

Organizational Knowledge Potential: Peculiarities of Formation Strategic Decisions

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Abstract. In the context of globalization and transformational processes, effective and efficient organizational knowledge potential management is a valuable instrument for implementing sustainability principles and leadership in knowledge-intensive organizations. Organizational knowledge potential was described as a combination of organizational resources that are effectively and efficiently applied by exploiting market opportunities. Its systematic assessment leading to effective and efficient management can facilitate more valuable satisfaction of constantly changing customers' information and knowledge needs and create mutual value and sustainability in local and global markets. Scientists and business practitioners underlined that critical organizational knowledge potential components have to be included and balanced not only in knowledge management practices but also in various business processes. Because of the dynamic and uncertain business environment, it is challenging to forecast organizational outcomes. Consequently, researchers and business practitioners controversially propose different perspectives, combinations of factors, and assessment methods for evaluating organizational knowledge potential related to outer and inner factors. Scientists and business practitioners exploring contrasting approaches and principles of organizational knowledge potential management and assessment define and assess knowledge-intensive organizations' knowledge potential variously. In this study, these problematic aspects were interpreted by combining a systematic management perspective integrating various scientists' views linked to extrinsic and intrinsic factors influencing organizational knowledge potential assessment and management processes. This research proposed a conceptual framework for forming strategic decisions of organizational knowledge potential management by integrating multiple criteria principles. The proposed conceptual model was characterized by a complex assessment perspective that facilitates strategic decision-formation processes. Also, it facilitated the identification of problematic areas and possibilities for organizational knowledge potential assessment and management, selecting

effective knowledge strategy by developing a set of strategic solutions to eliminate the detected problematic field.

Keywords: knowledge management, organizational knowledge potential, knowledge-intensive organization, strategic decisions, formation

1. Introduction

In the context of globalization and transformational processes, effective and efficient organizational knowledge potential management is a valuable instrument for implementing sustainability principles and leadership in knowledge-intensive organizations (Atkočiūnienė et al., 2023; Raudeliūnienė, 2017). Organizational knowledge potential was described as a combination of organizational resources that are effectively and efficiently applied by exploiting market opportunities (Raudeliūnienė, 2017; Raudeliūnienė & Szarucki, 2019). Its systematic assessment leading to effective and efficient management can facilitate more valuable satisfaction of constantly changing customers' information and knowledge needs and create mutual value and sustainability in local and global markets. Scientists and business practitioners underline that critical organizational knowledge potential components have to be included and balanced not only in knowledge management practices but also in various business processes (Raudeliūnienė, 2017; Raudeliūnienė & Szarucki, 2019). Because of the dynamic and uncertain business environment, it is challenging to forecast organizational outcomes.

Consequently, researchers and business practitioners controversially propose different perspectives, combinations of factors, and assessment methods for evaluating organizational knowledge potential related to outer and inner factors (Raudeliūnienė, 2017; Raudeliūnienė & Szarucki, 2019). Scientists and business practitioners exploring contrasting approaches and principles of organizational knowledge potential management and assessment define and assess knowledge-intensive organizations' knowledge potential variously. In this study, these problematic aspects were interpreted by combining a systematic management perspective integrating various scientists' views linked to extrinsic and intrinsic factors influencing organizational knowledge potential assessment and management processes (Raudeliūnienė, 2017; Raudeliūnienė & Szarucki, 2019). This research proposed a conceptual framework for forming strategic decisions of organizational knowledge potential management by integrating multiple criteria principles (Raudeliūnienė, 2017). The proposed conceptual model was characterized by a complex assessment perspective that facilitates strategic decision-formation processes. Also, it facilitates the identification of problematic areas and possibilities for organizational knowledge potential assessment and management, selecting effective knowledge strategy by developing a set of strategic solutions to eliminate the detected problematic field. In order to create a conceptual framework for forming strategic decisions related to organizational knowledge potential

management, the results of empirical studies conducted by J. Raudeliūnienė (2007-2017, in detail presented in J. Raudeliūnienė's monograph (2017)), the principles of the balanced scorecard model application (Kaplan & Norton, 1996, 2004, 2006), and multiple criteria assessments (Ginevičius, 2006; Ginevičius & Podvezko, 2005; Zavadskas, 1987; Zavadskas & Podvezko, 2016) were integrated. The novelty of this conceptual framework is that the model facilitates determining organizational knowledge potential content and forming strategic decisions on how effectively and efficiently to manage organizational knowledge potential by integrating multiple criteria assessment principles.

