

DOI: 10.55643/ser.4.50.2023.544

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Received: 08/10/2023

Accepted: 18/12/2023

Published: 25/12/2023

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VIRTUAL COMMUNITY OF PRACTICE FOR LOCAL DEVELOPMENT: DIVERSE CONTEXT AND PARTNERSHIP FOR ELEARNING IN PROJECT MANAGEMENT

ABSTRACT

The purpose of this paper is to generate an in-depth and comprehensive understanding of knowledge management processes in the virtual Community of Practice (vCoP) and to propose a framework for organising an eLearning process in project management for local development. The vCoP was created on the web platform for exchanging best practices and learning within a group of professionals with specific experiences and diverse learning needs. For 10 years, the vCoP annually brought together from 600 to 1,000 participants from different regions and organisations who defined problems, learned from the experience of others, took e-courses, worked in the virtual common space on developing project concepts, and prepared together a wide "repertoire" of new knowledge.

The paper presents a study of operational processes of knowledge management in the vCoP and is based on primary datasets obtained within the period of 2018-early 2022 in terms of a joint domain, participatory membership and sense of community, knowledge sharing and learning, action, and construction of new knowledge. We present the findings of a study where the hypothesis was a combination of Community of Practice and eLearning into one system in order to quickly comprehend the problem that corresponds to the crisis, find solutions to the problem, and understand the benefits of their implementation while actively communicating with potential customers, and present project concepts to potential stakeholders, partners, and investors in order to mobilise resources.

Given the challenges that Ukraine and partner countries are currently overcoming, in the post-war period, the proposed CoP approach based on a web platform can be used for creating public-private partnerships, for ensuring public participation in governance, in particular, for testing the efficiency of the ideas included in strategies and corresponding portfolios of programmes and projects to ensure resilience, revitalisation and development of territories and communities.

Keywords: knowledge management, Virtual Community of Practice (vCoP), eLearning, knowledge co-creation, partnership, project management, local development

JEL Classification: D83, I25, O15, O35

INTRODUCTION

The purpose of creating our vCoP was to bring together local self-government practitioners from different regions for life-long learning on a web platform: to discuss the most relevant issues of spatial planning and knowledge sharing, provide participants with access to consultations with experts in various fields, create conditions for generating new ideas aimed at solving local development problems, learning and developing new competencies, and demonstrating them while preparing local development projects.

The domain of the vCoP is project management, which provides the necessary tools to identify problems, develop solutions, and define the scope of tasks, resources, and time limits.

Back in 2018, based on the results of our work with maintaining the vCoP as a context for lifelong learning, we formulated the hypothesis that a combination of two approaches – Community of Practice and eLearning – could result in a synergy effect. However, criteria and indicators that would allow us to measure the maturity of the vCoP and its impact on eLearning were missing. Thus, this issue has become the subject of our study.

Our vCoP is a platform for meeting and interaction of representatives of local self-government bodies, executive power, education, healthcare, private and communal enterprises, and NGOs, who:

- share their own experience, study and disseminate best practices of local development and innovation;
- learn and master project management techniques and tools;
- use project management to find innovative solutions, plan resources and mobilise communities for sustainable development.

The distribution of the vCoP participants by spheres of their occupation can be presented in the following way:

- local self-government 42%,
- executive power 19%,
- NGOs, resource centres 15%,
- education / universities 10%,
- private and communal enterprises 10%,
- health care institutions/hospitals 4%.

So, the vCoP participants are a fairly diverse group of individuals with different competencies, experience, and levels of skills, representing different organisations from all regions of the country, united on the web platform for eLearning in Project Management for Local Development. As we have observed, they are motivated to participate in the vCoP, learn, and carry out joint action to achieve common goals.

Thus, the paper helps to understand how a CoP (as a context), eLearning (as processes), and partnership (as a joint venture) can be combined into a sustainable knowledge management system.

LITERATURE REVIEW

"Knowledge is the body of understanding and skills that is mentally constructed by people [...] and is increased through interaction with information, typically from other people" (Standards Australia, 2005). Hence, follows the interpretation of knowledge management as a multidisciplinary approach to improving organisational results by creating, storing, transferring, and optimising the use (application) of knowledge resources. J. Lave and E. Wenger considered the acquisition of knowledge as a social process in which people with different levels of competence participate (Lave & Wenger, 1991). E. Wenger introduced the term "Community of Practice" (CoP) in order to denote a group of people in a specific field or those who got into certain crisis circumstances and are involved in joint activities to search for, share, exchange, or construct new knowledge (Wenger, 1998; Wenger & Snyder, 2000). The CoP approach turned out to be quite effective in the context of activity-based learning (Wenger-Trayner et al., 2015; Brown & Peck, 2018; Wenger-Trayner, E. and Wenger-Trayner, B., 2020).

