

Formation of Competitive Strategic Decisions in ICT Development Conditions

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Abstract

One of the most important research objects in comprehensive theories of strategic management for theoreticians and representatives of business is making appropriate competitive strategic decisions and achieving competitive advantage in a dynamic and uncertain business environment. However, while the schemes for evaluation and selection of alternative decisions are given much attention in the strategic management literature, attention given to specific implementation and practical application of competitive strategic decision methods is not sufficient. The research was targeted on the creation of the model of formation competitive strategic decisions and an ability to solve business change problems in practice by using good ICT practice cases.

Keywords: ICT, change management, competitive strategic decisions, formation of strategic decisions.

Introduction

Processes of information and communications technologies (ICT) integration are becoming more powerful. Work under new conditions of ICT development has not only advantages, but also causes certain problems as well as new conflicts within an organization. Inadequacy of models applied in change management and current market requirements can determine a decrease of a competitive ability for business organizations in the ICT caused business environment.

Theoretical models and their application practice do not coincide with change management requirements of latter-days. They are determined by pervasion of information technologies, development of virtual organizations as well as business under the conditions of ICT evolution.

The aim of the article is to investigate opportunities of change management and formation of competitive strategic decisions in ICT development conditions.

Research objectives: to evaluate external and internal competition factors, changes caused by ICT development and a present model of competitive strategic decisions formation.

Research methods: analysis of scientific literature, methods of conceptual synthesis; multiple criteria assessment; special techniques fit to classify various ICT projects considering their goals, markets, users and lessons learned.

Research results: the model of the formation of competitive strategic decisions is proposed, which is based on the synthesis of the following elements: assessment of competition factors and composing of a set of competitive strategic decisions in the knowledge economy.

1. Challenges for business management caused by the development of ICT

A research on ICT and business development was done in order to evaluate the relation between them and possibilities to forecast further steps and changes. During the research the relations between business, communication and computer technologies were identified (Elskytė, 2006a, 2006b). Main tendencies, which were detected during this research, were:

- tight relation between business management theory and ICT development has existed since the earliest ages when first steps of these sciences were noticed (e.g. printing machine of J. Gutenberg, first advertisements in England, telegraph, telephone, radio, the earliest schools of business management, etc.);
- ICT is a catalyst of the evolution of business management and vice versa;
- time intervals between new discoveries has been decreasing in timeline starting XX century: 20 years at the beginning, 10 years in the middle, 5 years at the end. That is the cause of business dynamics – the processes of business environment changes are becoming faster and that is a challenge for management science.

The results stated that underlying attention should be paid to the identification of management

problems in the business environment affected by ICT changes and essential management methods and strategic decisions should be identified.

2. Theoretical assumptions for the formation of competitive strategic decisions

A choice of an appropriate competitive strategy and, consequently, creation of competitive advantages are dependent upon the formation of a sound set of competitive strategic decisions. Therefore, complex assessment of internal and external factors of competition (ICT development influences on these factors is undeniable), precise identification of a competitive position of an enterprise, selection of a competitive strategy, formation of a set of competitive strategic decisions become important tasks pursuing to form quality competitive strategic decisions. At this stage enterprises face the problems of developing an approach to form appropriate competitive strategic decisions and achieving an optimal amount of decisions so formulated. Thus, formation of a set of competitive strategic decisions is a difficult process: enterprises can incur losses if inferior competitive strategic decisions are formed. To solve this problem methodological instruments are needed which would lead to the formation of quality competitive strategic decisions taking into consideration the ratio of utility and costs for a business unit.

Problematic questions in the formation of competitive strategic decisions need more research integrating current and making new models of the formation of strategic decisions. Advances made by researchers (Porter, 2005; Hitt, 2006; Strandskov, 2006) in this subject area provide grounds for proposing the model of formation of competitive strategic decisions by integrating their insights, theoretical views and methods.

The process of evaluation and selection of competitive strategic decisions starts only if a set of competitive strategic decisions is formed and this first step demands considerable time and financial costs from business. Researchers and business practitioners with the goal of finding universal, specific and practically applicable schemes for the formation of competitive strategic decisions actively continue scientific discussions on the formation of competitive strategic decisions.

Comprehensive management theories give different interpretations and assessments of an enterprise, its environment and factors influencing the formation of competitive strategic decisions, therefore the researcher faces the problem which of views reflects the reality more correctly and completely (Porter, 2005; Hitt, 2006; Strandskov, 2006). In order to assess complexly the external and internal factors of competition and, consequently, to form a set of com-

petitive strategic decisions, structural and resource-based views on competitive advantage were selected (Raudeliūnienė, 2007, 2008).

In the process of creating the model of the formation competitive strategic decisions the following scientific and practical assumptions were identified (Grant, 1998; Foss, 2005; Porter, 2005; Hitt, 2006; Strandskov, 2006):

1. Of all the elements of a strategic management process, the formation of competitive strategic decisions is methodologically most difficult to substantiate and complete although there are quite a lot of broad models conceptualizing the formation of competitive strategic decisions.
2. Analysis of the process of the formation of competitive strategic decisions has revealed that the major parts of this process are strategic analysis and stages of strategy creation.
3. The models of assessment of internal and external factors of competition are characterised by relating characteristics of the market and resources of a firm and by proving causal relationships among them.
4. These models of assessment of competition factors lack a consistent conception of how to form competitive strategic decisions and to apply them in business practice having assessed the internal and external factors of competition.
5. Based on analysis of the conceptions of competitive strategies, a competitive strategy is treated as a whole of competition decisions of an enterprise emphasizing aspects of the behavior of the competitors, use of the internal resources and a competitive position held.
6. Factors of competition are defined as resources of an enterprise and opportunities in the market that create grounds for achieving a competitive advantage for an enterprise against other enterprises.

