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## Article

# Globalization and knowledge management in projects

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## GLOBALIZATION AND KNOWLEDGE MANAGEMENT IN PROJECTS

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**Abstract:** Knowledge management is a field of management dealing with the use of knowledge, methods, and tools to effectively coordinate complex and unique projects. In accordance with this definition, project knowledge can be treated as a useful resource of information that allows projects to be implemented in compliance with its objectives: time, costs, and quality of results. Knowledge in the activity of an organization, including in the implementation of projects, has for many years been an area of interest to researchers, who confirmed its key importance for building permanent competitive advantages of companies and enterprises. In project management, this issue takes on a new character, as it is transferred to the field of dynamic, time restricted, temporary, and team-implemented projects. The aim of this paper is to present the results of a survey regarding the use of practices of knowledge management in projects in international organizations and to show that the concept of knowledge management in projects is a tool conducive to spreading the process of globalization.

**Keywords:** globalization, knowledge management, projects.

### 1 Introduction

Project management is a practical field of management, which has been gaining significance in recent years in business activity of companies and organizations. Owing to the necessity of efficient and timely implementation of complex and largely unique projects, projects and project approach are permanent elements of current operations of enterprises. New projects increase experience resources in a company. Unfortunately, such experience often gets dispersed after the project is completed and the team dissolved. As a result, the important new knowledge acquired or created during the project implementation is not used after the project is completed.

Project experiences can be defined as new knowledge, experience, observations, and conclusions gathered by the project team and project stakeholders regarding areas of the project implementation. Gaining project experiences gives a huge value to the project team and the whole organization. If implementation of projects requires the use of advanced interdisciplinary knowledge, then analysis of project experiences enables clear indication of the areas of this knowledge, evaluation of knowledge gaps of the project team, and identification of the areas where these knowledge gaps

should be filled. By gathering project experiences, an organization can maintain the continuity of project knowledge. Completion of works as a part of a project causes release of the resources used for its implementation and thus dissolution of the project team. The organization of the project closure, combined with summary and analysis of project experiences, prevents dispersal of the acquired knowledge, which may otherwise disappear when the employees return to their units, departments or other organizations [13, pp. 378–389].

Because of the uniqueness of projects, publicly available and universal sources of project knowledge may be perceived as too general and inadequate for the specificity of the implementation of projects in a given business environment. By gathering corporate project experiences, companies may build their own knowledge base that fully reflects the character and specific features of project implementation in a given industry, in a company with a specific structure, corporate culture, and a specific type of projects. Project implementation is connected with a relatively high level of risk, and gathering project experiences activates learning processes, and thus it is a risk reducing factor.