The guiding documents of the European Union specify the following general features of the process of CoP formation:

- initial enthusiasm and excitement – "Is this something new?";
- confusion – "What are we going to do?";
- clarification of goals – "Who will be responsible for what?";
- growth – "Our work is based on trust and respect";
- maturity – "We are self-governing" (European Committee for Standardization, 2004).

The principle of creating a CoP is that participants spontaneously unite around a common subject (domain); if they feel trust, they begin to share informal knowledge and exchange experience (best practice), and this leads to the creation of "collective intelligence", which, in turn, becomes the implicit knowledge of each of the participants (Yang, S. J. H., 2007).

Today more and more often, eLearning, due to its flexibility and ease of access and being a catalyst of change and knowledge co-creation and integration, facilitates lifelong learning (Hamburg, I. and Marian, M., 2012). Thus, eLearning supports flexible and informal types of learning, which are typically preferred by individual professionals and practitioners.

The proliferation of new online collaboration tools, coupled with a rapidly increasing interest in the new approaches to knowledge management and co-creation of a common repertoire of common resources, have resulted in the emergence of a new form of collective learning and knowledge sharing through virtual Communities of Practice (vCoP).

A vCoP is a network of practitioners who share a domain of interest about which they communicate online to exchange resources, tools, and methodologies, and share experiences, problems, and solutions. Such communication results in the improvement of the knowledge of each participant in the community and contributes to the development of the knowledge within the domain. Critical success factors for a vCoP include usability of technology; trust in, and acceptance of, ICTs in communication; a sense of belonging among members; paying attention to cross-cultural dimensions of the CoP; shared understandings; a common sense of purpose; use of netiquette and user-friendly language and longevity (Fontainha, E. and Gannon-Leary, P., 2008).

According to I. Katernyak et al. (2018), the vCoP functioning model is cyclical and iterative: the process begins when people unite around a common problem, set goals, and ends with value creation and reflection on the achievement of the set goals. The authors of this paper have proposed a model to measure the maturity level of a vCoP based on best practices and co-created knowledge proposed within it. The proposed model might serve as a benchmarking tool in order to analyse the performance of knowledge management in a vCoP.

AIMS AND OBJECTIVES

The aim of our research was to generate an in-depth and comprehensive understanding of knowledge management processes in the virtual Community of Practice (vCoP) and to propose a framework for organising an eLearning process in the context of CoP for Local Development.

For this purpose, the following objectives were set: to create a vCoP on the web platform for exchanging best practices and learning within a group of professionals with specific experiences and diverse learning needs; to organise and conduct eLearning within the vCoP where the participants with various background could define problems in crisis situations, learn from the experience of others, take e-courses, work in the virtual common space (so-called Workshop) on developing project concepts, and prepare together a wide "repertoire" of new knowledge; and to monitor the development and maturity of the vCoP 3 due to the shift from learning in context to learning partnership.

METHODS

The paper presents a study of operational processes of knowledge management in the vCoP and is based on primary datasets obtained within the period of 2018-early 2022 in terms of a joint domain, participatory membership and sense of community, knowledge sharing and learning, action, and construction of new knowledge. We present the findings of a study where the hypothesis was a combination of Community of Practice and eLearning into one system in order to quickly comprehend the problem that corresponds to the crisis, to find solutions to the problem, to understand the benefits of implementing such solutions while actively communicating with potential customers, and to present project concepts to potential stakeholders, partners, and investors in order to mobilise resources.

Monitoring of the emotional states of the vCoP participants was also carried out in order to provide a balance between the level of their skills and the level of complexity of tasks, to constantly support a positive atmosphere in the vCoP needed for trustful interaction and creativity of the participants.