These assumptions enabled to create a model of the formation of competitive strategic decisions, which make the process of forming decisions easier and help to manage changes caused by ICT development.

3. The model of competitive strategic decisions formation

The model of the formation of competitive strategic decisions is proposed which allows complex assessment of the external and internal factors of competition, identification of a competitive position and a composition of a set of competitive strategic decisions (Fig. 1). To assess the factors of competition, a multiple stage assessment system of assessment criteria is formed encompassing primary (first stage) criteria, partial integrated (second and third stage) criteria and integrated complex criteria.

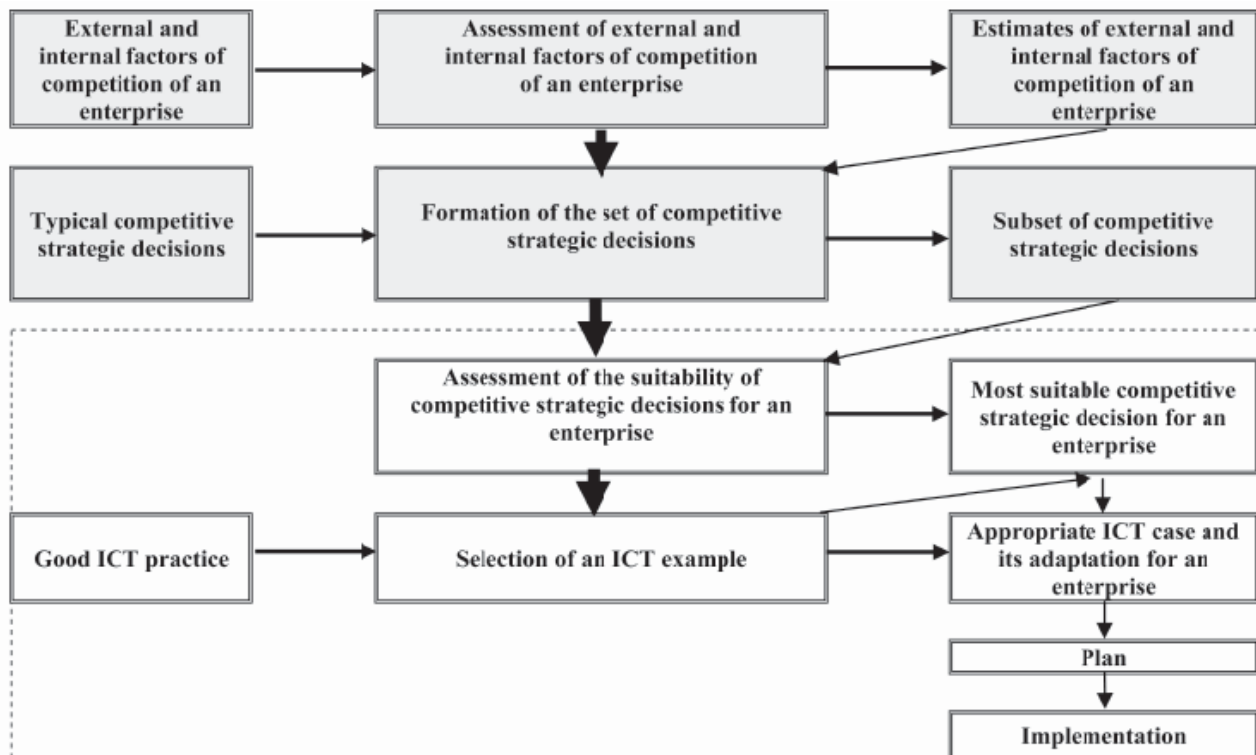


Fig. 1. The model of the formation of competitive strategic decisions (Raudeliūnienė, 2007)

Based on empirical research on Lithuanian small and medium sized enterprises a list of dominant external and internal factors of competition and their assessment criteria is formed. The list of criteria assessing external competition factors comprises attractiveness of the market segment (i.e., attractiveness of business conditions, growth of a market segment) and a market position of an enterprise (i.e., product / service positioning, the customers). The list of criteria assessing internal (resource-based) competition factors encompasses the personnel (motivation system, professional and social competencies), information and communication technology (ICT infrastructure, ICT used in processes, ICT innovations), profitability and efficiency levels.

A multiple stage criteria system is being used to achieve more objective and precise assessment of competition factors and comparability of results among the groups of assessment criteria. At the stage of the formation of a set of competitive strategic decisions, a competitive position of an enterprise is identified (based on measures of integrated criteria of external and internal factors of competition), competitive strategy of an enterprise is identified (“leader”, “challenger to the leader”, “follower of the leader”, “niche player”) (adapted by Kotler, 2006) and a set of competitive strategic decisions is formed.