2. A conceptual model of the formation of strategic decisions for organizational knowledge potential management

Globalization, rapid technological changes, dynamic changes in the environment, transformation of the information society, knowledge-based economy, shortening product (service) life cycles, faster application of knowledge with added value, the creation of innovative products (services) and the pursuit of uniqueness encourage knowledge-intensive organizations to quickly adapt to changes in the dynamic environment and find more effective and efficient ways how to create and maintain uniqueness and leadership leading to sustainability (Kragulj, 2022; Raudeliūnienė & Matar, 2022; Weina & Yanling, 2022).

For knowledge-intensive organizations to respond to changes in the market and achieve uniqueness quickly, they must choose properly formed strategic decisions related to organizational knowledge potential management (Raudeliūnienė, 2017). Often, managers of knowledge-intensive organizations form strategic decisions about the potential of knowledge based on an irrational approach, which, as a result, increases uncertainty and related risks. Therefore, the need for systematic organizational knowledge potential management strategic decision formation model occupies an important place in business practice.

The research aims to present a conceptual framework for the formation of strategic solutions in order to manage organizational knowledge potential, which provides the prerequisites for a multiple-criteria assessment of the factors affecting knowledge potential. Also, it facilitates for knowledge-intensive organizations to assess their position in the market, identify problem areas and opportunities, and prepare solutions for eliminating problematic areas. Methodological triangulation was used to implement the research objective, including scientific literature analysis, systematic analysis, comparative analysis, and synthesis methods. Multiple criteria assessment methods were applied to determine the external and internal factors influencing organizational knowledge potential (Raudeliūnienė, 2007, 2017; Raudeliūnienė et al., 2012).

After integrating various scientists' and business practitioners' viewpoints on strategic management and knowledge strategy formation, the structure of the

formation of strategic decisions of organizational knowledge potential management was presented (Raudeliūnienė, 2017). This structure was integrated into the conceptual model of forming strategic decisions to facilitate organizational knowledge potential management (Figure 1).



Fig. 1: Conceptual structure of formation of strategic decisions to manage organizational knowledge potential (adapted by Raudeliūnienė 2007, 2017)

In the presented structure of the formation of strategic decisions for managing organizational knowledge potential, the strategic analysis includes evaluating external and internal factors affecting organizational knowledge potential. The research results determined the strengths and weaknesses of organizational knowledge potential management, and a subset of strategic decisions was formed

for further evaluation, selection, and implementation.

This study does not examine the evaluation, selection, and implementation of strategic decisions for organizational knowledge potential management. These stages are marked with a dashed line and could be directions for further research (Figure 1).

The evaluation and selection of strategic decisions for managing knowledge potential, associated with effective and efficient knowledge management, begins with forming a set of strategic decisions directly related to the organization's time and financial costs. A complex set of strategic solutions for knowledge potential management depends on whether knowledge-intensive organizations that have chosen a proper knowledge strategy will create and maintain uniqueness. Therefore, to form high-quality knowledge potential management solutions, it was essential to comprehensively assess the aspects affecting organizational knowledge potential and the organization's position in the market, choose a knowledge strategy and make a subset of strategic decisions for further evaluation. When forming quality solutions, the organization faces the problem of what basis to form complex knowledge potential management decisions to achieve the optimal number of solutions. Therefore, creating a set of strategic solutions for knowledge potential management is a complex process because forming low-quality solutions increases the risk of various losses in knowledge-intensive organizations.