In this paper, we consider facilitation and eLearning processes in terms of the vCoP maturity and the formation of a favourable environment for ideation and knowledge construction. Based on the literature review, situated learning, Mastery learning, Adaptive learning, Reflective learning, and Thinking tools (Meng, Q., Jia, J. and Zhang, Z., 2020) can facilitate high-order thinking and provide for learning and reflection. While trustful and positive climate is a necessary precondition for openness to knowledge sharing and ideation in order to create meaningful learner experiences in projective concept development, product validation, and system innovations. The emotional states of the vCoP participants were monitored in order to find a balance between the participants' level of skills and level of complexity of tasks and to constantly maintain a positive climate for the ideation process in the community (Dell'Era, C. et al, 2020) and design thinking (Dorst, K., 2011)

Following the CoP characteristics offered by Etienne Wenger ('joint enterprise'/Domain, 'mutual engagement', and 'shared repertoire'/Practice) (Wenger, E., 1998) and using the CoP indicators offered by Pam Winton and Megan Ferris (National Professional Development Centre on Inclusion, 2008), datasets were collected to analyse and assess the maturity of the vCoP in terms of its characteristics with the following indicators: its "Existing", "Emerging" or "Desired".

RESULTS

By investigating the vCoP both as a diverse context and partnership for eLearning, we identify several groups of processes, that contribute to the development of a common "repertoire" of new knowledge that can be referred to in the future and to the establishment of strong ties (networking) between the participants in their fields of activity.

The group of processes "E-course on Project Management for Local Development" was based on the concept of self-regulated learning (SRL) (Nakabayashi, K., 2018) and tailored within the '4A' model (Katernyak, I. et al. 2018), where: 1- Attention to CoP's needs, 2-Actualization by e-course goals and objectives, 3- Attraction by required new knowledge and skills, 4- Action by demonstrating their performance and skills. Participants were offered five learning modules: "Problems – Projects", "Needs – Requirements – Solutions", "Team – Planning", "Resources – Budget – Risks", and "Presentation – Validation".

The group of processes "Testing" involved checking the assimilation of theoretical material and knowledge of the Project Management for Local Development terminology, encouraged reflection in the thematic forum, and discussions with coaches, experts, and other participants on aspects of Project Management that are difficult for perception and practical implementation. In case of facing difficulties, vCoP members repeated and more thoroughly studied the course materials. So, testing in eLearning is a self-assessment of whether the participants are sure that they are ready to develop their own project concepts, conduct a peer assessment, and communicate with stakeholders during product validation.

As a result of these processes, participants are aware of and understand the "language of project management and innovation" at the same level, that is, they use the system of terms and concepts that is common within the community, and they know and understand how project management techniques work. The participants were invited to jointly co-create the glossary.

The group of processes "Exchanging best practices". Participants could take part in discussion forums for networking and in joint reflection on crisis situations. Those participants who already had relevant experience and felt confident acted as mentors to the participants who needed their help. In thematic forums, participants had lively exchanges of opinions, discussions on the subject of Project Management for Local Development, and in consulting rooms – on the development of their project concepts, peer assessment, validation, etc.

The group of processes "Facilitation" arose in response to the need for additional support of interaction between participants and for building trust in the vCoP. Facilitators were participants who had been active in the community for more than 2 years and who had successfully implemented their own projects, completed facilitation training, and expressed their desire to participate in planning the next eLearning cycles and providing effective personal support to participants in order to generate 'out-of-the-box' ideas and develop a common "repertoire of knowledge".

The group of processes "Workshop" where project concepts were developed by vCoP participants with the help of coaches, self-assessed using the Concept evaluation matrix, and peer assessed by other CoP participants. Due to this, each concept developer reflected on their own project concept, then received feedback from other participants and returned to their concept again, refined and finalised them, and demonstrated a prototype and project concept at the online conference "Doing Together".

In 2012-2022, in total, more than 6,000 CoP participants took part in the development of project concepts. Together, they formed a portfolio consisting of more than 1,800 concepts. This made it possible to obtain a unique result of the vCoP operation – an annual replenishment of the "repertoire" of knowledge in the vCoP (from 100 to 300 project concepts).

To ensure the effectiveness of the Workshop processes, a Concept evaluation matrix (Table 1) was developed, which participants could use iteratively throughout the 7 steps of developing and refining their own project concepts.

Table 1. Concept evaluation matrix.

