

Business Support of Intellectual Capital Management

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Abstract—This article studies the ways of forming an efficient business support of intellectual capital management. The effective use of intellectual capital by business entities can make enterprises more competitive in the modern social and economic conditions. A theoretical basis of business support of intellectual property management has been determined. There has been structured the intellectual capital and developed the assessment mechanism that uses methods of economic and mathematical modeling. The ways of increasing the efficiency of usage of intellectual capital by business entities have been determined.

Keywords—business mechanism, intellectual capital, business entities.

I. INTRODUCTION

A. Problem Positioning

Effective management of intellectual capital is crucial for the development of business entities in conditions of informational support of business processes. Development of intellectual capital of enterprises directly influences the investment attractiveness of business, ensuring its innovation-driven growth. An efficient use of intellectual capital contributes to manufacturing processes rationalization, increases the efficiency of manufacture, being essential for the competitiveness of enterprise and its growth in the market.

B. Analysis of Recent Publications

The topicality of the researched issue was developed by the following scientists. Particularly the issues of business support of intellectual property management were studied by O. Butrnik-Siverskyi [1], A. Chukhno, E. Bruking [3], O. Kendiukhov [4], J. Adams [5], T. Stewart [6], V. Bazylevych, V. Iliin [7], M. Butko [8], H. Stupniker [9], F. Fukuyama [10], A. Poruchnyk [11], V. Petrenko [12], K. Mamonov, D. Prunencko, Ye. Hrytskov [13], O. Uhodnikova [14] and others.

C. Purpose and Tasks

Despite the great scientific interest in the formation, assessment and usage of intellectual capital in conditions of active development of science and technology - considering the leap from post-industrial to informational society - the formation of innovational approaches to the intellectual capital management by business entities in order to support the competitiveness is a highly popular topic.

The purpose of this article is to provide business entities with the suggestions on how to improve the efficiency of formation and usage of business support of intellectual capital management.

To achieve this goal the following tasks have been defined:

- Theorize the concept of intellectual capital management and determine its structure;
- To determine the complex of business support of intellectual capital management;
- To develop a forming mechanism for business support of intellectual capital management;

To determine the connections between business support and economic efficiency as a result of intellectual capital management by using the mechanism developed.

D. Main Material

Effective management of intellectual capital is crucial for the competitiveness of enterprises in a volatile economic environment in the country. When analyzing the approaches defining the concept of intellectual capital, the following grouping can be made [1-4]:

Functional approach – determines the concept of intellectual capital in terms of functions that are executed

during implementation;

Goal-oriented approach – considers the concept of intellectual capital as a category directed at reaching the strategic goals of an enterprise;

Structural approach – considers the concept of intellectual capital as a complex hierarchic structure of interconnected elements;

Value approach - considers the concept of intellectual capital through evaluation of value indicators of stability of an enterprise;

Subject approach - considers the concept of intellectual capital from the position of its forms and features;

Complex approach - considers the concept of intellectual capital as a system of interconnected indicators and structure elements of intellectual capital that - via interaction - are directed at achieving the strategic goals of an enterprise.

According to the results of the research, there have been formed the suggestions for decomposition of intellectual capital that can be presented in a two-level structure – table. 1.

TABLE I. COMPONENTS OF INTELLECTUAL CAPITAL OF ENTERPRISES

Intellectual capital of an enterprise												
Trade capital (BC)		Brand capital (BC)		Human capital (HC)		Organizational capital (OC)		Innovational and technological capital				
Trademarks	License agreements	Franchises	Capital of the brand	Corporate reputation	Educational and cultural	Qualification	Moral characteristic	Management system	Organizational structure	Informational support	Innovation projects	Technological projects

Considering the results of a two-level structuring of intellectual capital, there may be defined the relevant factors of business support of intellectual capital management, with the most important among them:

- allocation and usage of land plots for economic purposes;
- permit documents, licenses, standards etc.;
- high level of scientific and technological requirements for manufacture and service technology, employees' qualification;
- complexity of connections between stakeholders in conditions of volatile economic environment;
- significant amount of informational streams that influence the functionality of enterprise and determine the directions of formation and usage of intellectual capital.

Based on the research, it was discovered that the complex approach is the most efficient one to determine and manage intellectual capital since it reflects the system, consistency, functionality. It is aimed at managing the intellectual capital according to the strategic goal of the enterprise and creating conditions for competitive capability. Among other specific

features of using the complex approach to intellectual capital management, the following can be defined [5-7]:

- a structure the reflects the peculiarities of the formation of business support, results of value estimation;
- a complexity of the development of a business mechanism of management directions as a tool of intellectual capital formation;
- ensuring the efficient control of the creation and usage of intellectual capital in order to develop the enterprise.
- Assessment is an important stage of formation of the informational fundamental for business support of intellectual capital management. The article suggests using the complex approach to assess the intellectual capital of enterprises by using its two-level structure calculated according to the following formula (1).

$$\sum \Gamma I i = x IK_{ik}, \quad (1)$$

where *BIK* - value of intellectual capital, generated by money turnover, thousands UAH;

- $\Gamma I i$ – money turnover formed for accounting period, thousands UAH;
- IK_{ik} – integral criterion of formation and usage of intellectual capital of construction companies.

