Engagement of Actors in Expert Communities

Ilkka Tikanmäki[1,2] and Harri Ruoslahti[1]
[1]Security and Risk Management, Laurea University of Applied Sciences, Espoo, Finland
[2]Department of Warfare, National Defence University, Helsinki, Finland

Ilkka.tikanmaki@laurea.fi
Harri.ruoslahti@laurea.fi

Abstract: Recent scientific approaches and practical work-life developments aim to increase actor engagement to form expert communities. Solving common issues motivates stakeholders to collaborate and build trust to enable the co-creation of knowledge. This research is based on reading materials to understand how the engagement of actors in expert communities becomes viewed. The purpose of research-based development is to include actors in co-creation contexts. Gap analysis can be used to aid the planning of training implementation. Development processes are continuous and cyclical in nature. An open mind for change and a desire to learn are key to building competence. A plan for implementing development measures can help select learning methods that promote knowledge sharing and searching for new information. Measuring and evaluating learning can provide valuable feedback, which is needed to identify critical competencies and competence risks, and to promote the creation of a culture of learning.

Keywords: Competence, Knowledge, Learning, Management, Development

1. Introduction

Recent scientific approaches and practical work-life developments have aimed at increasing actor engagement to form expert communities. Solving common issues motivates stakeholders to collaborate and build trust to enable the co-creation of knowledge, which can offer significant innovation opportunities (Ruoslahti, 2018). For example, Pirinen (2013) emphasizes that the integrative process e.g., student-centred research and development is based on and included in collective research and development.

Pedagogy emphasizes social interaction, collaborative learning, discussion, meaning negotiation, and meaning building in practical contexts. In the constructivist conception of learning, the importance of learner activity is emphasized and teaching is not the transfer of knowledge but the control of the learning process (Loyens and Gijbels, 2008). Design information can help determine the current and future states and functionalities of an organisation (Nonaka and Toyama, 2003), and process knowledge supports the organization with change processes that are based on the participation of actors using theories and models (Griffiths and Guile, 2003).

Due to an increase in teamwork, the need for inclusive leadership and the new role of leadership in human resource development have also been understood. Competence management is seen more deeply and more broadly than before. Competence is based not only on knowledge and doing, but also on participation and learning, and development processes should be developed and managed holistically in the work organization (Bhasin and Sharma, 2018). An inventory of the current state of competence can help draw plans to create new operating models to ensure the continuity of competence development (Corell, 2019).

According to (OECD LEED, 2006), the driving force of competition is integrated competence, which is created through various partnerships and value networks. The starting point for teaching is the learner's existing knowledge, perceptions, and beliefs about the things to be studied. Particular attention is paid to the learner's metacognitive knowledge and strategic self-regulatory skills.

Constructivist learning environments aim to avoid memorization and repetition and focus on comprehension rather than memorising. Different interpretations are considered and exploited using learning methods where interpretations have to face each other in social interaction. (Loyens and Gijbels, 2008).

The research question (RQ) of this paper is: how is actor engagement in expert communities viewed in literature?

2. Methods

This research is a desktop study that is based on reading materials and familiarization with previous research on the topic (Denzin and Lincoln, 2011). The material for this study is collected from scientific literature, recommendations, guidelines, and other authority publications to provide a varied source of data (Eisenhardt, 1989; Yin, 2009). In content analysis, the researcher "analyses the narrative, temporal, and dramatic structures of a text, forsaking the rigor of counting, for a close, interpretive reading of the subject matter at hand" (Denzin and Lincoln, 2011, p.358). The case is focused on the engagement of actors in expert communities.

3. Research Based Development

Methods of research and development of the concepts and the orientation of work life engage the actors of the expert community to promote understanding of how to implement activities (Mäki, 2009). As stated by (Moilanen, Ojasalo and Ritalahti, 2022) knowledge and the use of different methods play an important role in development work.

Literature makes a distinction between 'research and development' and 'research-based development', which may also be referred to as 'development work'. Research work can be described as a systemic activity to increase available information and use this information to find new applications. Development work, on the other hand, is described as creating new and better products, production equipment or methods and services (OECD, 2015). Research-based development, as a process, focuses on developing work life. This is done with an approach that combines real work-life development with the application of structured research methodology, including both data collection and analysis (Jääskelä and Nissilä, 2015). Scientific research aims at forming new and better theory, while professional research and development activities aim to create an improved practice based on new knowledge (Nonaka and Takeuchi, 2007)

Research-based development expert communities are integrated into the research and development process calls for methodological expertise. It starts with the identification of the development target, followed by successful delimitation of key concepts, and analysis of existing knowledge related to the topic, coupled with appropriate information acquisition skills that help distinguish the essential from the mass of data (Moilanen, Ojasalo and Ritalahti, 2022). (Harvard Business School, 2021) note that professional information acquisition should utilize many different channels, which become anchored in underlying value goals, to produce the desired accurate, convincing professional information.