Assessment of external and internal sources of competition. The multiple stage criteria system allowing assessment of external and internal factors of

competition is proposed. The assessment procedure is set as follows: a group of experts is assembled, a list of primary assessment criteria is revised, weights of assessment criteria are determined, the values of criteria are assessed and normalised, the values of integrated criteria are calculated and the results of assessment are presented (adapted by Ginevičius, 2004, 2005, 2006). The multiple stage system of criteria assessing external and internal competition factors is formed, which is characterised by objective and precise assessment of competition factors and allows assessment of the main aspects of the industry structure and internal resources of an enterprise. While forming a set of criteria for the assessment of competition factors the principle of multi sidedness of the phenomenon is observed and both qualitative and quantitative criteria are included. In order to enhance flexibility of the assessment system for use in different market segments, the weights of the criteria and the values of the primary criteria are estimated by experts taking into consideration particularities of a given business and a market segment.

The integrated criterion of external competition factors I' is the weighted sum of primary (first stage) and partial integrated (second and third stages) criteria of external competition factors:

$$I' = \sum_i \omega_i \sum_j \omega_{ij} \sum_k \omega_{ij}^k \cdot I_{ij}^k, \quad (1)$$

where: ω_i – weight of the partial integrated (the third

stage) criterion; ω_{ij} – weight of the partial integrated (the second stage) criterion; ω_{ij}^k – weight of the primary criterion; I_{ij}^k – value of the primary criterion; i, j, k – index of the criterion.

It follows that the integrated criterion assessing external competition factors I' shows the total score of market segment attractiveness I_1 and strength of a competitive position of an enterprise in a market segment I_2 , with appropriate weights assigned:

$$I' = I_1 \cdot \omega_1 + I_2 \cdot \omega_2. \quad (2)$$

The integrated criterion V' assessing internal competition factors is the weighted sum of primary (first stage) and partial integrated (second, third stage) criteria of internal competition factors:

$$V' = \sum_i \omega_i \sum_j \omega_{ij} \sum_k \omega_{ij}^k \cdot V_{ij}^k, \quad (3)$$

where: ω_i – weight of the partial integrated (the third stage) criterion; ω_{ij} – weight of the partial integrated (the second stage) criterion; ω_{ij}^k – weight of the primary criterion; V_{ij}^k – value of the primary criterion; i, j, k – index of the criterion.

It follows that the integrated criterion assessing internal competition factors V' shows the total score of personnel motivation and competencies V_1 , ICT employed in an enterprise V_2 , profitability level V_3 , with the appropriate weights assigned:

$$V' = V_1 \cdot \omega_1 + V_2 \cdot \omega_2 + V_3 \cdot \omega_3. \quad (4)$$

Formation of a set of competitive strategic decisions. At this stage competitive position of an enterprise is identified within the matrix of competitive positions proposed by the author (according to the calculated integrated criteria reflecting external I' and internal V' competition factors); a competitive strategy is selected (“leader”, “challenger to the leader”, “follower of the leader”, “niche player”); from a set of competitive strategic decisions competitive strategic decisions are formed allowing to implement the selected competitive strategy with minimal expenditures. This is achieved by returning to the first stage, i.e., assessment of external and internal factors of competition (primary assessment criteria), and comparing the obtained values of the primary criteria to the values suggested by the selected strategy. While forming a subset of competitive strategic decisions

consideration of a maximum gap between the highest possible and actual values of the criteria assessing competition factors is taken into account:

$$A_i = (N_i \cdot \omega_{ij}^k) - (N_i^* \cdot \omega_{ij}^k), \quad (5)$$

where: A_i – maximum gap between scores of external and internal competition factors and normalised criteria values; N_i – normalised value of primary criterion; N_i^* – the highest possible normalised value of the primary criterion; ω_{ij}^k – weight of the primary criterion.

The gap obtained is explicated as problem areas to be solved by the chosen strategy and by subset of competitive strategic decisions that is formed from the proposed set of competitive strategic decisions.

A possibility to apply in principle the model of business change management in ICT development conditions of V. Elskytė to the model of the formation of competitive strategic decisions of J. Raudeliuniene is evaluated.

4. Change management models in the contexts of ICT development

Innovations, business changes, knowledge society and use of ICT in business problems are topical for many authors but the proposed attributes (methods and models) do not include change management and ICT practice, what enables to solve change management problems in an organization in ICT development conditions. Analysis leads to the conclusion that in ICT development conditions traditional „step by step“ methods of business management are not efficient enough, so more drastic ICT caused business change management methodology is needed.

Gaps in change management theories were detected considering rapid changes caused by ICT. In the approach methodology accent is consequent change implementation (for example, Kanters' model; Lewin's model), which is quite complicate in information age conditions, when markets are so dynamic (Champy, 1995; Энциклопедия, 2002; Kanter, 1984). In the emergent methodology changes are related to strategy planning and to actions after that but most of the models are not oriented to rapid changes (for example, five forces model). As one of the most relevant models P. Strebel's matrix was detected as a relevant change management model search tool, which can be used (Strebel, 1996; Elskytė, 2006a; 2006b).

A very important point in change management becomes organizational changes related to ICT integration in to a business process. There can be

defined many different situations and organization positions in the changing environment. Change management solutions should be classified by the level of resistance:

- Discontinuous paths recommended for organizations where resistance to changes is strong. The dominating culture of resistance should be determined in order to create a convenient environment for thus who will implement changes.
- Mixed paths recommended for organizations where resistance to changes is medium. The top managers should support those who are the initiators of changes.
- Continuous paths recommended for organizations where resistance to changes is weak. Experiments should be allowed and changes incoming one after another organically.

