present the results of research in the field of audit of intellectual capital in Polish energy company. The study was conducted in 2014 using the relevant questionnaire and was supplemented by direct interviews with the chief management and analysis of internal documentation. The result of the study is a full picture of the state of intellectual capital in the energy company as well as presentation of suggested actions for the process of intellectual capital management.

The aim of the study was to conduct an audit of intellectual capital, and afterwards to develop individual activities that could contribute to growth in the value of intellectual capital, as well as in the value of the company.

**Keywords:** Intellectual capital; audit of intellectual capital; energy company

## **Introduction**

Intellectual capital in recent years arouses great interest especially among theorists. The success of modern enterprises depends on the proper use of resources that differentiate each company from the competition. These resources should be unique, flexible and difficult to imitate by competitors. These key features can be provided by the company's intellectual capital. A characteristic feature

of intellectual capital is that, it consists of mostly intangible resources. That makes the management of intellectual capital and its components extremely difficult. The first step in the process of intellectual capital management is to make an audit which will permit identification of its components and determine its condition.

This article presents part of the studies involving the analysis of the intellectual capital of energy company operating on the Polish market. The results of the former studies showed that energy companies present low efficiency of use of tangible and intangible assets determined by the rate of value-added intellectual coefficient - VAIC (Beyer 2013, 2014). Low performance of energy companies led the Author to undertake a study to examine the reasons for this state of affairs.

### **The Issue of Intellectual capital**

Intellectual capital, due to the lack of an unique definition, is a concept evoking many emotions. Often is referred to intangible assets, intellectual resources, intangible assets etc. The intellectual capital consists of “hidden” assets of companies that are not fully included in the financial statements. According to L. Edvinsson, intellectual capital includes knowledge, experience, technology, customer relations, professional skills that give the organization a competitive advantage in the market. In other words, it is knowledge that can be converted into value. The reactions among the elements of intellectual capital result in increasing value. Elements of intellectual capital are of value, or may be the source of value in the future (Edvinsson, Malone 2001).

The components of intellectual capital have not been clearly defined. In the literature the structure of intellectual capital consists, for example, of: human capital, organizational capital and market capital. Another classification points items such as organizational/structural capital, human capital and relational capital. It can be seen that element of not arousing any doubt is human capital. In all concepts of intellectual capital is regarded as the most important component.

It can be assumed that the structure of intellectual capital consists of elements such (Edvinsson, Malone 2001; Luthy 2004; Skonieczek, Szalkiewicz 2007; Łukasiewicz 2003; Nycz, Smok 2006):

- **human capital** - is a component integrated with the human, consists of knowledge, experience, skills, personal competencies of employees;
- **organizational capital** - including all the items and infrastructure that support the work of employees;
- **market capital** - is based on relationships with the external environment, mainly with customers, but also suppliers, competitors and partners. The market capital is also the reputation of the company and customer loyalty.

The structure of intellectual capital and the diversity of its components, points the complexity of the issues in question. Precise identification of the components of intellectual capital allows for a better understanding of its essence, and allows to increase its potential. In addition, all the components of intellectual capital are

closely interlinked, and its strength comes from the integration and interaction of its individual components. Therefore, an important task in each company should be an analysis of the resources of intellectual capital.

## **The Intellectual Capital in Energy Company**

The audited company was established in the initial period of economic transformation in Poland, and its core business is the production, distribution, and retail sale of electricity and heat production and distribution. The entity divides its activities into the following business segments:

- Conventional Energy includes exploration and mining of lignite and production of energy in power plants;
- Renewable Energy includes generation of electricity in pumped storage power plants and from renewable sources;
- Wholesale includes the sale and purchase of electricity on the wholesale market, trading of emission and property rights resulting from certificates of origin and the purchase and fuel supply;
- Distribution which includes management over local distribution networks and delivery of electricity;
- Retail sale includes sale of electricity and the provision of services to end users.

Organization and management of the company is held in segments that take into account the type of products and services offered. Each segment represents a strategic business unit that offers different products and serves different markets.

The company carries out its activities on the domestic market reaching about 5.2 million customers. Examined company employs less than 400 employees, which allows them to qualify for large enterprises. Among the employed staff more than 76% of the employees have higher education.

The aim of the conducted audit of the company was inter alia, to obtain information about the knowledge and actions of managers in the field of the intellectual capital. It should be emphasized that the concept of intellectual capital in the company is clearly known and understood as:

*human capital + structural capital = intellectual capital*  
*Intellectual capital is created in the process of value creation, based on the interaction of human capital and structural capital where the continuous transformation through innovation transforms knowledge into a permanent personalized knowledge to the organization*

It should be noted that the audited company, as one of the few, paid attention to the interaction of components of intellectual capital, which is the process of creating value. Indicated above definition is reflected in the declared elements of intellectual capital. Intellectual capital in the audited company consists of:

*Human capital and structural capital.*

*There is a close relationship between the value of human capital and the market value of an organization<sup>1</sup>*

Knowledge of the definition of intellectual capital and the ability to identify its elements by management is not reflected in the objective results which define the status of intellectual capital in the audited company. The rest of the article is an attempt to understand this issue.