Title of the project		Recommendations: Prepare the title of the project in two formats: its full title and the slogan. The full title contains the following elements: <ul style="list-style-type: none">GLOBAL ACTION that must be implemented during the project to obtain the project product in a tangible form (improvement, implementation, liquidation, creation, development, construction);an idea of the future PRODUCT of the project (e.g., a heating system, reconstructed building, solid waste management system, etc.);determination of the GEOGRAPHICAL LOCATION of the project product (town, district, region);the slogan represents the "brand" of the project and should promote the idea of the project.						
Name of the lead applicant		This component includes: <ul style="list-style-type: none">the name of the key (main) organisation that applies / presents the project;names of co-applicant organisations and related organisations/entities, if any.						
Global Goals for Sustainable Development		Selected from: https://www.undp.org/sustainable-development-goals						
Workshop: Local Development projects		Step I	Step II	Step III	Step IV	Step V	Step VI	Step VII
Project concept	Evaluation criteria	→	→	→	→	→	→	
		Daft	Sample	Self-assessment	Peer assessment	Peer assessment result	Validation	Presentation
			←	←	←	←	←	←
What to check?		Is the recommendation taken into account?	Benchmark	Self-reflection on the completeness of the concept component	Reflection on the completeness of the concept component	Reflection from others, evaluations, advice	Are the views of beneficiaries and partners taken into account?	What can be improved based on the results of the presentation
Need (Empathy)	Needs & Requirements	It is shown which needs of the target groups will be satisfied, which benefits/new value will be received by the beneficiaries of the project during and as a result of the implementation of the project. It is shown how the list of requirements was formed. The results of the development of the "tree of requirements" are presented. The key stakeholders' main limitations (specific requirements) regarding the quality of the project product and the progress of the project implementation (the content of activities under the project, terms and schedule of project implementation, and costs under the project) are determined. Restrictions are demonstrated in the following Triangle format: "Scope – Time/Implementation Schedule – Cost/Resources".						
	Stakeholders	A list of key project stakeholders is provided. For each of the groups of stakeholders in the project, it is indicated: <ul style="list-style-type: none">nature of participation (initiator, partner, participant, sponsor, beneficiary, etc.);a group of importance and influence.						
Defining the Problem	Purpose	The prerequisites for the creation of the project are comprehensively characterised. It is indicated which strategic priorities of the development of your local community and/or priorities of higher-level strategies this project is aimed at achieving. A problem is defined as a discrepancy between the desired and existing state of the system. A system description of the project problem (relevance) is given: <ul style="list-style-type: none">symptoms of the problem in comparison with the needs of the population;causes of the problem;scale of the problem;predicted consequences of not solving the problem. An idea of the project's contribution to achieving community development goals is given.						
	Objectives	The objectives of the project contain all the necessary components: <ul style="list-style-type: none">a global action that must be implemented through the project to obtain the project product;an idea of the future product of the project corresponding to the title of the project;desired indicators of project implementation in terms of time and cost (within a period of up to __ months with compliance with the budget of __ UAH). The SMART approach is used to determine/clarify/verify compliance with the project goal (purpose).						
	Estimated results / desirability	The results of the project are expressed through indicators of success ("... will be reduced (increased) by..."; "... will reach the level of..."; "... will be by ...% better than the standard"; "additional revenues to the budget will be..."; "there will be ... newly created jobs"). A tree of indicators for the defined requirements is provided. Estimated long-term effects during the implementation (use, operation) of the project product are presented.						

(continued on next page)

Table 1. *Continued*

Ideation	Project alternatives/feasibility & viability	The results of the analysis and evaluation of alternatives and the justification of the choice of the most attractive (supporting) alternative are presented.
	Project solutions	Project solutions are determined based on the implementation of the (specified) innovation taking into account the defined requirements and established restrictions, i.e., the means (technical, organizational, economic, financial, managerial, etc.), with the help of which the project problem will be solved.
Prototype	Project product & specification	The product of the project is defined as an object of the real world that will be obtained as the project 'output', either tangible (a building, structure, technical system, etc.) or intangible (management system, business process, service provision, organisational and management measure) with the definition of its components and project specifications.
Validation	Product & business model validation:	It is shown how project solutions were validated (through interviews, focus groups, pilot testing, etc.). The results of validation of the prototype of a project product among the beneficiaries are presented: to what extent the proposed project product and the approach to obtaining/using it meet the beneficiaries' needs; what changes/clarifications have been made to the project solution.
Limitations	Main activities	The main types of activities under the project (work packages) are determined. The related expected initial results (product components) of the project, results, and consequences of the project implementation are shown, with a description of the relationships between the types of activities (works and work packages) performed according to the project.
	Milestones	The estimated duration of the project in months, the main periods (stages) of project implementation in time, and key milestones are defined.
	Resources	A general description of the resources required for the implementation of the project is given: human resources; material, and technical resources.
	Financial resources	The approximate cost of the project and sources of financing are determined: Financial resources are given with the definition of the following elements: <ul style="list-style-type: none"> estimated cost of the project; potential sources of project financing; the share of each funding participant.
	Risks	A list of the main risks that may arise in the process of project implementation and affect the achievement of the project's goal, as well as characteristics of response to risks are presented.
	Sustainability	Provisions regarding the political, institutional, and financial stability of the project's results are comprehensively characterised.