According to P. Strebel's matrix, the systematic and relevant for the conditions of information age conditions ways of change implementation we-

re detected (Fig. 2) (Strebel, 1996; Elskytė, 2006a; 2006b). When the strength of force of changes is medium recommended solutions are: (1) Raising tasks, (2) Business process reengineering, (3) Regrouping the organization. When the strength of force of changes is strong recommended solutions are: (4) Rapid adaptation, (5) Individual restructurization, (6) Radical restructurization.

A need of two trends of a decision making process and ICT solution search were detected in change management tasks solutions during the research: when the organization must react to changes which arise in the market, the idea of reaction is needed, and even after the idea is generated the best way of implementation is not clear enough; when the organization wants to take competitive advantage via creating break-even in the market by implementing ICT innovations and has a concrete idea how to succeed that. Then the way of implementation of this idea arises.

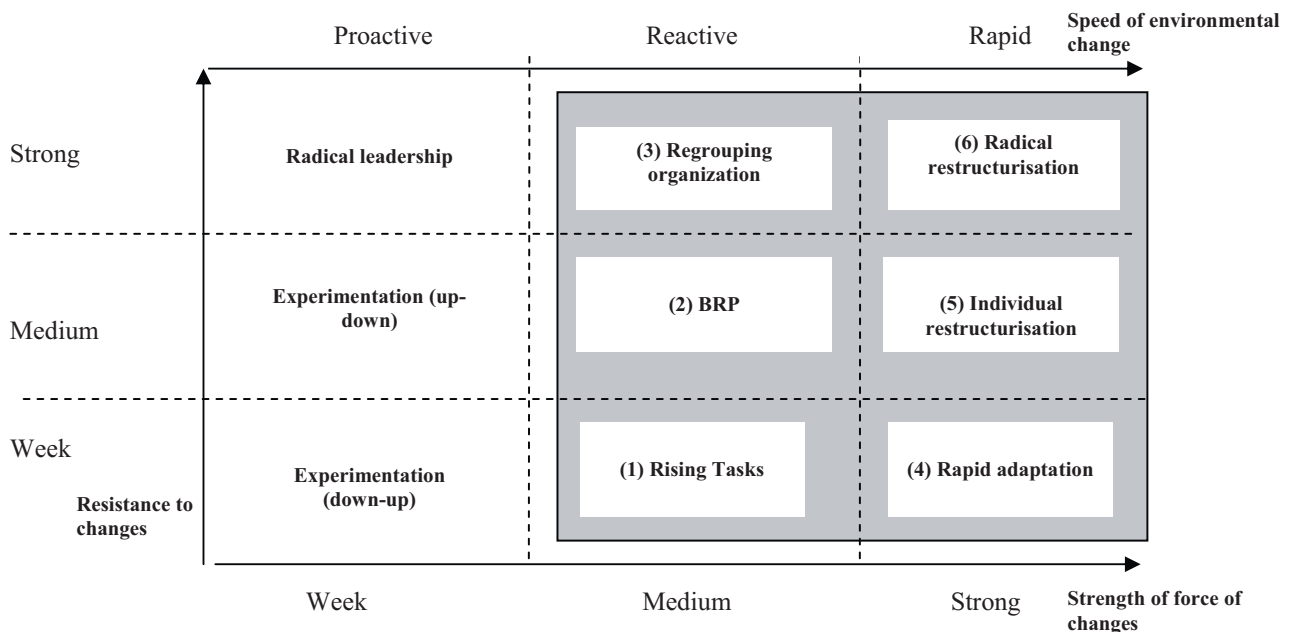


Fig. 2. Model of change management solutions (Elskytė, 2006a)

So, after all, analysis of the papers leads to a conclusion that in such a dynamic business environment a typical solution knowledge base is necessary. Good practice examples enable to shorten the life circle of idea generation and change implementation.

5. Good ICT practice – change management source

More detailed analysis of three sources was made: “Beep Knowledge System” (2006), “eMarket Services” (2006), “National best practices” (2006).

However this knowledge bases is adapted for easy case data management and is not oriented to decisions related to ICT changes making in SMI (small

and medium size enterprises employees). The main disadvantage was detected – it is not oriented to easy usage by end users.

Dimensions which describe ICT projects and let classify these ICT projects were extracted during analysis:

1. aim of the project (for example, improving communication),
2. market coverage (how wide was usage of ICT solution),
3. ICT user (who is the main user who takes advantage of new possibilities which ICT gives),
4. ICT means (theoretical models and practical usage rules),
5. ICT purpose (knowledge of practical ICT usage),

6. business field (what kind of activities the organization proceeds via ICT),
7. country (where the ICT project was initiated),
8. investments (costs of implementation and exploitation),
9. results (lessons and project success story).

After evaluation three of them were identified as most relevant. These dimensions scale is described by key characteristics:

1 dimension – market coverage: global (organization activities are oriented to different countries' markets), global-intra (departments of the organization are in different countries), local (organization operates in one country), local-intra (departments of the organization are in different cities of the country);

2 dimension – ICT users: employees, business units, end users, special group of end users;

3 dimension – objectives of the ICT project: new business, knowledge management, communication improvement, additional business trend, sales improvement, etc.

