USING OF E-ENVIRONMENT AS A TOOL FOR VALUE CREATION IN A COMPANY

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ABSTRACT

Abstract. The importance of value creation in small and medium-sized business companies has always been in focus. The changing environment has made a strong impact on all companies all over the world. Nowadays, the value added, which is created by the company, depends not only on tangible assets, but also on intangible assets. It is not enough just to manage internal resources to be efficient, in order to generate high value added. The importance of knowledge and information as a tool to manage external environment brought a new factor to the company. This paper uses the e-environment as a tool to illustrate how the company develops value added and thus increases the shareholder value through focusing on intellectual capital (IC). Since the elements of intellectual capital system are intangible and hardly measurable in company's value added, this paper is aimed to create a model for analysing the company's value added creation through intellectual capital.

Keywords: intellectual capital, Information Communication Technologies, value creation, organizational structure, performance.

1. INTRODUCTION

There is one important question, which has been dominating through history of management, and it is "how do we create value added of company", and thus, enhances shareholder value. Many scientists emphasize the importance of company's value added as the main factor for creating shareholder value. [1-5,33].

Nowadays, the efficiency of value chain as one of the key inputs to added is well understood [6]. Today's knowledge intensive companies have more advantages in more complex environment. The changing environment replaced the perception of company's value added (VA) sources.

Reliance on productive tangible assets such as "raw materials, fixed capital, and even managerial knowledge" no longer account for investments made and wealth created by new and prospering companies [7]. As the primary inputs to organizations' value creation processes are internal resources, but classic economic laws are hardly applicable for knowledge and other intangible resources. These resources traditionally seen as external could make an important contribution to the value creation process of the company. Based on the intellectual capital (IC) approach, the paper begins the research that explores the effect of intangible resource in creation of added value.

Many scientists were analyzing the influence of intangible assets on company's value added [8-11]. Sveiby and O'Regan are assuming that intellectual capital is composed of the following three main parts: external structure, internal structure, and human capital [12,13].

The IC literature draws on aspects of the practical applications, providing a framework for explaining the value creation process as the link, between resources and shareholder value.

Value creation is not only difference between incomes and expenditures. P. F. Drucker accentuates this and emphasizes that "main producers of wealth have become information and knowledge" and also the knowledge productivity [14].

2. INTELLECTUAL CAPITAL APPROACH

The concept of IC started to formalize in the early 1990s by Leif Edvinsson [11].
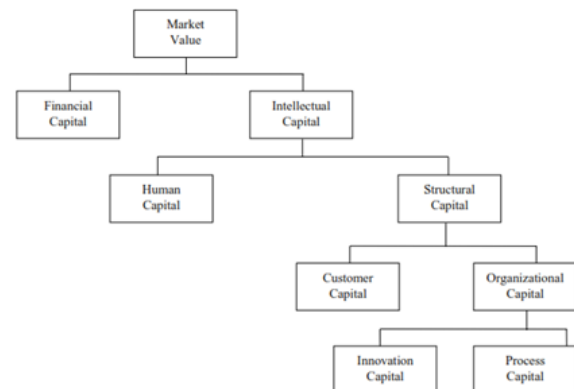

Fig.1. SKANDIA'S value scheme [11]

The work of Skandia (Fig. 1) was presented as a supplement to the annual shareholders report to describe the "true" value of the company's. This new model was created to identify the roots of a company's value by measuring hidden dynamic factors that underlie "the visible company of buildings and products".

By the end of the 1990s, references to intellectual capital in contemporary business publications were commonplace [9,10]. Many scientists started to define IC, having a similar opinion about intellectual capital and its definition [9,10,15,16,18].

Bontis considers that intellectual capital is everything that is in a company: all intangible resources and processes that belong to the company, patents, innovations, and customers, tacit and explicit knowledge [9].

What resources actually make up these generic capital forms is unique to each and every organization, as only those resources that are important for creating value should be included in constructing the distinction tree for an organization [9]. The work of Skandia advised to measure the IC through indexes (Fig. 2), recommended 112 metrics. Later IC-Index practice was created by Roos, Dragonetti and Edvinsson [19].