Intellectual capital assessment method suggested in the article is built on the use of analytical methods and methods of expert assessment of financial and economic indicators of the enterprise by using corresponding value assessment model, based on the analysis of investing flows, money turnover in dynamics by calculating the integral criterion of formation and usage of intellectual capital of enterprises.

According to the results of the analysis, there has been created a structural and logical scheme of introducing the business mechanism of management of intellectual capital – table. 2.

A structural and logical scheme of introducing the business mechanism of management of intellectual capital includes the complex of interconnected actions directed at implementation of the following functions:

- work with the persons concerned;
- mechanisms of inner corporate management;
- considering the condition of the surroundings;
- determining and assessing structural components of intellectual capital;
- ensuring the intellectual capital management;
- economic and mathematical modeling of intellectual capital management;
- increasing the efficiency of the intellectual capital usage;
- using methods to increase the intellectual capital;

The implementation of a business mechanism of intellectual capital management is targeted at increasing the efficiency of use of the intellectual capital of an enterprise to achieve the strategic goals of its activity.

TABLE II. STRUCTURAL AND LOGICAL SCHEME OF INTRODUCING THE BUSINESS MECHANISM OF INTELLECTUAL CAPITAL MANAGEMENT

<u>External economic conditions:</u> taxation system, financial and credit policy, rules of formation and usage of the land plots, inflation, clients' paying capacity, following the standards and rules of business, level of investing	
<u>Internal economic conditions:</u> financial condition, competitiveness, investing attractiveness, condition and level of use of the working capital	
Regulatory support	
External interested people	Inner interested people
<i>State and local self-governing authorities</i>	<i>Enterprise controlling bodies</i>
<i>Clients, consumers</i>	Founders and top-management
<i>Banks and other financial establishments</i>	Stuff and workers
<i>Bodies that control the enterprise activities</i>	
<i>Determining the intellectual capital components</i>	
<i>Assessment by combined approach</i>	
<i>Using complex approach to management</i>	
<i>Intellectual capital growth</i>	
<i>Using methods for intellectual capital growth</i>	

To determine the efficiency of the use of a business mechanism of intellectual capital management, there has been created an econometric model showing the value of intellectual capital indicator influence on goods or services profits margin, level of competitiveness and money turnover from investing activity of an enterprise.

The developed econometric model (table 3) includes criteria characterizing the level of influence of integral criterion of assessment of intellectual capital of enterprise activity on profitability, competitiveness and money turnover indicators that defined as resulting for the assessment of the level of efficiency of intellectual capital management.

TABLE III. ECONOMETRIC MODELS OF INTELLECTUAL CAPITAL INDICATOR INFLUENCE ON GOODS OR SERVICES PROFITS MARGIN, LEVEL OF COMPETITIVENESS AND MONEY TURNOVER FROM INVESTING ACTIVITY OF AN ENTERPRISE

Econometric model	A criterion characterizing the degree of influence
$P_p = -0,092 + 0,028 \times BIK$, Where P_p – coefficient of profitability of sales of products/services, thousand UAH/thousand UAH	Correlation coefficient (R) – 0,67 Determination coefficient (R^2) – 0,45
$KII = 0,45 + 0,02 \times BIK$, Where KII – the overall competitiveness indicator, which is determined on the basis of a model that considers the indicators of autonomy, solvency, liquidity, turnover of working assets.	$R = 0,53$ $R^2 = 0,28$
$KOZK_i = -5,8 + 4,7 \times BIK$, Where $KOZK_i$ – the ratio of net income from sales of goods/services to the net cash turnover from investment activity, turnover per year.	$R = 0,62$ $R^2 = 0,38$

Thus, despite immaterial effect of intellectual capital upon enterprise activity results indicators, it has been proven that the rise in the cost of intellectual capital leads to the rise of goods or services profits margin, competitiveness level and money turnover from investing activity, making it possible to create a quantitative basis for managerial decisions on the formation and usage of intellectual capital.

II. CONCLUSION

Based on the results of analysis it has been found that intellectual capital is a complex term the effective usage of which depends on the interaction between structural components of capital, represented as a two-level structure. There has been developed the algorithm of implementation of the mechanism of enterprises' intellectual capital management aimed at increasing its efficiency. There has been suggested the econometric model determining interconnections between intellectual capital and top indicators of enterprise work – profitability, competitiveness and money turnover.

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