Based on the results of the empirical research conducted by Raudeliūnienė and other co-authors, a conceptual model of the formation of strategic decisions for managing organizational knowledge potential was prepared (Chlivickas et al. 2007; Chlivickas et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė et al. 2013; Raudeliūnienė et al. 2014; Raudeliūnienė et al. 2016; Raudeliūnienė 2016). This conceptual model provides the prerequisites for a comprehensive and objective assessment of organizational knowledge potential management factors, identifying problem areas, determining the organization's position in the market, choosing a knowledge strategy, and creating a set of strategic solutions for eliminating problem areas (Figure 2).

The conceptual model uses multiple criteria assessment methods, which provide prerequisites for solving more complex assessment problems, to systematize the assessment sequence of factors affecting knowledge potential in order to achieve a more objective assessment.

In the first stage of the model for forming strategic decisions of organizational knowledge potential management, external and internal factors affecting knowledge potential were evaluated. In this process, the evaluation structure of factors affecting external and internal knowledge potential was formed by integrating the evaluation methods and factors based on scientific studies results.

The structure was grounded on principles of complexity and content, combining

qualitative and quantitative indicators and their combinations. This way, the primary factors' evaluation criteria were divided into external and internal aspects affecting organizational knowledge potential.

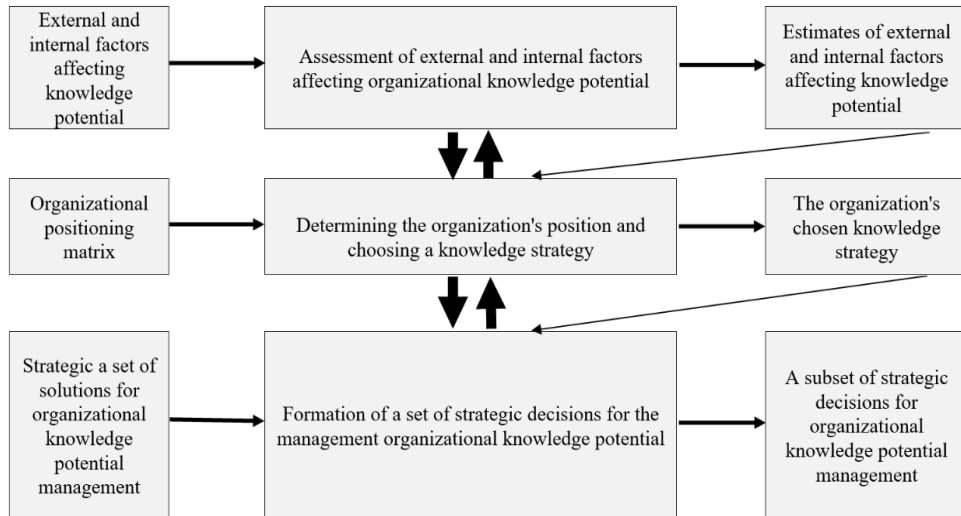


Fig. 2: A model of the formation of strategic decisions for organizational knowledge potential management (adapted by Raudeliūnienė, 2007, 2017)

3. A structure of multiple criteria assessment of external and internal factors affecting organizational knowledge potential

The structure of criteria for evaluating factors affecting organizational knowledge potential consists of a multiple-level system (Raudeliūnienė 2007; Raudeliūnienė et al. 2007; Chlivickas et al. 2007; Chlivickas et al. 2008; Davidavičienė et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė 2017): primary evaluation criteria (first stage) $I_{ij}^k, V_{ij}^k \Rightarrow$ partial integrated assessment criteria (second I_{ij}, V_{ij} and third I_i, V_i stages) \Rightarrow integrated complex external and internal assessment criteria I', V' (Figure 3).