Step I. Developing a draft of one's own concept of the local development project, according to the matrix, which includes recommendations on the content of the concept components in line with the set criteria. The matrix is filled with the data of one's own project. If any of the components are not filled in, the concept is returned for revision.

Step II. Self-assessment of the concept using the provided Concept evaluation matrix enables self-reflection on the completeness of each concept component, after which the participant can finalise the draft document.

Step III. Studying an example of a project concept developed according to the Matrix as a benchmark, which serves as a target reference point for the participants and a sample of best practices for comparison when developing their own project concepts. Each participant practices the project concept assessment process according to the set criteria, taking into account the completeness and correctness of the content of each component of the concept example. Next, they can compare their own assessment of the concept example with the assessment provided by the coach and learn recommendations for its improvement (which contributes to an even deeper analysis of the concept example), then return to their own concept and, if necessary, make appropriate changes.

Step IV. Conducting Peer Assessment by evaluating and providing comments (recommendations) for the improvement of the concepts developed by three other CoP participants. For this peer assessment, the participants have to use all the acquired knowledge, 'try on' the role of an expert, and practice skills in preparing and evaluating the local development project concept. They reflect on the products of three other participants and, thus, they become aware of how they can improve their own project concept.

Step V. Receiving assessment and feedback from three other participants – a reflection of others on the product developed by the participant, as well as the coach's assessment of the quality of recommendations given to other participants. This allows the participants to look at their own project concept "with an unclouded eye", improve it qualitatively and proceed to the preparation of its (pitch) presentation and the implementation of the project idea.

Step VI. Validation of project decisions, determination of project sustainability factors, and project risks complete the stage of data collection for preparing the project concept. A special emphasis is placed on the validation of project solutions – determining the compliance of the intended project product with the expectations, needs, and requirements of beneficiaries. Validation is one of the main stages of "testing" the project product. It can be done using such tools as interviews,

focus groups, pilot testing, etc. This process allows us to test the prototype of the project product: to what extent the proposed content of the project product and the approach to obtaining/using it meet the needs of the beneficiaries; what changes/clarifications can or need to be made to the project solution.

Based on the results of the above steps, it is necessary to:

- specify the project goal taking into account the description of the project product and its components, project limitations; desired indicators of project implementation in terms of time, cost and features of its implementation;
- clarify the project title based on the updated project goal;
- prepare materials for project presentation to key stakeholders;
- think over issues related to the formation of the future local development project management team.

Step VII. Presentation in a multi-stakeholder environment: forums and an online conference where the participants had the opportunity to present key components of the developed project concepts. In such a way, we added a real opportunity to refine projects and bring them closer to the implementation stage, to create and maintain conditions under which an individual participant's experience is transformed into everyone's property.

Assessment of emotional states

It is vital for a CoP to support and promote the knowledge-sharing behaviour of its participants who, by sharing practice and knowledge, become a cohesive goal-oriented partnership. Knowledge sharing also leads to value creation, unleashing creativity, generating innovative ideas and knowledge construction process.

However, knowledge-sharing behaviour in a virtual CoP has certain peculiarities since the interaction between its participants is not as spontaneous as in face-to-face meetings.

Thus, knowledge-sharing behaviour is influenced by the presence in the vCoP of various methods of interaction between its participants (discussion forums, workshops, consulting rooms, team-based learning activities) and the actual quality of knowledge shared by vCoP participants.

It should be noted that in order to support and intensify the knowledge-sharing behaviour of vCoP participants, who mostly do not know each other personally, creating an atmosphere of trust between the participants and ensuring their social presence for establishing interpersonal contacts is essential. Building and maintaining trust in the community is given considerable attention by administrators, coaches/tutors, and facilitators.