The first step was to create hierarchy of the resources of audited company (Table 1.)

**Table 1**  
Hierarchy of the audited company resources

position	resources
1	Human
2	Financial
3	Tangible
4	Intangible

Source: Own study based on research results.

Despite the fact that the concept of intellectual capital is known by the company, in the context of key resources only part of intellectual capital - human capital is considered as an important resource. Other intangible resources are even less important than financial and material resources. Presented hierarchy of key resources disrupts the definition of intellectual capital adopted by the company. For more detailed picture of the company, in Table 2 is presented the hierarchy of the company's core competencies.

On the basis of formulated by the company hierarchy competences once again there is a contradiction with earlier indications of the company. Among the hierarchy of resources, intangible resources are the least important, while among the competence the intangible resources such as know-how, intellectual property are the most important and even more important than human capital<sup>2</sup>.

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<sup>1</sup> The indication by the company of the legitimate relationship between the value of human capital and the market value, in fact adversely affects the assessment of the accumulated human capital, because the market value of the audited entity is less than its book value and is characterized by a decrease in recent periods.

<sup>2</sup> Such a diversity of approaches can have a negative impact on the intellectual capital in the audited company and may be, according to the Author, the result of a lack of practical knowledge of the subject by the company's management.

**Table 2**  
Hierarchy of the company's core competencies

position	competencies
1	<i>Know-how</i>
2	Intellectual property
3	Human capital
4	Learning abilities, broaden skills
5	Quality of products/services
6	Innovation
7	Brand reputation
8	Technical infrastructure
9	Internal processes
10	Organizational culture

Source: Own study based on research results.

According to the results. Author can take the statement that the audited energy company knows the concept of intellectual capital only on a theoretical level. In addition, managers cannot determine whether the company's intellectual capital is managed or not. Accordingly, the top-management also has difficulties in determining whether the company is using any method of intellectual capital management. On the other hand, the audited company declares to measure intellectual capital. For this purpose the company uses Economic Value Added (EVA)<sup>3</sup>.

In the next stage of auditing the energy company, the research based on the analyzing the state of the components of intellectual capital, i.e. human capital, organizational capital and market capital.

### **The Human Capital in Energy Company**

Positively should be emphasized company's activities in a field of identifying key employees, what is an important task in the development of human capital. In addition, the company has prepared the hierarchy of employees competencies, which are presented in Table 3.

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<sup>3</sup> According to the Author, this ratio is used in the audited entity as a tool to support the process of management of the company, but its results are not considered in the context of intellectual capital management.

**Table 3**  
Hierarchy of employees competencies in audited energy company

position	competencies
1	Social skills
2	ingenuity, creativity
3	desire to expand knowledge and skills
4	motivation to work
5	experience
6	possessed knowledge
7	ability to work in a team
8	education
9	additional qualifications

Source: Own study based on research results.

In surveyed company the most important employee's competencies are considered with so-called soft competencies, such as social skills, ingenuity and creativity. Hard competencies like education and additional qualifications are treated as less important.

In terms of human capital formation, positively must be assessed the frequency of the training, that the audited company do once a quarter. These trainings are carried out both by the company's employees, as well as by specialized external training institutions. For this purpose, the company uses the following forms of employee's education: training in the workplace, coaching carried out by experienced trainers, education through e-learning. The company also encourages employees to self-education. In addition, on the base of employee evaluation, the audited entity prepares development plans, in order to eliminate competency gaps.

Should be assessed positively the company's actions in the field of human capital formation such as implementing an effective motivation system, which in the opinion of top-management results in increased productivity. As a part of the motivation system, the audited company declares a distribution of profit for employees benefits, such as larger the social fund and awards from the profit for employees. In addition, the audited entity has a system of jubilee awards. Effective motivation to work can also be due to the possibility of lower-level employees to participate in decision-making on business.

The audited company also declares that the company encourages employees to exchange knowledge and experience, inter alia by encouraging discussion, exchange ideas, views and develop informal cooperation. In addition, the audited company tries to implement best practices in human resources management. To do this, takes actions to support professional development and competence of employees

and intends to develop the so-called management system of key employees, which allows for the effective implementation of strategic objectives.