The purpose of the evaluation process of the factors affecting organizational knowledge potential is to study the external and internal factors affecting the knowledge potential, identify the problem areas and opportunities of knowledge potential management, calculate the integrated criteria estimates of the external I' and internal V' factors of the knowledge potential, on the basis of which the organization's position in the market segment is determined.

The significance of the evaluation factor criteria could be determined by expert evaluation to increase the evaluation system's flexibility and create opportunities to use this model for various knowledge-intensive organizations operating in different knowledge-intensive industries.

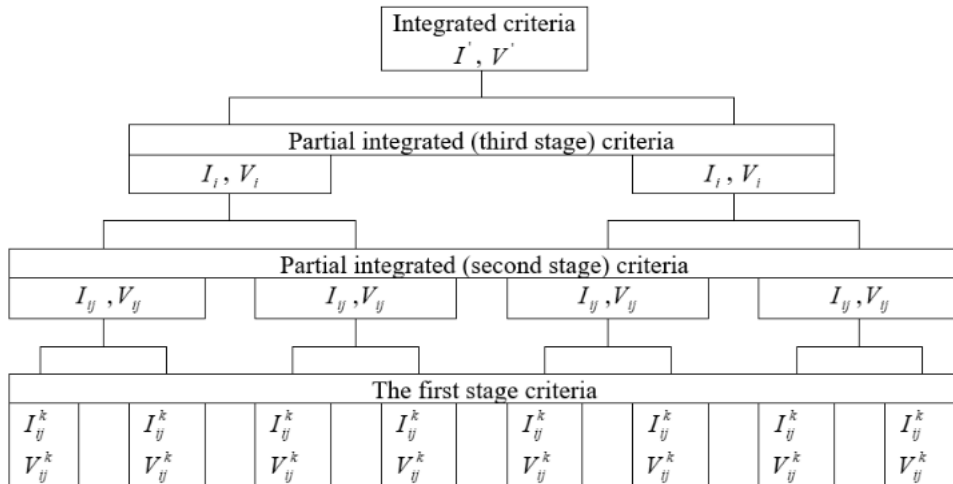


Fig. 3: A structure of multiple criteria assessment of external and internal factors affecting organizational knowledge potential (adapted by Raudeliūnienė, 2007, 2017)

The first stage of evaluation factor criteria consisted of primary external and internal factors affecting organizational knowledge potential. These were integrated into subgroups (second-stage evaluation criteria) and groups (third stage) according to the commonality of content. The groups were combined into external and internal integrated evaluation criteria affecting knowledge potential.

The assessment of external and internal factors affecting organizational knowledge potential begins with the creation of a group of experts, the preparation and clarification of the list of primary assessment criteria, the determination of the significance of assessment factors and criteria, the determination and normalization of assessment criteria values, and the calculation of integrated criteria values and the presentation of results (Ginevičius & Čirba, 2005; Ginevičius & Podvezko, 2005) (Figure 4). At the stage of compiling the list of primary evaluation criteria, the expert group clarifies the proposed criteria of external and internal factors, the level of detail of which depends on the specifics of the knowledge-intensive organization's activities. Those primary evaluation criteria, which, according to the experts, were not related to the specifics of the organization's activities, were eliminated (zero significance is assigned).

External and internal factors affecting organizational knowledge potential were assessed by combining qualitative and quantitative aspects.

Qualitative criteria were evaluated using a scale in the interval [1, 5], where the value of the evaluation criterion "1" is low, "2" is insufficient, "3" is average, "4" is good, and "5" is high.

Evaluation criteria with a quantitative estimation were considered according to the measured quantities' ratio, average or absolute measurement units.

For comparability of criteria values (expressed in various measurement units), they were normalized using a scale in the interval [1, 5], where "1" was the value of the evaluation criterion - danger, "2" - insufficient safety, "3" - safety, "4" - advantage, "5" - leadership.