Thus, the main prerequisites for ensuring a trustworthy environment and supporting the knowledge-sharing behaviour of vCoP participants include:

1. Sharing common values and goals of the vCoP by all registered participants. To achieve this, when registering in the virtual CoP, participants were asked to carefully read and agree with the Rules and Values of the Community: "The learning process in our Community of Practice is based on the principles of professionalism, mutual respect, tolerance for the opinions of others, sharing of experiences, interaction, discipline and timely completion of all tasks, helpfulness, fair evaluation (without judgment)."
2. Encouraging all participants to self-presentation and self-identification in the vCoP through the creation of personal profiles, in which participants could later supplement, update, and expand information about themselves.

To get to know each other, and establish contacts and interpersonal relations, participants were offered a moderated open discussion forum "We are here, all of us. We are the soil for future decisive changes", where each participant could start one thread of discussion (on a topic that is significant for them).

The social presence of participants was also ensured, on the one hand, by the opportunity to be heard, and on the other hand, by the protection of personal data of all registered CoP participants. Without registration, a guest could not see the user's profile or track his/her activities.

3. The professionalism of CoP participants, since the Community of Practice is a competent environment. That is, in order for participants to freely share their thoughts, ideas, and experiences, they have to be sure that these ideas and thoughts will be properly "heard", understood, and interpreted by other participants. This means that the CoP participants, despite their different backgrounds and amount of practical experience, should have approximately the same level of competence in the subject area (domain) of the community and be able to communicate "in a common language" (for example, have knowledge and understanding of the relevant terminology).

To ensure the appropriate level of competence of the participants, they are offered to take an e-course in Project Management for Local Development, which consists of five modules and includes lectures, interactive presentations, a jointly created glossary of terms, and self-tests after each module to check readiness for professional communication within the CoP domain.

4. Shared values and accountability, responsible attitude of all participants to the tasks set within the community.

In the context of the created trustworthy environment, which is determined, in particular, by the level of responsibility and professionalism of vCoP participants, the monitoring of their emotional states indicates that all the tasks performed by the CoP4SD participants corresponded to their level of competence for new knowledge construction and achievement of the vCoP goals, as well as contributed to their knowledge sharing behaviour.

DISCUSSION

In 2018-2022, datasets were collected and organised in a frame with two dimensions: vCoP maturity (Joint venture, Mutual engagement and Shared repertoire of new knowledge/practice) and the 4A model of eLearning (Attention, Actualisation, Attraction, and Action).

The developed knowledge management frame presented in Table 2 is used for e-course design and evaluation of e-course operation in work-based learning.

Table 2. eLearning and vCoP integrated into one knowledge management frame.

eLearning stages: vCoP development stages:	Attention to	Actualisation by	Attraction through	Action & Reflection
Joint Venture	Domain (subject)	vCoP goals	Responsibility to accomplish the set task(s)	"Glossary" development Product, project or other result
Mutual Engagement	Existing experience and practice	Success factors and Lessons learned	Professional identity	Presenting own experience Peer assessment and learning from others
Shared Repertoire of new knowledge / practice	Job to be done	Problems and solutions	Design thinking: from needs to benefits	Networking, co-creating and disseminating knowledge

Joint Enterprise / Domain. When the vCoP was first created around the e-course, we expected people with the same level of knowledge, skills, and experience to enrol, although it was not the case. The joining factor was their needs, and challenges they came across in their job. But we wanted the vCoP to be not just a professional network for knowledge sharing or become a context for learning; we strove to make it a partnership between the community members who pool their knowledge, and experience to accomplish a specific task (for instance, a new project or another type of activity in the vCoP), when the participants are responsible for new knowledge construction within a single domain.

The domain was Project Management for Local Development. The vCoP members were asked to create their own profiles by defining their professional identity, competencies, and experience. It brought together different professionals into one 'joint venture' who were concerned about the low capacity of local self-government to implement changes, passionate about innovations, with a common vision of a prosperous future, with the mission of implementing the culture of project management for mobilising resources, with the goals of becoming a competence-empowered specialist and creating a knowledge "repertoire" for its further dissemination. We hoped that such a joint venture approach would inspire vCoP members to participate, exchange best practices, learn, and give sense to their actions for intellectual creation.