The inventory process of competence identification, mapping, plan, and new operating model can be carried out by compiling competence profiles linked to job descriptions and comparing the results obtained with the current training of individuals to map the need for additional and in-service training requirements (Ruoslahti and Tikanmäki, 2022). Co-creation of knowledge for innovation is active multi-stakeholder participation which calls for collaboration, a common problem, and open communication where stakeholders need to be actively engaged, which takes time and effort (Ruoslahti, 2018).

3.1 Development Processes

Understanding the development processes as continuous cyclical models can help integrate expert communities into research and development processes. The five step quality cycle DMAIC (Define, Measure, Analyse, Improve, Control), for example: its first step defines the problem, the second step is the measure, the third step identifies the cause of the problem, the fourth verifies improvement, and the fifth and final step maintains the gains and pursue perfection, so that the cycle may start again (de Mast and Lokkerbol, 2012). To build a basis for the creative development, the expansive learning process consists of seven phases: questioning existing practices, analysis of existing practices, modelling a new solution, exploring the new solution, adopting the new solution, evaluating the process, and solidifying and expanding new practices (Engeström, Kerosuo and Kajamaa, 2007).

The quality cycle by William Edwards Deming shows similar cyclicity in an even simpler form of only four phases that can be used to improve competence (The W. Edwards Deming Institute, 2022). The Deming quality cycle is also referred to as the PDCA (Plan, Do, Check, Act) development cycle (Moen and Norman, 2006) and it is used in ISO standards aiming at business continuity. Phase 1 Plan: according to need and goal; process & organization, resources, criteria, constraints; Step 2 Do: identify resources and test, pay attention, gather information, and put it into practice; Step 3 Check: action plan and its implementation, learn, analyse, check, measure to if as planned; Step 4 Act: evaluate the implementation and if necessary correct, innovate, improve, appropriate reform; after revisions the cycle begins again from Plan.

Development processes can be divided into seven-steps (Marović, Adomeit and Golub, 2018); step one identifies the overall vision for improvement as a starting point for plans and goals to achieve the desired goal. The second step is to determine what will be measured, whether new skills and tools are needed, and where the information can be found. The determination of the indicators must focus on the essentials so that the purpose of the measurement is not lost. The third step is to gather the necessary data. The issues to be defined are the data collector(s), how, when, and how often the data will be collected. The above is based on the set operational goals. In the data processing phase, data from several different sources is processed and a context is provided for the data for comparison. The information is edited in the desired format for a specific

target group. In the analysis phase of the data collected, conclusions are drawn to the impact of the results obtained on the operation, whether changes are needed, whether the objectives have been achieved and whether there are any structural problems. The purpose of the sixth phase is reporting. The results are presented to the target group to support decision-making. The reporting must highlight both the issues that need to be developed and those that have emerged as positive. In the implementation phase (improvement implementation phase), processes are optimized, improved, and corrected based on the acquired knowledge.

(Kallio and Lappalainen, 2015) divide collaborative service development, which they see as an organizational learning process, into five phases: the need for change – evaluating earlier practice, planning, and ideating by scenario building, experimenting by prototyping, implementation or applying in daily practice, and generalizing, which is evaluating the lessons learned. Competency development process progresses from performing a competent survey through a development plan to transfer development measures to the individual's goals. (Kontoghiorghes, Awbre and Feurig, 2005; Le Deist and Winterton, 2005).

In competence mapping, special areas of competence are identified, existing knowledge is mapped, and the skills developed and the means to achieve them are specified (Volpentesta and Felicetti, 2011). There is a distinction between the need for information and the allocation of information work life innovation. Design information is processed to create knowledge that finally becomes disseminated to serve other organizations and actors, such as working life development experts (Ojasalo, 2012)

4. Identifying Competence and Development Planning

Expert communities become integrated into the research and development process through appropriate competences, which are built on knowledge, skills, will, contacts, and experience, the role of which in building overall competence is significant (UNESCO, 1984). An open mind for change and especially the desire to learn are key to maintaining competence, as the right attitude, with creating and maintaining interactions are part of competence, as are using different information acquisition channels (Regehr and Mylopoulos, 2008). In dynamic operating environments, the most important competitive factor for an organization is the continuous increase in knowledge capital (Hakanen and Soudunsaari, 2012).