SAMPLE OF SKANDIA IC MEASURES

Financial Focus	• revenues / employee ($) • revenues from new customers / total revenue ($) • profits resulting from new business operations ($)
Customer Focus	• days spent visiting customers (#) • ratio of sales contacts to sales closed (%) • number of customers gained versus lost (%)
Process Focus	• PCs / employee (#) • IT capacity – CPU (#) • processing time (#)
Renewal and Development Focus	• satisfied employee index (#) • training expense / administrative expense (%) • average age of patents (#)
Human Focus	• managers with advanced degrees (%) • annual turnover of staff (%)

Fig.2. Scandia IC measures [11]

Roos *et al*. propose that the specific measurement of company IC by weightings and indicators can be decided by knowing the company's strategy. Also Roos *et al.* suggests that the main consideration for assigning the weights to indexes should be the relative importance how they help the company achieve its strategic goals [19].

Karl-Erik Sveiby gives his own conceptual framework (Fig. 3) of measuring IC assets based on three families of intangible assets: external structure (brands, customer and supplier relations); internal structure (the organization: management, legal structure, manual systems, attitudes, R&D, software); and individual competence (education, experience) [13].

Visible Equity	Intangible Assets (Stock Price Premium)		
(book value)	External Structure	Internal Structure (management, legal	Individual Competence
Tangible assets minus visible debt.	(brands, customer and supplier relations)	structure, manual systems, R&D, software)	(education, experience)

Fig.3. Measuring model of intangible assets [13]

IC approach helps us to develop strategy that focused on intangible resources, allowing them to manage more effective in process increasing in shareholder value.

To conclude, different scientists intellectual capital is understood as the sum of all knowledge in the company that is able to generate company's value added and it is affected by knowledge quality and knowledge productivity.

3. THE CONCEPT OF EENVIRONMENT

The rapid electronic environment development over the last decade has fostered the e-market growth and has provided companies with opportunities that they previously did not have. By employing advantages offered by the e-environment, entrepreneurs can ensure expedient and effective communication with the target audience, by promoting products on the global market. The performed scientific studies show that proper and skilful use of modern technologies can contribute to significant development of companies.

Up to now, no unequivocal studies have been performed about the use of the electronic environment in ensuring development of micro, small, and medium enterprises. Ph. Kotler, D. Tapscott, P. Drucker, and J. A. Pearce maintain that two parallel markets exist and are developing – the traditional and the electronic environment. The electronic environment is used for various needs – for trade, marketing, advertisement, studies, communication, training, etc. Simultaneously, there is an opinion claiming that in future, the majority of transactions will be performed on the electronic market, hence advancing the dominant position of the e-environment in achieving entrepreneurship competitiveness.

The electronic environment already now offers companies practically all the necessary marketing and communication tools for ensuring company development by creating competitive advantages, nevertheless, not all companies can employ the opportunities rendered by the e-environment, in order to increase company competitiveness and productivity.

There are several well-known and popular value theories, such as, the Five forces model [20], Shareholder value model [21], as well as the "Value map" theory, intended for analysing the economic gain for consumers [22].

Various theories were developed many years ago, when the electronic market was not yet developed, and hence are suitable for the conventional market. Due to this reason, the authors of the article suggest that companies use the Alexander Osterwalder's value proposition concept or the approach that is a constituent element of the author's developed business model canvas) [23].

The Osterwalder's business model was formed based on Freeman's stakeholder theory [24]. The model is adapted to today's market needs and conditions, and the importance of the electronic environment, i.e. of the electronic market, in entrepreneurship is taken into account. Osterwalder distinguishes between "value proposition" and "elementary value proposition", which is an element of value proposition.

The authors wish to draw attention to Osterwalder's "value life cycle" consisting of five stages: value creation, appropriation, consumption, renewal, and transfer [25].