As a strategic objective, the entity is expected to increase the effectiveness of human capital management through the implementation of the HR strategy, defining key areas such as: organizational culture, employment policy, wages, skills and development, evaluation, social relations. In the adopted strategy is also implemented control of labor costs across the whole concern and provided strategic human resource management through the creation of a competence center of decision-making and the centralization of HR functions<sup>4</sup>.

Unfortunately, the audited company does not use any methods to measure the efficiency of human capital.

### **The Organizational Capital of Audited Energy Company**

In terms of organizational capital management, the energy company is taking action, among other, such as creating the organizational structure ensuring a smooth and rapid decision-making and promotes an organizational culture conducive to the exchange of knowledge and experience within the organization.

Important activity carried out in order to manage the organizational capital of the company is to undertake activities related to knowledge management<sup>5</sup>.

In the process of knowledge management, to transfer knowledge and information the audited company uses tools such as intranet, telephone conferences, on-line discussions, all sorts of information and communication systems, databases and internal newsletters. In addition, the knowledge management process and, consequently, organizational capital formation has the support held by the company's modern IT infrastructure. Assessing organizational capital and the activities undertaken in the field of intellectual property, the examined company declares the purchase of intellectual property rights and licenses, and also possesses the intellectual property rights in the form of patents and inventions, copyrights, secrets related to knowledge in the field of industrial, commercial, scientific and organizational and trademarks, which are protected.

Although taking many actions in the field of organizational capital formation, the audited company cannot determine whether measures the effectiveness of its organizational capital.

### **The Market Capital of Audited Energy Company**

The audited company undertakes many activities in management of the market capital. First of all, the company examines the reputation of its business through cooperation with specialized bodies and during meetings with clients.

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<sup>4</sup> The Strategy X for 2014-2020, interior materials of the company X.

<sup>5</sup> Knowledge management process relies on acquiring, collecting, developing and increasing knowledge, e.g. using databases.

Negatively should be assessed that enterprise managers cannot determine whether they use tools for a comprehensive customer relationship management, but in this respect, the company is taking action such as key account management, contact management<sup>6</sup>, creating loyalty programs for regular customers. In managing relationships with customers, the company also uses a call center, promotions systems, also guarantees after-sales service. The company also has a sales process management systems that are integrated with ERP systems<sup>7</sup>.

Important activity implemented by the audited company in terms of market capital management is conducting surveys about customers opinion about the company and its offer. This kind of research company performs during direct meetings with clients, using the interviews and questions. Customer opinion is also investigated in a cooperation with specialized bodies in this field using for instance the method of Mystery Shopping. In addition, the audited company obtains information from the environment (including the gossip and the media).

Despite carrying out many activities associated with the formation of relationships with customers, the audited company does not take actions to create good relations with suppliers. This fact negatively affects the development of the market capital and intellectual capital in general. On the other hand, can be positively assessed, that the company declared a policy of positive relationships with business partners. These relations are mainly concluded in the framework of strategic alliances, acquisitions, and the purchase of licenses and cooperation with research and development units. One of the most important cooperation agreements that the company entered into is a contract for exploration and production of hydrocarbons from shale, which is the subject of prospecting, exploration and production of hydrocarbons in geological works concession for exploration and prospecting of crude oil and natural gas.

It should be noted, that despite taking many actions in shaping the market capital the audited company cannot determine whether measures effectiveness in this field.

## **Concluding Remarks**

In this article is presented a fragment of the audit of intellectual capital in the energy company as a case study. The study presents the state of intellectual capital and its components (i.e. human capital, organizational capital and market capital) in the audited entity.

Based on this study should be pointed out that the audited energy company undertakes many individual actions for the management and development of human capital, organizational capital and market capital. On the other hand, it is worrying that the entity does not perform actions that would allow for the effective

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<sup>6</sup> By creating customer profiles, structure, institutional clients and history of contacts with clients.

<sup>7</sup> ERP (Enterprise Resource Planning) is an information system supporting enterprise management process

development of intellectual capital as a whole. Comprehensive actions on intellectual capital management will allow for the development and improvement of objective results of company's measurement. In addition, it is postulated to create an appropriate infrastructure for the management of intellectual capital.

In order to monitor the status of the intellectual capital it is recommended to measure the value and efficiency of its components. In order to increase the value of the intellectual capital of the audited company it is recommended to take actions, like systematic conversion of human capital into organizational capital, primarily through the transformation of workers knowledge into enterprise knowledge.

The postulates in this article are selected recommendations and provide an open list. The assessments in this article inclined to undertake further research that the Author intends to take in the future.

The conducted study is a phase of research on the intellectual capital of Polish enterprises. The results provide a basis for conducting further research and analysis of both qualitative nature (in the form of conducting individual audits) and quantitative measurement (in the field of intellectual capital). The results of further work will be presented by the Author in the further scientific publications.

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