



The Validity of Adopting the Knowledge Management Strategy as a Development Policy of the University of Novi Sad

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Abstract. The paper investigates the validity and necessity for the development of the Knowledge Management Strategy at the University of Novi Sad as a management policy towards the development and the implementation of development trends. The research is based on the needs analysis of all 14 faculties of the University of Novi Sad for knowledge management strategies according to which these educational organizations would be guided. Knowledge management as a development process promotes modern forms of e-learning, and supports strategic planning, decision-making and problem solving. The development of educational technologies has introduced changes in learning models at faculties and universities around the world. The basic elements that are analyzed in this paper considering the Knowledge Management Strategy at the University of Novi Sad are resources - hardware and software, practices and methods, and internal and external factors. The universality of this topic opens up new vistas for every faculty and university which is considering the introduction and adoption of the Knowledge Management Strategy. In addition, the Knowledge Management Strategy at the University of Novi Sad points to the possibilities of strategic alliances that bring a huge potential for acquiring new knowledge as well as international cooperation based on knowledge management.

Keywords: Knowledge management strategies · General knowledge management strategies · Generic knowledge management strategies · University of Novi Sad · Strategic alliances · International cooperation

1 Knowledge Management in the Function of the Development of the University of Novi Sad (Hereinafter Referred to as UNS)

Knowledge Management (hereinafter referred to as KM) is the ability of harnessing knowledge, involving staff, organization culture, processes and technology. As such a whole, KM has, in recent decades, led to the development of numerous organisations that offer services, mostly IT services and education. Value appraisal of such organisations exceeds the traditional accountancy, so various appraisal models have been introduced in an attempt to measure the immaterial values of the organisations acquired by KM.

The increased worldwide interest in intangible assets occurred along with the awareness that financial accounting reports do not reflect an organisation in such a way to generate new value. Increasing differences between market and accounting values of organisations based on knowledge have constantly been observed and they have especially been dominant in the fields that base their primary activities in the IT sector. Empirical measurability through attempts to reflect intangible assets in financial reports is constantly developing resulting in registration of a considerable number of methods for measuring intangible tools, although most of them remain unused. Models of measurement systems of intangible assets are constantly developing in search of a widely accepted method of organisational value resulting from KM. "If you cannot measure it, you cannot manage it. The organisation's measurement system strongly affects the behaviour of people both inside and outside the organisation" [1]. If companies are to survive and prosper in information age competition, they must use measurement and management systems. Intangible assets like knowledge combined with technological development are crucial for the level of productivity, and thus for generating development strategies. If an organisation is considered to be a set of activities, it is at the same time a set of technologies involved in almost every organisation activity, and, due to the reversible influence of technological change, it affects every activity. This implies that technological changes affect the organisational development and organisational culture. The permeation of Information Systems Technology in the value chain of each activity leads to creating value, which simultaneously generates, but also uses, information. In order to form the development strategy base based on knowledge, it is necessary to provide answers to three strategic questions – Where are we? Where do we want to be? How do we get there? The addition to the KM Strategy is the information and communication strategy, predominantly referring to IT offer and its application in development, which, along with internationalisation and other strategies that are brought to UNS, represent the core strategy set which is at the same time the support to strategic planning, decision making and problem solving. Bearing in mind the fact that the results of KM Strategy application cannot be expressed by quantitative indicators either, they are expressed in the category of intangible tools. Consequently, it is impossible to express by quantitative indicators the rate of return of investment (ROI) as an indicator of success of KM Strategy application at UNS. Of course, the necessity and validity of KM Strategy implementation at UNS is simultaneously investigated because, apart from adequate hardware and software, successful KM requires effective management of processes and people as well as an applicative KM Strategy. The jurisdiction to create the KM Strategy, apart from authorised governmental institutions at UNS, belongs to the UNS Council and the Strategic Development Committee at UNS which are to provide clear guidelines to formulate the KM Strategy at UNS. In order to implement the KM Strategy, it is of utmost importance to employ a knowledge worker to manage all the project activities in order to establish, develop and implement the KM concept. The success of KM programme at UNS is predominantly determined by the above-mentioned institutional bodies and their endorsement of the proposal for drafting an adopting the KM Strategy. They are to coordinate it with other strategies and acts, draw up the budget, name the knowledge manager and participate in the process itself. During the Strategy introduction into a learning organisation, that is into UNS, it is important to identify new