All life cycle stages are linked to value consumption, using the electronic environment: value creation process (based on information and communication technologies (ICT) – adaptation of various products for the needs of an individual consumer, e.g., personal computers, footwear, etc. Value appropriation – "a one click purchase" at an internet shop. Value consumption – listening to music, watching a movie, etc. Value renewal – various software updates, value transfer – disposal of old computers and other machinery, giving away unnecessary books and equipment for further use, etc.

Upon combining analyzed models, it can be seen that the information and communication technologies (in the Osterwalder's model) or the information communication technology bear great importance in creating value for consumers and that they undoubtedly affect the company's image. Nevertheless, several empirical studies made by authors in Latvia, show that many Latvian SMEs do not employ ICT and therefore the most suitable way should be sought for how to involve ICT in elaborating business development models.

The value concept is broadly used in various business models, including e-business models. The value forms the basis of several business models.

The e-business model is based on mutual integration of key flows and values and implementation thereof between e-market

participants, through the use of the e-environment. Three main e-business model elements can be distinguished: flows, participants, value. The term e-business model describes a broad spectrum of informal and formal models, which may be used in companies to depict various business aspects, such as operational processes, organisational structures, and financial forecasts [26].

In studying various business model concepts, the authors have come to a conclusion that both business model types (taxonomic and conceptual) can be applied to the Latvian SMEs; however the conceptual business models would still be primary. It is related to the fact that there are many niche and narrow profile companies in Latvia. Moreover, the majorities of companies are operating only on the local market and depend on domestic demand fluctuations.

The conceptual business models enable companies to analyse the current condition more broadly and to evaluate the already existing business. By employing this analysis, companies can develop new business development directions or improve the existing ones, because a modern market demands that companies change and are aware of their global condition. Entering the global market allows companies to reduce their dependency on local market fluctuations.

Taxonomic models, for their part, can serve as a specific type of entrepreneurship. For instance, when developing the conceptual business model, companies will answer the question "How to develop further on?", but the taxonomic model will allow answering the question "What to do in order to develop?"

The use of ICT promotes communication (Fig. 4); moreover, ICT is at the basis of the first stage "value creation" of the value life cycle.
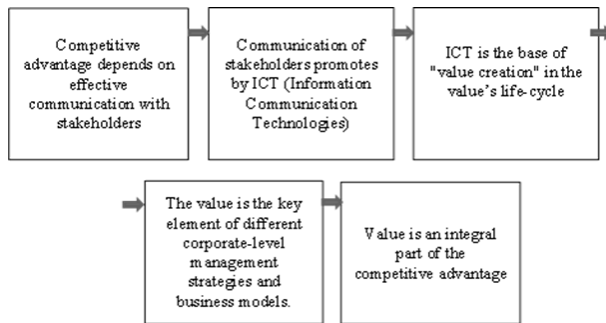

Fig.4. Competitive advantage, ICT and Value intermediation [29]

Based on the authors' performed study about the use of e-environment in Latvian companies [27], having studied value formation theories, having analysed the types and theories of business models, the authors have drawn a conclusion that the most suitable course of action would be to base further development on the Osterwalder's Business Model Canvas. [28]. Forbes has referred to this business model canvas as a simple instrument for creating innovative business models [29]. The model is based on active use of the e-environment in entrepreneurship. There are nine stakeholder groups at the basis of the model. Meanwhile, reciprocal and effective interaction and communication between the stakeholders promotes a company's competitiveness [23].

At the same time, value is an intrinsic part of a competitive advantage. It can be concluded that a competitive advantage depends on effective communication with stakeholders and customers. The previous study done by the authors about competitiveness of Latvian companies' shows that it is the use

of communications networks, being a constituent element of competitiveness of Latvian companies, that the companies are using the least [29]. Thus, the authors of the paper assume that by increasing E-environment element as part of IC system, the competitiveness companies will also increase.