These findings lead to deeper research into knowledge base and good ICT practice cases because a necessity of ICT cases classification is one of stand points in change management in ICT development conditions modeling. In order to make easier search engines of ICT cases three main evaluation dimensions were extracted (goals of ICT implementation, ICT users and market coverage).

Research on ICT practice cases results, where typical criteria and indicators were detected, the dynamics, trends and tendencies founded (Elskytė, 2006a; Elskytė 2006b). Six main trends (paradigms) of ICT usage, which are described by key dimensions, present further:

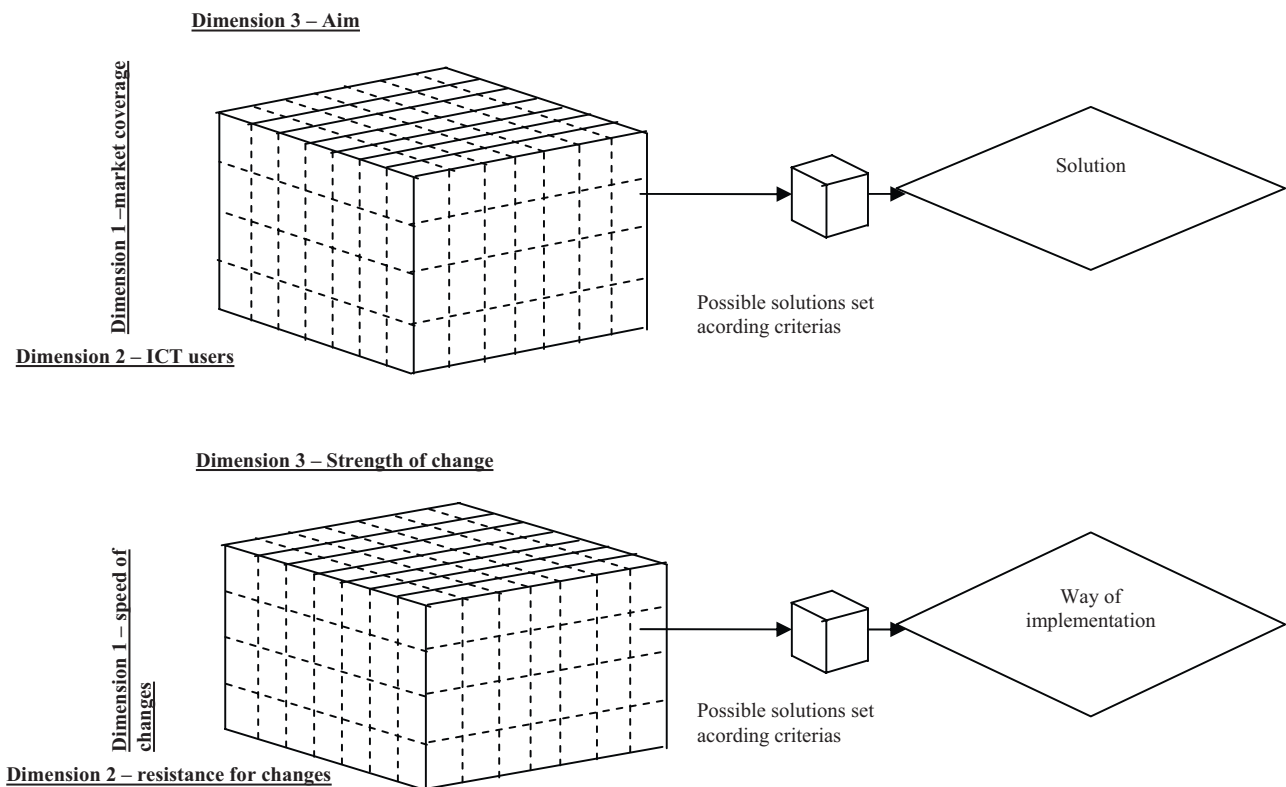
- **P₁** recommended for organizations that act in global markets or have distant departments. Paradigm joining all ICT usage in organization cases when ICT users are employees of the organization. The aim of ICT usage in most cases is: improving communication, knowledge management, information storage improvement, etc.
- **P₂** recommended for organizations that act or plan to act in global markets and do not have distant departments. Paradigm joining all ICT usage in organization cases when ICT users are business units using virtual environment for information spread, contracting or offering rent of the virtual environment for other business units. The aim of ICT usage in such cases is: new business or service near main activities, etc.

- **P₃** recommended for organizations that act or plan to act in the local market. Paradigm joining all ICT usage in organization cases when ICT users are employees as administrators and customers (as buyers of products or services). The aim of ICT usage in such cases is: increasing sales, conquering new markets, etc.
- **P₄** recommended for organizations that act or plan to act in the local market and oriented to EU funding. Paradigm joining all ICT usage in organization cases when ICT users are specific social groups. The aim of ICT projects in such cases is: increasing sales via collaboration with non-profit organizations, aid in preparation and implementation of ICT projects, etc.
- **P₅** recommended for organizations that act or plan to act in the global-intra market (employees are spread widely from the geographical point of view). The principles of business processes can change drastically. Paradigm joining all ICT usage in organization cases when ICT users are employees (customers feel minimal changes in this case). The aim of ICT usage in such cases is lower administration and exploitation costs, work processes organized by ICT means.
- **P₆** recommended for organizations that act or want to act more efficiently in the local-intra market. The principles of business processes can change drastically. Paradigm joining all ICT usage in organization cases when ICT users are employees. The aim of ICT usage in such cases is: increasing efficiency of services, decreasing administration costs, etc.