functions related to the knowledge concept which leads to the institutionalisation of new roles among which the primary are Chief Knowledge Officer (CKO) who is in charge of the following activities: determination of strategic priorities in KM, knowledge base forming and monitoring; cooperation with organisational managers in order to establish organisational learning environment; launch of intellectual capital management process; control by obtaining feedback [2] and Chief Learning Officer (CLO) manages the team that executes, in other words, implements and monitors organisational learning [3]. In order to carry out their tasks, knowledge managers require clear descriptions of their work activities determined by the authority system which in its counselling and monitoring capacity participates in designing and implementation of a KM model. The KM Strategy contributes to the modernisation of teaching processes and cultural change at UNS, as well as generating new values and reduction of expenses. Resources analysed in order to reach the conclusion on the necessity of drawing up the KM Strategy at UNS include hardware and software, practices and methods, and internal and external factors researched through the following research chapters: organisational culture, organisational processes, management, leadership and technology.

Organisational structure adjustment process requires certain preparation phases that will lead the organisation into upcoming changes in order to overcome possible obstructions caused by existing formal and informal structures at UNS.

The 'EU 2020' strategy programme enlists the same factors that reflect the perspective of the UNS development [4] among its key initiating development factors:

1. Generating value from growth based on knowledge, which implies product and process innovation development, as well as the use of education, research and digital economy potential;
2. Enabling staff by acquiring new skills, support of creativity and innovation, development of entrepreneurship and flexibility to job change;

Development as a social category represents a constant process of increasing the ability to satisfy aggregate society needs concerning financial power, standard of living, social well-being, political freedom and social satisfaction. The development of UNS based on KM includes comprehensive planning of organisational change in order to enhance business activities and achieve positive results in its work. The research explored the potential and resources of each Faculty of UNS for the implementation of key methods of KM in e-teaching and other kinds of communication. The development of UNS based on KM according to the research is based on its organisational culture, human resources and leadership of individuals within the organisation in the field of knowledge management. Knowledge Management at UNS requires voluntary participation of teaching, administrative and technical staff in order to obtain benefit for higher education institutions. The development of UNS based on KM is related to skills and training of all the employees, relationship network and IT infrastructure. By analysing the development potential of UNS based on KM and by designing applicable strategies, it has been concluded that it is possible to steer the development of higher education, that is UNS, in that way. Strategic KM at UNS is one of the necessary preconditions to enhance the quality of work, growth and development. Quality long-term strategic positioning of UNS is impossible to achieve if KM based development is excluded.

Apart from intraorganisational KM, for a bigger picture of development it is necessary to include the reversible cooperation between the UNS and economy, research, protection of intellectual assets and private scientific institutions development. Knowledge management contributes to the development of the necessary individual competencies and the successful implementation of R&D strategy, yielding increased organizational performance [5].

2 Knowledge Management Strategies

Strategies of KM in the function of UNS development imply planned and designed KM, and it is paramount that they are compatible with other UNS strategies, including its comprehensive long-term development. The KM concept implies designing knowledge based products and services. Apart from a general KM Strategy that refers to primary activities of the learning organisation, there are also generic KM strategies that refer to knowledge modifications and transformations from one form to another.

Generic KM strategies are based on the basic and most important division of knowledge into explicit and implicit. Explicit knowledge is the knowledge that can be expressed in formal language and can be exchanged among individuals, whereas implicit knowledge is personal knowledge related to personal experience and it encompasses intangible factors such as personal beliefs, values and perspective [6].

KM Strategy is administratively and formally important a part of strategic planning as it participates more actively in social relations, political development guidelines and in the international system of higher education institutions in order to raise the level of merchantability.

Emphasising the need to form the KM Strategy at UNS is based on evident needs for more efficient KM recognised in the research carried out in the period from 13th January to 10th February, 2020 by means of an online survey. The surveyees included representatives of teaching, technical and administrative staff of all fourteen Faculties of UNS. Another indicator for the obvious need for the development Strategy based on KM reflects the need for continued adjustment to changes related to hardware and software development in educational technologies, in other words, the readiness of higher education institutions to adjust to their changes. Universities as institutions that generate and convey knowledge are the key factor of growth and development of both national and global economics. According to research results stated below, one can notice that uncertainty is the predominant attitude when basics of KM concept are in question.