Analysis of the collected data indicates that about 70% of vCoP participants reported similar problems, experience and had an interest/willingness to solve these problems. 50% of them were ready to collaborate to achieve the vCoP goals, and they considered the diversity of the community in the context of competencies and experiences as an advantage that can be used to accomplish the vCoP tasks. It should be noted that 90% of the participants represented different organisations, that is, the community was an open system capable of overcoming geographical and organisational boundaries. It is essential that, on the one hand, the vCoP brought together practitioners who took on responsibility for actions towards the creation of projects, and on the other hand, all stakeholders of the vCoP domain should be represented in the com-

munity. In our case, though we involved a large number of participants, two third of them mentioned that not all stakeholders were sufficiently represented in the vCoP. So, the specific definition identification of all stakeholders and their involvement can significantly improve the community's performance in the future.

In addition, despite the fact that the community members were quite motivated to actively participate in it, they were little involved in the implementation of the vCoP strategic action plan and did not feel responsible for its maintenance. This shortcoming can also be considered as another potential for development, if more attention is paid to such a participatory framework.

Therefore, belonging to something new (in terms of the subject and tools), involvement, and co-creation to achieve goals are good motivating factors for active participation in the vCoP and for supporting its functioning.

Mutual Engagement. So, the participants paid attention to the vCoP because they could be involved in something new and important, function together by presenting their own practice and learning from others, and establishing connections (networking).

More than half of the participants joined the discussions, communication, took part in joint actions to solve problems, and offered each other help when needed. But at the same time, we observed that the participants did not actively try to establish professional connections with each other. It can be assumed that membership in the community depends on experience: it is necessary to have at least some work experience as an employee of a local self-government body or in a local development project management team. Then the participants are ready to actively build professional relationships that will allow them to learn from each other, share ideas, and also take care of the maintenance and results of the community's activities. They will strive for its growth because they will need this community. More than 60% of participants believed in the long-term perspective of the vCoP and its replenishment with new members.

Shared Repertoire / Practice. In terms of knowledge sharing, the majority of vCoP participants (about 60%) told their stories from experience, exchanged ideas, and believed that they learned useful information while communicating with others in the community. However, in their opinion, the e-course curriculum did not envisage enough time devoted to such knowledge sharing. At the same time, 81% of the vCoP members were grateful for mentoring from both community members and its facilitators, experts, and coaches within the Project Management for Local Development e-course, which is a very positive indicator of a high level of trust in the community.

52% of vCoP participants took part in a joint reflection on the articulated problems, the experience of some participants regarding their solution, or the construction of knowledge (concepts) for their solution. It should be noted that up to 60% of participants report that their personal level of reflection on their experience has increased, and their previous understanding and knowledge have been transformed. The interaction of participants with different backgrounds leads to the generation of 'out-of-the-box' ideas and the development of a common "repertoire of knowledge". But there is a need to improve the "Dissemination of knowledge" indicator, and special attention should be paid to it in the further development of the vCoP. Perhaps the somewhat low data is due to the fact that the concepts (formalised knowledge) that have entered the repertoire of the vCoP have a different level of quality. Only those vCoP members who received a high score in the peer assessment are ready to share their concepts as objects of exchange of newly created knowledge.

Actually, the participants experienced in the vCoP have become more confident, they are convinced that together they are developing a "repertoire of knowledge", that they can refer to in the future, they are making contacts with others in their field of activity, and they are free to share information with others in their field of interests.

The conducted analysis shows that the vCoP is quite mature according to all three criteria: Joint Enterprise/Domain, Mutual engagement, and Shared repertoire/ Practice. At the same time, it still has potential for growth due to greater involvement of participants in community maintenance, expansion of the presence of stakeholders, longer retention of community members for the exchange of experience, and their constant return to work in the community, reflections and joint knowledge construction, preparation of project concepts and active professional networking.

CONCLUSIONS

1. A virtual Community of Practice can act as a high-quality context for eLearning and partnership to accomplish a specific task (for instance, a new project or another type of activity in the vCoP), when members share goals, strive for change, share competence that distinguishes them from others, are responsible for new knowledge construction within a single domain and are ready to cooperate and co-create the desired values.