The paradigms are a knowledge basket of similar ICT projects, which must be evaluated in change management solutions search as relevant and positive (after evaluation only one should remain).

6. Applying a change management model

According to research on change management theories results are the existing two different situations, when solution and good practice case examples are needed. Change management solutions in ICT development conditions can be found: when the organization seeks for the idea of ICT project and when the organization seeks for a better way of implementation of ICT (Fig. 3).



- (1) ICT project idea search
- (2) Way of change implementation

Fig. 3. Ways of ICT solution search (Elskytė, 2006a; 2006b)

Three dimensions for an ICT project idea and know-how extraction are foreseen and another three dimension space for change management method search by using Strebel's matrix is presented. So, six dimension spaces are used in change management in an ICT development conditions model, where a relevant ICT solution and implementation way can be found, evaluated and chosen. Users who seek for ideas or want to compare own ideas with real ICT practice can proceed search in the first (three dimension) way and after that proceed the second way of implementation search. The principles of the model illustrate the algorithm presented in Fig. 4.

I. First way (marked with blue boxes), when change in the market appears and reaction (solution) to this change is needed will be presented by solving an experimental task (search of ICT good practice case) in order to demonstrate practical principles of this model. Such steps should be followed:

1. *Change.* Evaluation of the business environment and situation in the organization.
2. *Aims and objectives.* Resent and aimed market coverage should be defined, aims and objectives of the organization in ICT change environment

should be clear and potential ICT users described.

3. *Search of ideas (solution).* When these three main criteria are defined, next step is to detect from the whole list of cases (knowledge base) the most relevant paradigm.
4. *Expert group.* Next step is to evaluate cases of the chosen paradigm and detect the most relevant ICT project ideas. For evaluation an expert method is suggested as most relevant, because scoring alternative ICT solutions is quite difficult and because they differ from each other in descriptions, lessons learned, etc. The expert group should be gathered to evaluate the alternative projects.
5. *Evaluation of alternatives.* Evaluation should proceed in such way:
 - First of all, the expert group determines a list of criteria. Experts can prepare a list or adopt the suggested.
 - Weights and scores can be largely subjective, so each expert indicates the weight of each criterion of each project by filling matrix according to objectives (Table 1).

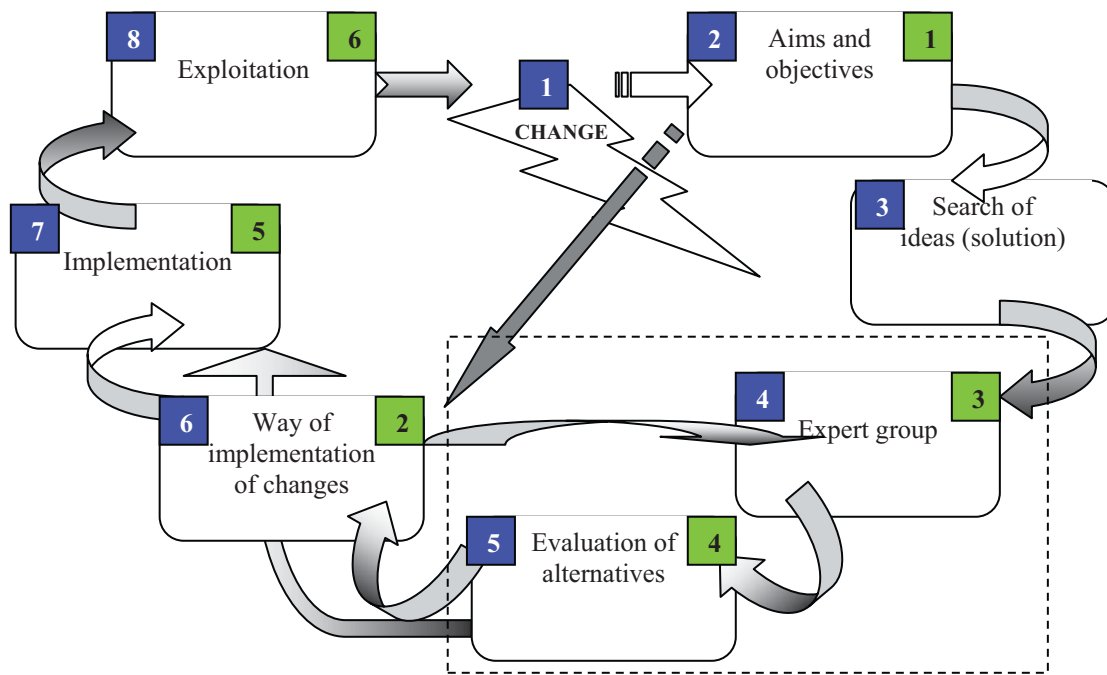


Fig. 4. Change management solution search algorithm (Elskytė, 2006a; 2006b)

Table 1

Comparisons of criteria matrix

Criterion	K_1	K_2	...	K_c	Weight (2+3+...+5)	Weight coefficient
K_1	0				S_1	$X_1 = S_1/(n \times c)$
K_2		0			S_2	$X_2 = S_2/(n \times c)$
...			0	
K_c				0	S_c	$X_n = S_n/(n \times c)$

Where: n – points of evaluation system (for example, in this task – 10 point evaluation system); c – amount of criteria; S – sum of point of the criterion (weight); X – weight coefficient of the criterion.