Out of 284 surveyees including teaching, administrative and technical staff of UNS, 76% replied that they do not know if the Faculty possesses the official KM programme or strategy. When it comes to the awareness of the KM concept, the remaining surveyees showed a high percentage of uncertainty which is represented with the following results.

To the question "I am fully acquainted with the concept of KM", out of 282 responses, most surveyees replied with 'I am not sure' 32.98%, 'I mostly agree' 20.92%, 'I mostly disagree' 19.15%, 'I completely disagree' 18.09%, 'I completely agree' 8.87% and weighted average 2.83%.

To the question "KM Programme at the Faculty is fully applied and functions well", out of 278 responses, most surveyees replied with 'I am not sure' 62.23%, 'I completely

disagree' 16.19%, with 'I mostly agree' 9.71%, 'I mostly disagree' 8.99%, 'I completely agree' 2.88% and weighted average 2.73%.

To the question "The existing KM Programme at the Faculty makes my work much easier", out of 279 responses, most surveyees replied with 'I am not sure' 55.20%, 'I completely disagree' 20.43%, 'I mostly disagree' 10.75%, 'I mostly agree' 8.96%, 'I completely agree' 4.66%, and weighed average 2.67%.

The results stated above confirm the assumption which led to this research in the first place – that the awareness of KM, in accordance with modern education technologies, is not defined by an appropriate legal act (programme or strategy) and therefore generates uncertainty in highly educated workers which impedes developmental self-sustained processes. Thus, it is concluded that, in order to enhance the KM and education technology based development at UNS, it is necessary to pass an appropriate legal act that would create a mutual vision for the teaching, administrative and technical staff and lead them towards a mutual strategic goal. KM, regarded as a developmental process of the Faculties of UNS, is related to modern distance learning achievements, simultaneously supporting strategic planning, decision making and problem solving by making the KM model applicable for technical and administrative staff.

2.1 General Knowledge Management Strategies

Day and Wendler from McKinsey & Company, an American management consulting firm identified five fundamental KM strategies [5].

Strategy of development and best practice transfer within the concept of KM implies that after identifying the best practice in an organisation, it should be dispersed via the dispersed web of locations.

Strategy of creating new industries from the existing knowledge is related to the recognition of organisational knowledge that can be used in a new way which, until then, has not been used in the organisation.

Strategy of shaping corporate strategy for knowledge includes a re-evaluation of current environment factors, and based on strategic options, form a corporate strategy based on the existing organisational knowledge. This strategy aids the recognition of needs for necessary knowledge, which leads to permanent upgrade of organisation knowledge, in accordance with strategic goals. The newly acquired organisational knowledge by creating new organisational possibilities may create the need to reformulate the corporate strategy.

Strategy of generation and commercialisation of innovations based on the increased number of technological innovations in the function of KM at UNS. Education technologies are in focus for the purpose of this strategy.

Strategy of creating standards by releasing own knowledge is widely used in software industry and it is related to publicly available organisational knowledge, which affects the growth of the number of users, providing numerous benefits to such an organisation. While general strategies are more applicable to large organisations, generic strategies are more practical for small organisations.

2.2 Generic Knowledge Management Strategies

Knowledge is transferred by interaction between implicit and explicit knowledge by means of the four generic KM strategies stated below:

1. Socialization is a process of 'hidden' knowledge transfer among individuals before it becomes explicit. It is best explained by the model of learning taking place by verbal learning and imitation. Socialization as a process transfers not only knowledge and skills, but also ways of working, norms and values. As a strategy, socialization mostly requires direct contact, although there are knowledge transfer modes by means of two-way audio-visual communication.
2. Externalization is a process of transformation of 'tacit' knowledge into explicit. It is about codification of implicit knowledge into some form of permanent media that has a standard physical form. That way, the organisation is protected from losing the accumulated implicit knowledge from the previous period [8]. This strategy yields results in much shorter time and decreases expenditures at the same time.
3. Combination is a process of converting one explicit state into another. Various concepts are combined in order to create new, bigger units of knowledge. This strategy represents the upgrade of the existing explicit knowledge.
4. Internalization is a process in which explicit knowledge is converted into 'tacit' knowledge. It is usually about applying knowledge into practice [9].