4. CREATION OF COMPANY'S ADDED VALUE

The identification of value-drivers elements in IC system and their subsequent management is seen as the key to value added Authors present the model of IC describing the system how IC resources are used to increase value added. Author`s model of IC composed of mainly three components: human capital, structural capital (organisational capital) and relational capital (social capital).
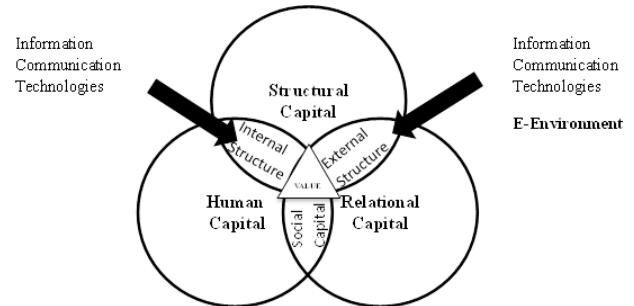

Fig.5. ICT, E-Environment and Value creation intermediation [30]

This model presented three main elements of VA creation - Human Capital is defined as the combined knowledge, skill, innovativeness, and ability of the company's individual employees to meet the task at hand. It also includes the company's values, culture, and philosophy. Structural Capital is the hardware, software, databases, organizational structure, patents, trademarks, and everything else of organizational capability that supports those employees' productivity - in other words, everything that gets left behind at the office when employees go home. Customer capital (Relational Capital) – provided by structural capital, the relationships developed with key customers.

5. MEASURING OF INTELLECTUAL CAPITAL AND INFORMATION COMMUNICATION TECHNOLOGIES

In the context of knowledge, because knowledge itself is invisible, its creation and use are hardly measureable. Nonetheless investing in ICT many valuable outputs are generated (brand, know-ho, etc.). Value generated by knowledge will probably have time lag (long-term) and not always have instant impact on profit (short-term). Promoting investments to ICT and specifically to E-environment, it is possible to evaluate company value.
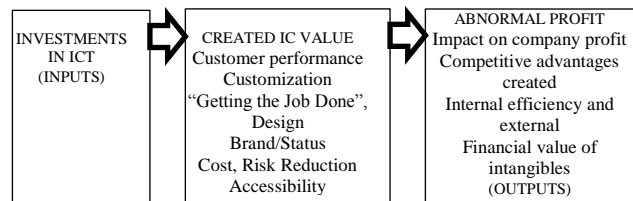

Fig.6. ICT, E-Environment and Value creation mediation [31]

As for beginning should calculate the investment made by company to ICT, comparing to abnormal revenue flow generated by ICT and intangible value created. This model helps to describe the methodology of authors of the paper quantitative evaluation model. Based on the model (Fig.5) puts an emphasis on external efficiency. Current quantitative model concentrates on external reporting, including internet statistics, investment analysis and methods for reporting the nonfinancial value of intangibles. So quantitative model is based mostly on VAIC (Value-Added Intellectual Coefficient) approach.

(1)
$$\text{IICT}_t = \text{HR}_t + \text{SC}_t + \text{RC}_t ,$$

Where:

HR_t - Human Resources dedicated to specific ICT project (According to Pulic's concept mainly labour costs) at time t.

SC_t - Investments made to structural capital (maintenance, equipment, R&D costs) at time t,

RC_t is the relational capital expenses (advertising costs – e.g. such systems as Google index etc.) at time t. So we present formulae based on Sveiby (1997) VA creation model and author`s model based on Pulic (2000) (Fig. 3 and Fig 6.):

(2)
$$\text{VA}_t = (-\alpha_1 \text{IICT}_t + \beta_1(\text{AP}_t)) * \delta_1(\text{IV}_t) ,$$

Where **t**- value added created at time;

α_1- is correlation coefficient (function of time-series properties);

IICT_t – capital (physical and financial) invested by company to specific ICT project at time t;

β_1- is correlation coefficient (function of time-series properties);

AP_t – abnormal profit generated by company through ICT project per t period;

δ_1- is correlation coefficient (see Table 2);

IV_t - intangible value generated by ICT at time t.