- From all evaluated projects a matrix of minimal and maximal values of the criterion should be found: $I_u^{\max} = \max\{A_u\}$; $I_u^{\min} = \min\{A_u\}$. There: I_u^{\max} – maximal value of criterion; I_u^{\min} – minimal value of criterion; u – number of the criterion; A_u – set of u criteria of all alternative projects; m – amount of alternative projects.

- The value of a criterion score should be calculated by:

$$BV_u = \frac{I_u^{\max} - I_u^{\min}}{n} \quad (6).$$

- Then all values of each projects criterion are calculated:

$$Y_{ui} = \begin{cases} \frac{I_{ui} - I_u^{\min}}{BV_u} & \text{when increase of value of the criterion is positive factor,} \\ \frac{I_u^{\max} - I_{ui}}{BV_u} & \text{when decrease of value of the criterion is positive factor,} \end{cases} \quad (7)$$

where, Y_{ui} – evaluation of criterion of the project. Only then total project evaluation scores are available (Table 2).

- 6. *Way of implementation of changes (ICT innovations)*. A market situation and indicators of the changing environment should be determined. For choosing a change management method a three dimension space (where P. Strebel’s (1996) matrix is adapted) of the model should be used. After the business environment changes the evaluation of the criteria of speed of changes, resistance to changes, and strength of changes must be detected and

chosen on knowledge base. Alternative solutions that are offered must be evaluated by the expert

group. After that the ICT project implementation methodology is recommended.

Table 2

Project evaluation

Criterion Project	K_1	K_2	...	K_c	Total score
IP_1	Y_{11}	Y_{21}	...	Y_{c1}	$Z_1 = (X_1 Y_{11} + X_2 Y_{21} + \dots + X_c Y_{c1})$
IP_2	Y_{12}	Y_{22}	...	Y_{c2}	$Z_2 = (X_1 Y_{12} + X_2 Y_{22} + \dots + X_c Y_{c2})$
...
IP_m	Y_{1m}	Y_{2m}	...	Y_{cm}	$Z_m = (X_1 Y_{1m} + X_2 Y_{2m} + \dots + X_c Y_{cm})$

7. *Implementation.* After each evaluation process decisions should be made and the ICT project that was detected should be implemented in a recommended way.

8. *Exploitation.* After implementation the exploitation phase lasts until new changes appear.

II. Second way (marked with green boxes), when the company wants to initiate changes in the market and have an idea and a businesses plan / or want to find an innovative idea which can increase competitive advantage of the company. The rules for finding a solution are the same (only a sequence of steps differs).

These two alternative searches of change management solutions when the organization seeks for the idea of an ICT project and when the organization seeks for a better way of implementation of an ICT project enables to shorten innovative projects life cycle (idea finding, project concept preparation, documentation preparation time), also it minimizing risks of implementation, helps to detect the most relevant management solution (detect change management method) what is a very important standpoint in change management caused by ICT development.

Conclusions

1. According to the research, ICT is a catalyst of the evolution of business management. Shortening periods of natural development of analyzed fields were noticed: 20 years at the beginning, 10 years in the middle, 5 years now. This is a challenge for business management.
2. Based on the carried out research the model of the formation of competitive strategic decisions is proposed that provides means for business practitioners to form a set of competitive strategic decisions in an efficient way. In the process of creation of the model the following scientific and practical conclusions are formulated.
 - Of all the elements of a strategic management process, the formation of competitive strategic decisions is methodologically most difficult to

substantiate and complete although there are quite a lot of broad models conceptualizing the formation of competitive strategic decisions.

- Assessment criteria are grouped by the contents and reflect the characteristics of the business environment, market segment, aspects of customers, product / service positioning, financial sustainability, internal processes, technological conditions, and human resources of the enterprise.
 - Having analysed methods of multiple criteria assessment, the method of complex multiple criteria assessment is selected to assess factors of competition allowing more objective and flexible analysis of the external and internal factors of competition.
 - The proposed model is characterised by complex assessment, makes the process of forming competitive strategic decisions easier, allows identifying weaknesses and strengths of the enterprise and permits to form a smaller subset of competitive strategic decisions for further evaluation.
3. During research into management theories the conclusion were made: progressive methodologies and models of empirical and system theories should be used, attention should be paid to good ICT implementation practice cases.
 4. ICT projects were classified and good practice cases search rules were proposed. Three main dimensions were extracted: market coverage, ICT users and project objectives. Six paradigms, which join common parameters ICT practice cases were detected, what leads to an easier ICT case search process, studies and evaluation.
 5. The change management solution search algorithm in ICT development conditions was proposed. It joins management theory and practice, enables to improve competitive advantage, shortens ICT projects implementation cycle. Two alternative search mechanisms of change management solutions were proposed and described. This methodology solves problems of shortening time of innovative projects life cycle, risk minimization

in ICT project implementation what is very important in change management caused by ICT development when solutions are a part of strategic decisions.