The stated strategies can be applied individually, however, their combined use in practice is frequent and it yields maximum KM results.

Human capital survey encompasses the motivation of employees to adopt the KM concept in their work thus contributing to the development of organisational culture. For the purpose of this research, organisational culture is defined as a system of mutual trust, understanding, norms of behaviour and value which greatly determine behaviour, thinking and actions of employees of an organisation, and KM as a collaborative and integrated approach to knowledge within an organisation where everyone in that organisation is provided with an easy and quick access to all the necessary knowledge and information by means of modern information technologies.

Motivation is affected by a variety of mutually conditioned factors:

1. Personal characteristics of an individual (attitudes, needs, interests, aspirations, abilities, personal features, internal motivation, achievement motives);
2. Job characteristics (the job type, degree of self-control, responsibility, autonomy, complexity of work, creativity);
3. Characteristics of a wider work environment and overall climate in the organisation – organisational ambient (management, organisation, communication, interpersonal relationships);
4. Degrees and characteristics of technological and economic growth of the organisation and society as a whole;
5. Socioeconomic relations and system of values, cultures, religion, geographic region [10].

In order for the organisational culture to completely support and motivate the knowledge worker, he or she should be offered the following opportunities:

1. Personal development – the chance for an individual to fulfil his/her full potential;
2. Operational autonomy – work environment which enables the knowledge workers to fulfil the tasks they were given within the scope of the strategic trend and in accordance with self-evaluation indicators;
3. Task fulfilment – the opportunity to get the job done at the level and according to standards and quality an individual can be proud of;
4. Money – earning an income which rewards the contribution and enables the employees to share the abundance they created together [11].

2.3 Strategic Alliances and International Cooperation

Perspectives of future development based on research – In the long run, in order for the University to make strategic progress, a core strategy set is crucial, where the KM Strategy is compatible with other general university strategies such as Partnership Strategy; Teaching and Learning Strategy; Information and Communication Strategy, Internationalisation Strategy etc. Among the publicly accessible acts, UNS currently possesses the Internationalisation Strategy. International organisations that deal with KM, education technologies and education policies provide with their organisational activities the enhancement of teaching processes in higher education by means of various educational programmes. According to their own decisions, higher education institutions can be members of international non-governmental educational organisations and alliances that keep pace with the development of education technologies, knowledge management and education policies by offering adequate trainings for their use and other forms of education by means of publications, seminars, webinars, collaborative projects and other forms of cooperation.

3 Conclusion

Strategic KM connects the teaching activities at UNS and the KM concept into a whole that affects the self-sustainable development, competitiveness, and thus reinforces institutional stability and UNS survival. Apart from the above-stated, the validity and necessity of designing the KM Strategy at UNS in the function of the development is also recognised in the ability to, by means of KM concept, establish stronger connections with the economic and political system and thus achieve efficiency and effectiveness in institutional relations. Apart from the theoretical confirmation and according to the part of survey presented in this paper, a real need for the KM Strategy adoption is identified. By comparing tangible and intangible assets relevant to the KM concept available to the Faculties of UNS, it is concluded that the formulation, adoption and application of the KM Strategy would considerably contribute to the development of UNS. KM and continuous investment into knowledge and technology that supports the KM concept is a way of creating value, that is, generation higher added value to products and generated knowledge and its transfer as created services. Internationalisation of new positions of KM at

UNS enables efficient KM adoption an implementation of KM Strategy. This research is assuming a universal character as it can be fully or partially adopted in the course of support of the development of higher education institutions based on KM worldwide. In relation to that, it is recommended that the higher education scientific institutions explore the following factors and relations within their organizations in order to obtain a precisely profiled KM strategy: human resources, available potentials and calculations necessary for adoption of new forms of distant learning primarily for the purpose of staff training and adequate IT infrastructure which enables, in terms of hardware and software, modern interactive forms of distance learning.

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