The perception of work and profession by the employee has become even more important, and professional identity has become a necessary and central task throughout his/her professional career (Eteläpelto et al., 2014). Ensuring necessary skills and competencies can help organizations prepare for successful research and development processes.

Competence mapping, or a compilation of essentials into personal learning plans as a minimum, is needed to verify the direction and impact of competence development (Bhasin and Sharma, 2018). An alternative way of mapping competence risks is to find out what are the 2-3 worst competence risks in terms of the organisation's strategy/goals and what the realization of these risks causes at worst. An organization can be a unit, a sector, an individual, or a group (Durst and Zieba, 2019). Analysing and identifying one's skills is key to analysing professional identity: What are your personal development and training goals? What are the motives, goals and needs? (Eteläpelto et al., 2014). Complementary knowledge can be based on individual interests (Griffiths and Guile, 2003). Organizations seem to be able to prepare for research and development processes by ensuring that they have the necessary skills and competencies.

4.1 Developing the Work and Operational Environment

Integrating expert communities into a research and development process may be guided with work tasks that determine a person’s current needs regarding one’s areas of professional competence. What skills are needed depend on one’s work tasks, how one sees the need to learn new knowledge and skills, and what skills are needed in one's work community? Basic work life skills need to be supplemented and renewed as one’s work role changes. The goals of the work community set requirements on what competences are needed, which are based on the organisation’s vision and goals, where each member of the work community should be aware of how to develop their skills to contribute to the achievement of common goals (Regehr and Mylopoulos, 2008).

Competence management is how organizations deal with the competence of enterprises, groups, and individuals. The purpose of which is to define and permanently maintain competence in line with the objectives of the enterprise (Berio and Harzallah, 2005). EU define competence as “a combination of knowledge, skills and attitudes appropriate to the context” (European Parliament and the Council, 2006, p.14).

Competence is part of human capital, which includes e.g., the level of education of the personnel and the measured competencies, job satisfaction and state of health (Lepak and Snell, 1999). An individual's

competence consists of knowledge, skills, experience, contacts, and values and attitudes (Savanevičienė, Stukaitė and Šilingienė, 2008). Two types of knowledge and skills can be identified: explicit, which can be expressed as information and tacit, which is difficult to specify as it is built into the organization and its people (Nonaka and Takeuchi, 2007). (Otala, 1995) recommends drawing up a plan for implementing development measures, finding the right learning methods, sharing one's knowledge, as well as searching for new information, and to measure and evaluate learning. Working conferences, change laboratories, futures dialogue, and research-based applied theatres as methods of identifying silent signals can help overcome friction factors that prevent the utilization and accumulation of tacit knowledge (Järvinen, 2012).

Information gathering and feedback on the different learning methods can be achieved by assessing the learning outcomes and evaluating the functionality of the process (Kraiger, Ford and Salas, 1993). Annual appraisals can be used as a competence develop tool, to highlight both organisational and individual training needs. However, often many matters agreed upon in the appraisals, may be left to wait for the next appraisals, which means that development depends on the activity of the supervisor and subordinate (Levinson, 1976).

4.2 Creating a Culture of Learning

To meet an organization's perceived needs for expertise, individuals should acquire the knowledge and skills necessary, which help successful integration of expert community members to research and development processes. To be transformed into organizational know-how information must be acquired, understood, internalized, and shared within the community (Eisenberger, Malone and Presson, 2016). The competences of an organisation's personnel, consisting of practices, processes or systems that store and accumulate new know-how, forms a common knowledge base for an entire company (Fagerberg, Fosaas and Sapprasert, 2012).

Meetings, training sessions, group work, etc. can be used to share information. When the information becomes understood at the organizational level, the suitability of the information for practice can be tested for organizational learning. It can become reflected in the structures and practices of the organization and its written instructions (Levitt and March, 1988). On the report of (Otala, L., J. Jaskari, and M. Vartiainen, 2004) strategic competences can be determined by identifying strategic starting points, required competencies and capabilities, future competence needs and drawing up competence profiles, so that the work community and organization form a network that supports learning.

Apprentice-master learning processes involve long-term and systematic formal training and guidance, where the results of many years of study build expertise in practice as learners receive reflection and social support from and gives them to others (Westermann, 2011). A significant part of expert knowledge is so-called tacit information, so by learning to utilize internal sources of institution- and market-based tacit knowledge (Järvinen, 2012). Tacit knowledge can express information on work life situations which is not usually openly expressed or presented, and it can be an important resource for the functioning and management of an organization (Westermann, 2011).