6. The methodology presented in this article is universal because the model of formation competitive strategic decisions and the model of change management in ICT development conditions can be integrated and help make decisions separately as well.

References

1. Champy, J. (1995). Reengineering management: the mandate for new leadership. New York: Harper Collins Publishers.
2. BEEPknowledge system. <http://www.beepknowledge-system.org>. [žiūrėta 2006 01 15].
3. Emarket services: <http://www.emarketservices.com>, [žiūrėta 2006 01 15].
4. Elskytė, V. (2006a). Verslo pokyčių, susijusių su informacinių technologijų ir telekomunikacijų plėtra, valdymo modeliavimas. (Daktaro disertacija, Vilniaus Gedimino technikos universitetas, 2006).
5. Elskytė, V. (2006b). Business change management in ICT development conditions. *Business and management '2006. Selected papers*. Vilnius: Technika, p. 328–334.
6. Elskytė, V., Raudeliūnienė, J. (2006). Management of business changes caused by ICT development (ITT plėtros sąlygotų verslo pokyčių vadyba). *Management of Organizations: Systematic Research*, No 38, p. 53–66 (in Lithuanian).
7. Foss, N. J. (2005). Strategy, economics organization, and the knowledge economy: the coordination of firms and resources. Oxford: Oxford University Press, p. 229–235.
8. Ginevičius, R. (2006). Multicriteria evaluation of the criteria weights based on their interrelationship (Daugiakriterinio vertinimo rodiklių svorių nustatymas, remiantis jų tarpusavio sąveika). *Business: theory and practice*, Vol 7, No 1, p. 3–13. (In Lithuanian).
9. Ginevičius, R., Podvezko, V. (2004). Quantitative evaluation of the strategic potential of enterprises (Įmonių strateginio potencialo kiekybinis įvertinimas). *Business: theory and practice*, Vol 5, No 1, p. 3–9. (In Lithuanian).
10. Ginevičius, R., Podvezko, V. (2005). Generation of a set of evaluation criteria (Daugiakriterinio vertinimo rodiklių sistemos formavimas). *Business: theory and practice*, Vol 6, No 4, p. 199–207. (In Lithuanian).
11. Grant, R. M. (1998). Contemporary strategy analysis. Oxford: Blackwell Publishers.
12. Hitt, M. A., Hoskisson, R. E., Ireland, R. D. (2006). Management of strategy: concepts and cases. Ohio: Thomson, p. 5–88.
13. Kanter, R. M. (1984). Change – master skills: what it takes to be creative. New York: McGraw-Hill.
14. Kotler, P., Keller, K. L. (2006). Marketing management. 12 Edition, Prentice Hall.
15. National best practices. <http://www.e-bsn.org>, [žiūrėta 2006 01 15].
16. Porter, M. (2005). Competitive Advantage (Конкурентное преимущество). Moscow: Alpina Business Books. (in Russian).
17. Raudeliūnienė, J., Elskytė, V. (2008). Change management: formation of competitive strategic decisions. *Business and Management '2008. Selected papers*. Vilnius: Technika, p. 468–474.
18. Raudeliūnienė, J., Zinkevičiūtė, V. (2007). Competitive strategic decisions: formation and evaluation. *Social Researches*, Vol. 10, No. 2, p. 99–106.
19. Strandskov, J. (2006). Sources of competitive advantages and business performance. *Journal of Business Economics and Management*, Vol 7, No 3, p. 119–129.
20. Strebels, P. (1996) Mastering Management: Your Single – Source Guide to Becoming a Master of Management. London: FT Pitman Publishing, 1996.
21. Энциклопедия. Информационные технологии в бизнесе. (2002). Питер: Бизнес Класс.

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Konkuravimo strateginių sprendimų formavimas ITT plėtros sąlygomis

Santrauka

Informacijos amžiuo būdingi dinamiški pokyčiai turi lemiamą reikšmę verslui. Organizacijos turi greitai prisitaikyti prie sparčiai kintančių aplinkos sąlygų ir veiksmingiau panaudoti turimą potencialą. Nagrinėjama aktuali mokslinių tyrimų kryptis yra skirta pokyčių valdymo ITT plėtros sąlygomis ir konkuravimo strateginių sprendimų formavimo problemoms spręsti atsižvelgiant į naujus iššūkius, kuriuos lemia žinių ekonomikos formavimas ir internacionalizacijos procesai versle. Įvairūs požūriai, nagrinėjantys pokyčių valdymą ir su tuo susijusių sprendimų formavimą, skirtingai interpretuoja ir vertina ITT iššūkius.

Todėl kyla klausimas: kuris požūris tiksliau ir visapusiškiau atspindi ir perteikia tikrovę? Šiam probleminiam klausimui spręsti buvo pasiūlyti konkuravimo strateginių sprendimų formavimo ir pokyčių valdymo sprendimų paieškos modeliai, kurie sukuria reikiamas prielaidas organizacijų valdymui tobulinti globalizacijos ir žinių ekonomikos sąlygomis. Konkuravimo strateginių sprendimų formavimo modelis pasiūlyti objektyvesniu ir tikslesniu vertinimu, sudaro prielaidas nustatyti organizacijos stipriąsias ir silpnąsias sritis, formuoti pagrįstus strateginius sprendimus ITT pokyčių nulemtose aplinkoje.