Or it could be seen as:

(3)
$$\text{VA}_t = (-\alpha_1 \sum_{i}^{n-1}(\text{HR}_t + \text{SC}_t + \text{RC}_t) + \beta_1(\text{AP}_t)) * \delta_1(\text{IV}_t) ,$$

Where AP_t - reported abnormal profit are based on a traditional accountant system;

IV_t - Intangible value generated by ICT could be calculated using specific parameters:

(4)
$$\text{IV}_t = f(IndX_1 + IndX_2 \ldots IndX_{17} + etc.)$$

Authors recommend developing indexes researched in their previous work. (see short description on Table.1).

Table 1
IV indexes in value creation based on conducted research [29]

$IndX_1$	Market share based on unit sold through ICT
$IndX_2$	Relative market share
$IndX_3$	Penetration
$IndX_4$	Gross active customer volume
$IndX_5$	Information diffusion rate
$IndX_6$	Satisfaction
$IndX_7$	"Willing for searching"
$IndX_8$	"Try & Buy"
$IndX_9$	Penetration(t)
$IndX_{10}$	ICT sales forecast
$IndX_{11}$	Repeated sales
$IndX_{12}$	Trial volume
$IndX_{13}$	Opportunities-to-see
$IndX_{14}$	Clickthrough rate
$IndX_{15}$	Session index
$IndX_{16}$	Client behaviour dynamics
$IndX_{17}$	Client time-spent dynamics

Authors agree with Bontis *et.al.* conclusion and emphasise that every company could include or exclude their own indexes based on specific market condition and working profile, that is why formulae could be modified [9].

For better financial statistics we could use Financial Efficiency of VA (the Value Added Capital Coefficient or VACA) [31].

(5)
$$\text{VACA} = \frac{\text{VA}}{\text{IICT}}$$

The Value Added Capital Coefficient (VACA) shows the amount of value added created by a unit of capital (physical and financial) employed.

Human Resource Efficiency of VA (Value Added Human Capital Coefficient – VAHU) [31].

(6)
$$\text{VAHU} = \frac{\text{VA}}{\text{HR}_t}$$

Value Added Human Capital Coefficient – VAHU shows the amount of value added created by a of currency invested in employees during ICT project.

Structural Capital Efficiency of VA (Structural Capital Efficiency – SCE) [31].

(7)
$$\text{SCE} = \frac{\text{VA}}{\frac{1}{SC_t}} = \frac{SC_t}{VA}$$

Efficiency for structural capital is different. Pulic sustains that structural capital and human capital are reciprocal, the larger the share by human capital, the smaller the share by structural capital.

Structural Capital Efficiency – shows the share of Structural Capital in the value added created.

As soon as original formula of Pulic concept VA sees as [31]:

(8)
$$VAIC = \frac{VA}{CE} + \frac{VA}{HR} + \frac{SC}{VA}$$

Paulic method makes no distinction between flows and inventories [32]. Andriessen explains that Value added is a flow indicator for return on assets, as is capital employed, human capital, and structural capital (which are not inventory indicators). In the original Pulic concept under the VAIC method labour expenses are treated as inventories. Analysing the efficiency mentioned above, authors also conclude that according to Andriessen, this ratio does not mean efficiency, as it provides no information on the contribution by human capital in value creation, but more the share of specific input in VA. But nonetheless, authors insist that these shares in VA are still important for VA analysis as it gives us better understanding of α, β correlation coefficients.

Based on previously conducted research [29], authors of the article made description to the VA creation model. VA creation model regarding financial part (formula 1) - α, β coefficients. Authors also conclude that these values are very sensitive to company strategy. After analyzing financial figures (expenses and profits) coming from ICT, authors of the article suggests (for more information see also Roos et al. (1997) presented conclusions), that α, β coefficients should be based on company strategy [19].

It means that, if company`s strategy is sustainable development, these coefficients should be less sensitive, and, in case, company`s shareholder support speculative strategies - more sensitive. It could be easily understood as soon as one of IC capital fundamentals is long-term value creation.