Defining a vision, strategy, core competencies, and competence development needs can locate the differences between the current situation and the competence needs, and a development plan helps target, implement, and monitor the measures; monitoring and evaluating development measures can support management guide the organizational operations and make a follow-up plan for competence development (Bergenhenegouwen, 1996). Creating student-expert alliances can connect science, culture, and experts with work life activities to create learning environments together (Westermann, 2011). The collective individual competences of the personnel accumulate organizational competence, which can form permanent and secure organizational knowledge capital, not just the competence of individuals (Hakanen and Soudunsaari, 2012).

An important part of learning is finding one's individual ways of working and developing one's personality through self-knowledge. Learning is made possible by applying alternative ways of studying in different learning and operating environments, to which the network of working life and competence corresponding to competence is closely connected (Pirinen, 2013).

The emergence of innovations is influenced by strong links between actors, as well as by the essential new knowledge brought by beginners, which develops and deepens community activities (Ojasalo, 2012). Knowledge and information are shared in an open atmosphere, symmetrically through and between both old professionals and newcomers provides support to competence management in changing the way an organization operates, and the emergence of know-how because of work life cooperation to be key (Wan et al., 2020). Management practices should support and enable radical, collective learning (Kallio & Lappalainen, 2015).

Knowledge and know-how are the intellectual capital of a network. Competence, learning, and innovation are closely linked. Social capital and the ability to work together are things that can be learned and developed like other abilities. Social capital is learned by doing and advancing in short steps and with controlled risks. (Ojasalo, 2012). A network's own strong competence and openness to face external challenges create a basis for work and, for example, innovation. The challenge of competence management is to lead to the emergence of new competence; the content does not yet exist and thus, cannot be precisely defined.

However, in addition to the application of new technologies, new skills are needed to manage complex and large-scale projects. The ability to innovate are the resources of a modern competitive company, one innovation is not enough, one must be able to innovate continuously (Carnabuci and Operti, 2013). To achieve the desired result, the actions of different people in action must be coordinated in terms of goals and timing.

5. Conclusions

Organisations can prepare for research and development processes by ensuring necessary skills and competencies. The recent scientific and practical trends of increasing the engagement of actors to form expert communities promote e.g., research-based development which works to include actors in co-creative settings. Solving common issues can build trust and motivate stakeholders toward deeper collaboration to enable co-creation of knowledge. Understanding these principles may help guide the integration of expert communities to research and development processes and create strategies that human resources departments can use to foster expert communities. These findings contribute to the DYNAMO-project, where humans can be seen as forming expert communities in innovative business continuity management processes in the healthcare, energy, and maritime transport sectors.

Development processes are continuous and cyclical in nature. An open mind for change and a desire to learn are key to building competence. Process knowledge can help supporting the organization to carry out change processes based on the participation of actors using theories and models (e.g., Griffiths & Guile, 2003). A plan for implementing development measures can help select learning methods that promote knowledge sharing and searching for new information. Gap analysis can be used to aid the implementation of training planning. Measuring and evaluating learning can provide valuable feedback, which is needed to identify critical competences and competence risks, and to promote the creation of a culture of learning.

Training aims to produce professional personnel for the company's needs, to maintain and develop professional competences and to enable the financial use of human resources. Competence profiles linked to job descriptions and the results obtained from them are compared to the current training of individuals to identify the need for in-service training.

Training needs can be divided into all common and task-related training and requirements. The annual appraisal updates the need for competence and training for each person. Competence development can be divided into three areas: 1) implementation of the competence survey, 2) preparation of the development plan and 3) transfer of development measures to the goals of the persons. The competence survey is carried out as a self-assessment. After the self-assessment, the supervisor evaluates each person's competence to the target profile and identifies competence gaps by comparing current competence with future competence needs.

By renewing the operating concept, change can focus on enhancing the financial value of the business. Financial incentives are used to encourage the achievement of management objectives. In the development and learning of the organization's operational capability, the personnel are involved in the change process. Renewal of operations is learning, which depends on the extent of personnel participation and thus, the commitment of personnel plays a big role in implementing change.

Developing and reorganizing help implementing new infrastructures which management practices should support to enable radical, collective learning. Preparing development plans, call for measures to identify and fill competence gaps and to measure the implementation of the development plan. The implementation of the plan is regularly monitored with the follow-up to action plans. Appraisals and competency mapping are carried out in person with each employee. These measures can be taken in accordance with the development plan, and a personal development plan is drawn up based on the person's goals and the development plan. The training needs and development plan are recorded in the appraisal form. The implementation of the plan is monitored regularly. Engagement is a crucial factor in the success of expert communities, and future study is recommended to investigate how this occurs in more detail.

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