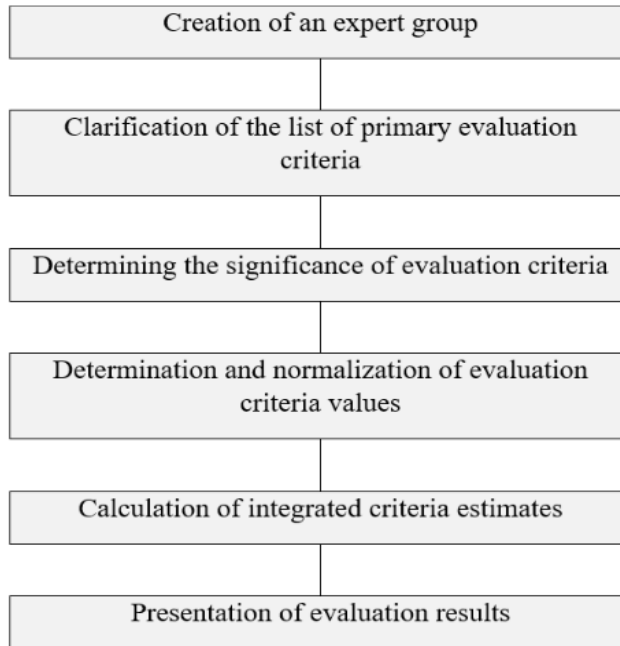


Fig. 4: Evaluation sequence of external and internal factors affecting organizational knowledge potential (compiled according to Ginevičius et al. 2005; Raudeliūnienė 2007, 2017)

The integrated criterion of external factors was equal to the sum of the values of the primary (first stage) and partial integrated (second, third stages) evaluation criteria of external factors, multiplied by their significance (Raudeliūnienė 2007; Raudeliūnienė et al. 2007; Chlivickas et al. 2007; Chlivickas et al. 2008; Davidavičienė et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė 2017):

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

Where: ω_i – significance of the partial integrated (third stage) i -th criterion, ω_{ij} – the significance of the partially integrated (second-stage) j -th criterion, ω_{ij}^k – significance of the primary (first stage) k -th criterion; I_{ij}^k – primary criterion value, i, j, k – criteria indices of the corresponding stage, $i, j, k \in 1, 2, 3, \dots, n$, where n – the

number of criteria for the corresponding stage; the sum of the significances of the criteria of each stage is equal to one: $\sum_i \omega_i = \sum_j \omega_j = \sum_k \omega_{ij}^k = 1$.

The integrated criterion of internal factors V' was equal to the sum of the values of the evaluation criteria of primary (first stage) and partial integrated (second, third stages) internal factors V_{ij}^k , multiplied by their significance (Raudeliūnienė 2007; Raudeliūnienė et al. 2007; Chlivickas et al. 2007; Chlivickas et al. 2008; Davidavičienė et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė 2017):

$$V' = \sum_i \omega_i \sum_j \omega_{ij} \sum_k \omega_{ij}^k \cdot V_{ij}^k, \quad (2)$$

Where: ω_i – significance of the partial integrated (third stage) i -th criterion, ω_{ij} – the significance of the partially integrated (second-stage) j -th criterion, ω_{ij}^k – the significance of the primary (first stage) k -th criterion; V_{ij}^k – primary criterion value, i, j, k – criteria indices of the corresponding stage, $i, j, k \in 1, 2, 3, \dots, n$, where n – the number of criteria for the corresponding stage; the sum of the significances of the criteria of each stage is equal to one: $\sum_i \omega_i = \sum_j \omega_j = \sum_k \omega_{ij}^k = 1$.