As for nonfinancial part of our model, using previously conducted research (result are provided by SPSS), authors of the paper found that δ coefficient is more complicated and should be expressed as sum of correlations coefficients (Table 2) [29].

$$(9)$$

$$\delta = \sum_{i}^{n-1} f_i^j$$

Where δ_1 - is sum of correlation coefficients (Table 2);

i=1 - corresponding IC factor;

j=1 - corresponding IC correlation coefficient.

Table 2

IC factor`s correlation coefficients based on conducted research [29, 177-178]

Nr	Factor description	Factors variables	Correlation coefficient (average)
1	Knowledge about use of e-environment tools	7	0.917
2	Knowledge about ICT tools and its usage	3	0.725
3	Knowledge about e-environment models	1	-0.869
4	Communication with interested party online	4	0.795
5	ICT unit as sale and marketing instrument	1	0.701
6	Usage of e-environment tool for customer and marketing research	3	0.770
7	Knowledge about institutional services	5	0.852
8	E-environment tool acceptation in HR	2	0.825
9	E-environment tool diversity	2	0.811
10	Use of institutional services for business goals.	2	0.736

6. CONCLUSIONS

In this paper our main goal was to reveal the main theoretical and practical aspects of the company's value added. We created the concept model to discover the relation between company's value added and intellectual capital.

The aim is to evaluate the relation between company's value added and intellectual capital. Our model is created to explain the causal relation among these three types of capital in IC model and value added. Only by measuring the causal relation will IC efficiency be determined. Authors declare that Intellectual capital is one of the most relevant intangibles for a company, and the concept with measurement, and the relation with value creation is necessary for modern markets.

We added the variables that will help companies to evaluate contribution of each element of IC.

More empirical researches are needed to investigate the relation effect of Intellectual capital on value creation.

Finally, our findings indicate that the relations between IC elements and VA are complicated. This relationship has different inputs with different evaluating methods and specific impact on VA. The results suggest that companies do not homogeneously receive outputs from IC elements. Nonetheless our presented coefficients and time-series properties have made some contributions to dynamic nature of IC relation and VA.

This paper emphasizes the importance of a company's IC and the positive interaction between them in generating profits for company

As a first step of our research, there is not yet fully approved direct correlation between model factors, and therefore authors are forced to use in future researches more information analysis presented by companies.

7. REFERENCES

[1] Kay, J. 1995. Foundations of corporate success: how business strategies add value. Oxford: Oxford university press.

[2] McLean, G. N. 2006. Organization development: principles, processes, performance. San Francisco: Berrett-Koehler.

[3] Pitelis, C. N. 2009. The co-evolution of organizational value capture, value creation and sustainable advantage, **Organization Studies** 30: 1115-1139. doi:10.1177/0170840609346977

[4] Bowman, C.; Ambrosini, V. 2010. How value is created, captured and destroyed, **European Business Review** 22(5): 479-495. doi:10.1108/09555341011068903

[5] Bang, A.; Molgaard, C. C.; Pia, B. 2010. How to create business value in the knowledge economy. Accelerating thoughts of Peter F. Drucker, **Management Decision** 48(4): 616-627. doi:10.1108/00251741011041382

[6] Porter, M. E. 1979. "How competitive forces shape strategy". **Harvard Business Review**. Retrieved 9 September 2013

[7] OECD. 1996. Measuring what people know. Paris: Organization for Economic Co-operation and Development.

[8] Zeghal, D.; Maaloul, A. 2010. Analysing value added as an indicator of intellectual capital and its consequences on company performance, **Journal of Intellectual Capital** 11(1): 39-60.

doi:10.1108/14691931011013325

[9] Bontis, N. 1999. "Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field", **International Journal of Technology Management**, 18, 5/6/7/8, 433-462.

[10] Stewart, T.A. 1991. "Brainpower: How Intellectual Capital is Becoming America's Most Valuable Asset". **Fortune**. June 3, 1991. pp. 44-60.

[11] Edvinsson, L., and Malone, M.S. 1997. Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower. Harper Business, New York.