2. The domain that unites the vCoP is project management for local development, which is the content for learning (understanding needs, defining a problem and proposing a solution to it, preparing a prototype, testing it and learning from it, evaluating the benefits of its implementation for a target group).
3. The maturity of the vCoP contributes to the shift from learning in context to learning partnership where CoP members are united by learning goals and act together to accomplish tasks. The synergy effect of CoP and eLearning is the generation of 120-220 project concepts prepared within 4-6 weeks, and these concepts demonstrate a unique value that is tested using the developed matrix for desirability, feasibility, and viability.

The presented research results show the viability of the eLearning processes in the framework of a knowledge management system based on vCoP as a context for learning, project management for local development as a domain for the community, and a partnership between the community members who pool their knowledge and experience to accomplish a specific task as a joint venture.

The vCoP maturity is evaluated according to indicators combined into certain criteria: domain, participatory membership, sense of community and knowledge sharing, actions, and construction of new knowledge.

Project management for local development as a learning content helps CoP members link needs and benefits through developing solutions and their validation with maximum involvement of all stakeholders and establishment of partnerships.

The productivity of the vCoP is due to the motivation of its participants, who are looking for and developing new knowledge, co-creating unique values, assessing them through peer assessment, and further refining and presenting their project concepts at a forum to stakeholders, investors, and partners. The paper also presents a monitoring tool for evaluating the emotional states of the vCoP participants, which reflect trust and a positive climate in the vCoP as necessary prerequisites for creativity, idea generation, and knowledge dissemination.

The approach to creating a knowledge management system in the web-based CoP allows its participants to quickly go all the way from defining a problem to developing a project concept: learn the practice, generate ideas, choose a solution to meet needs, create a prototype, validate the project products through interviews and peer assessment, formalise innovative value into a project concept and present it within 4-6 weeks for verification by stakeholders (at an online conference as a separate event in the vCoP). Thus, such a knowledge management system can be easily replicated and used for lifelong learning and innovation ecosystems.

ADDITIONAL INFORMATION

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ВІРТУАЛЬНА СПІЛЬНОТА ПРАКТИКИ З ПИТАНЬ МІСЦЕВОГО РОЗВИТКУ: РІЗНОМАНІТНИЙ КОНТЕКСТ І ПАРТНЕРСТВО ДЛЯ ЕЛЕКТРОННОГО НАВЧАННЯ З УПРАВЛІННЯ ПРОЄКТАМИ

Мета цього дослідження полягає в тому, щоб отримати глибоке та всебічне розуміння процесів управління знаннями у віртуальній спільноті практики (vCoP) і запропонувати основу для організації процесу електронного навчання з управління проєктами місцевого розвитку. VCoP було створено на вебплатформі для обміну найкращими практиками та для навчання в групі професіоналів із різним досвідом і різноманітними навчальними потребами. Протягом 10 років спільнота vCoP щорічно збирала від 600 до 1000 учасників із різних регіонів та організацій, які визначали проблеми, вивчали досвід інших, проходили електронні курси, працювали у віртуальному спільному просторі над розробкою концепцій проєктів місцевого розвитку й спільно творили широкий «репертуар» нових знань.

Стаття представляє дослідження процесів управління знаннями у віртуальній спільноті практики vCoP і ґрунтується на первинних наборах даних, отриманих протягом 2018 – поч. 2022 року з огляду на спільний домен, спільну участь та почуття спільноти, обмін знаннями та навчання, дії та створення нових знань. Ми представляємо результати дослідження, де гіпотезою було поєднання спільноти практики та електронного навчання в одній системі з метою швидкого розуміння проблеми (кризи), пошуку спільних шляхів вирішення проблеми та розуміння переваг їх упровадження, водночас активно спілкуючись із потенційними бенефіціарами й представляючи концепцію проєкту потенційним зацікавленим сторонам, партнерам та інвесторам для мобілізації ресурсів.

Ураховуючи виклики, які зараз долають Україна та країни-партнери, у післявоєнний період запропонований підхід ефективного застосування віртуальної спільноти практики може бути використаний для створення державно-приватного партнерства, для забезпечення участі громадськості в управлінні, зокрема для перевірки ефективності ідей, включених до стратегій та відповідних портфелів програм і проєктів для забезпечення стійкості, відродження та розвитку територій і громад.

Ключові слова: управління знаннями, віртуальна спільнота практики (vCoP), електронне навчання, спільне створення знань, партнерство, управління проєктами, місцевий розвиток

JEL Класифікація: D83, I25, O15, O35