After evaluating the external and internal factors affecting organizational knowledge potential and calculating the estimates of the integrated criteria of external and internal factors, started the second stage of the model. This step was linked to the formation of a set of strategic decisions for managing knowledge potential, in which such activities were carried out (Raudeliūnienė 2007; Raudeliūnienė et al. 2007; Chlivickas et al. 2007; Chlivickas et al. 2008; Davidavičienė et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė 2017):

- The organization's position in the market was determined based on the calculated estimates of the integrated criteria of external factors and internal factors. It was divided into five zones: zone "1" - danger, "2" - insufficient security, "3" - security, "4" - advantage, and "5" - leadership; it allowed to identify the problematic areas and opportunities of organizational knowledge potential management.
- After determining the organization's position, a knowledge strategy was chosen, and decisions were formed, i.e., what competencies were planned to be consolidated or acquired and what position in the market was planned to be occupied.
- A subset of strategic solutions for organizational knowledge potential management was formed, which would provide opportunities for effective and

efficient implementation of the chosen knowledge strategy.

A set of strategic decisions for organizational knowledge potential management was made based on the principles of a balanced system of criteria (Kaplan & Norton, 1996, 2004, 2006). It means that knowledge strategy was formed by identifying essential groups of organizational goals (staff, internal processes and procedures, consumers, finance) connected by the following logical principle. Suppose the members of the organization were motivated to develop competencies. In that case, a knowledge-intensive organization's internal processes and procedures function effectively and efficiently. Consumers' changing information and knowledge needs to be met sustainably, creating opportunities to achieve financial goals and sustainable value.

Each of these groups had the following main objectives, for example:

- financial goals: reducing costs and/or increasing income;
- goals related to customers: meeting information and knowledge needs of users, attracting and retaining users;
- goals related to internal organizational processes: improving the infrastructure in order to develop innovations, improving the speed and quality of production and delivery of products (services);
- goals related to staff: to increase the motivation and personal, professional, social, international, and management competencies of knowledge-intensive organization members.

When forming a subset of strategic decisions for managing organizational knowledge potential, it was essential to evaluate the maximum gap between the maximum possible and estimated primary criteria values (Raudeliūnienė 2007; Raudeliūnienė et al. 2007; Chlivickas et al. 2007; Chlivickas et al. 2008; Davidavičienė et al. 2008; Raudeliūnienė et al. 2012; Raudeliūnienė 2017):

$$G_i = (N_i \cdot \omega_{ij}^k) - (N_i^* \cdot \omega_{ij}^k) \quad (3)$$

Where: G_i – the maximum gap between the maximum possible and estimated primary criteria values, N_i – the normalized value of the i -th primary criterion, N_i^* – the possible maximum normalized value of the i -th primary criterion, ω_{ij}^k – the significance of the i -th primary evaluation criterion.

The resulting gap was treated as a problematic field to be solved to achieve the chosen knowledge strategy. In order to eliminate them, a subset of strategic solutions for organizational knowledge potential management was formed.

The conceptual, strategic decision formation model for managing organizational knowledge potential was aimed at providing knowledge-intensive organizations

with a tool. That facilitated opportunities to identify knowledge management problem areas and opportunities and to help them to form a set of knowledge potential management strategic decisions, which was presented for further evaluation and implementation. This model did not examine several stages, such as assessing the suitability of strategic decisions for managing organizational knowledge potential, drawing up a plan for strategic decisions for managing organizational knowledge potential, and harmonizing the plan with the knowledge management processes.

4. Conclusion

Based on the results of the empirical research conducted by J. Raudeliūnienė (2007-2017) and in details presented in J. Raudeliūnienė's monograph, a conceptual model for forming strategic decisions for assessing and managing organizational knowledge potential was developed. The conceptual model was characterized by a complex, structured evaluation that simplified and detailed the strategic decision-formation process and could be continuously supplemented with other evaluation aspects important to knowledge-intensive organizations.

One of the main limitations of this study was that it did not examine the evaluation, selection, and implementation of strategic decisions for organizational knowledge potential management. As a result, the proposed conceptual model did not examine assessing the suitability of strategic decisions for managing organizational knowledge potential, drawing up a plan for strategic decisions for managing organizational knowledge potential, and harmonizing the plan with the knowledge management processes. These stages could be further directions for the development of this conceptual framework.

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