[12] O'Regan, D.; O'Donnel, P.Coates, 2000. Intellectual capital: a habermasian introduction, **Journal of Intellectual Capital** 1(2): 187-200. doi:10.1108/14691930010377496

[13] Sveiby, K.E. 1997. The New Organizational Wealth: Managing and Measuring Knowledge-based Assets. San Francisco: Barrett-Kohler Publishers

[14] Drucker, P. F. 1993. Post-capitalist society. Harper business, New York, NY.

[15] Brooking, A. 1996. Intellectual Capital: Core Assets for the Third Millennium Enterprise. London: Thomson Business Press, London.

[16] Standfield, K. 1999. Knowcorp, [Electronic resource], viewed on March 22, 2014 <http://www.knowcorp.com>.

[17] Pike, S., Rylander, A. and Roos, G. 2000. Intellectual capital management and disclosure In the Strategic **Management of Intellectual Capital and Organisational Knowledge**. Oxford University Press, New York.

[18] Rylander, A., Jacobsen, K. and Roos, G. 2000. Towards improved information disclosure on intellectual capital. **International Journal of Technology Management** 20(5–8), p. 715–741.

[19] Roos, J., G., Dragonetti, N.C., and Edvinsson, L. 1997. Intellectual Capital: Navigating in the New Business Landscape. Macmillan: London.

[20] Porter, M. 2008. The Five Competitive Forces That Shape Strategy. **Harvard Business Review** (01).

[21] Fruhan, W. 1979. "The NPV Model Strategy – the Shareholder Vale Model" in Financial Strategy: Studies in the Creation, Transfer, and Destruction of Shareholder Value. Homewood: Irwin, p. 122-124.

[22] Kambil, A.; Ginsberg, A; Block, M. Rethinking Values Propositions// **Working Paper, NYU Centre of Research of Information Systems**. 1997, p. 34-36.

[23] Osterwalder, A., Pigneur, Y. 2009. **Business Model Generation**. Hoboken: John Wiley & Sons, p.279.

[24] Freeman, R. 1984. **Edward Strategic Management: a Stakeholder Approach**. Boston: Pitman, 276 p.

[25] Osterwalder, A., Pigneur, Y. 2003. Modeling Value Proposition in E-business// **ICEC'2003 Proceedings**. Lausanne: University of Lausanne.

[26] Laudon, K; Traver, C. 2010. **E-Commerce**. 6th edition. Upper Saddle River: Prentice Hall, p.960-961.

[27] Ščeulovs, D.; Gaile-Sarkane, E. 2010. Identification of factors affecting consumer habits in the e-environment// **Business and Management 2010 selected papers.** Volume 1. Vilnius: VGTU Press "Technika", p. 965-970.

[28] Business Model Foundry: The Business Model Canvas. [Electronic resource], viewed on March 20, 2014,<http://www.businessmodelgeneration.com/canvas>

[29] Ščeulovs, D. 2013. Use of Electronic Environment in Entrepreneurship Development// **Doctoral Thesis.** Riga: RTU Press, p. 80-87.

[30] R. Hermans, I. Kauranen. 2005. Value creation potential of intellectual capital in biotechnology – empirical evidence from Finland. **R&D Management** 35, 2. Blackwell Publishing Ltd.

[31] Pullic, Ante. (2000) VAIC TM: an accounting tool for IC management. **International Journal of Technology Management**, Vol.20, nº5,6,7,8. 2000. MVA.

[32] Andriessen, D. Making sense of Intellectual Capital: designing a method for the Valuation of Intangibles. **Elsevier**: Oxford. 2004.

[33] Lapiņa, I., Maurāne, G., Stariņeca, O. Holistic Human Resource Management Model towards Sustainable and Sophisticated Business// **Proceedings of the 17th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2013)**. p.31-36. [Electronic resource], viewed on April 12, 2014 <http://www.iiis.org/Proceedings/2013Proc/ViewProc2013.asp?id=SA0213>.