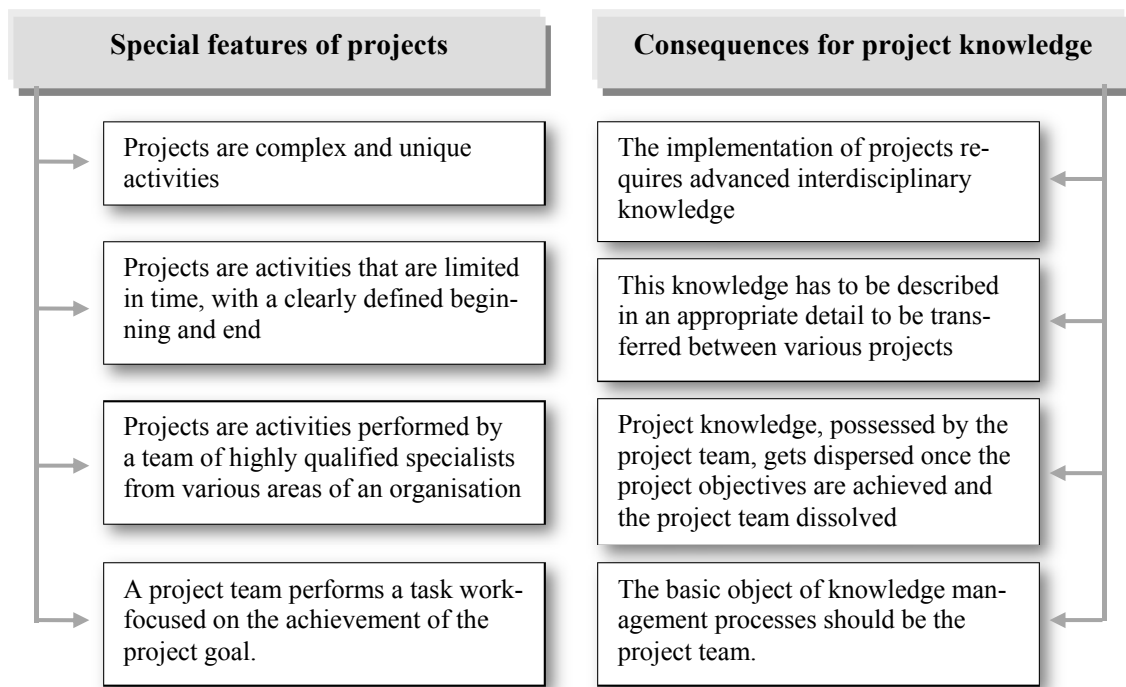


Figure 1. Specificity of knowledge in projects  
(source: own work)

## 2 Knowledge management in projects - specificity and importance

Project management refers to the use of knowledge, skills, tools, and techniques in actions taken as part of a project to meet its requirements [9]. The specificity of project implementation and the features distinguishing projects from other activities of an enterprise place specific requirements on project knowledge, that is, knowledge connected with project implementation, as presented in Fig. 1.

Project experiences and processes and techniques connected with gaining, evaluating, and disseminating such experiences are elements of project knowledge management, which perfectly fit the above-presented specificity of project implementation.

Project management is a field that can specifically draw on the achievements of knowledge management [10], thus increasing the effectiveness and efficiency of project implementation. One of the most popular issues in the area of project knowledge is project experiences. These experiences can be defined as new knowledge, experience, observations, and conclusions gathered by the project team and project stakeholders regarding the areas of its

implementation. Gaining project experiences brings a huge value to the project environment and the whole organization and is a basic, very popular practice of knowledge management in the environment of projects [4].

The approach to knowledge management that is based only on project experiences was many a time criticized in the academic literature. The main objections included too much focus on the aspect of IT tools that outweigh the soft elements of knowledge; failure to take into account the context in which experiences were gained; too high level of detail of experiences, which makes it difficult to transfer them between projects; difficulty in finding project experiences that are relevant from the perspective of the problem under examination; and concentration on knowledge externalization processes without taking into account the other forms of knowledge transformation [16].

Therefore, model solutions of using knowledge management methods in projects should go beyond the narrow scope of project experiences and use all the achievements of knowledge management solutions to offer the team an approach allowing them to use the potential of project knowledge in projects being implemented. It is necessary to take into account not

only learning in terms of single projects but also knowledge transfer as part of a portfolio of projects at a global scale.

Therefore, combining the specificity of project knowledge, the existing fragmentary practices of knowledge management in projects, solutions connected with project experiences, and a wide selection of methods and tools for knowledge management, it is appropriate to develop a concept of using knowledge management methods in project implementation in the global aspect.

### 3 Model approach to knowledge management in projects with special reference to a project management office

Activities aimed at knowledge management should be included in the processes of project management in order to ensure effective use of knowledge for successful completion of a project. However, from the perspective of an organization, in an environment where a lot of projects are implemented, this approach to management is undoubtedly insufficient for the following reasons:

- owing to the task and time restricted nature, as well as the impermanent organizational structure of a project, there is a very high risk of knowledge loss caused by failure to perform the process of knowledge preservation, departure of people from an organization, or loss of contact with them; moreover, actions aimed at preserving knowledge after a project is completed become less important for the project team when the objectives of a business project are achieved,
- it is difficult to preserve knowledge stored in a material form because of the team's dispersal once the project is completed,
- attention and work of the team is focused on the objectives of the project, for which the team is assessed; therefore, it is necessary to have a broader view of the existing knowledge, project experiences, also from the perspective of other projects, programs, and the environment of the whole organization,
- learning and improving the ways of solving problems requires some intellectual, cognitive effort,

as well as devoting some resources and time, which has a negative influence on the course of the process of knowledge preservation,

- in case of the implementation of a number of projects, difficulties may occur resulting from inconsistency between processes and practices of project management, which result from failure to coordinate and consistently manage the whole project environment, including project knowledge management,
- owing to a relatively significant distinctiveness of project teams, the aspect of learning between projects is much more difficult [25].

The arguments indicated above clearly show that it is justified to introduce the role of an integrator into the project environment in an organization. The existing knowledge and study of project management, as well as its dynamic development in recent years in the area of organizational issues of project management, seem to confirm this thesis and point at the project management office as a unit that can successfully play the role of an integrator and coordinator of the processes of knowledge management in projects [19].

Specialized literature and practice provide numerous definitions of a project management office. This diversity results from diverse approaches, typologies, and functions ascribed to it:

- Peter Böttcher defines such an office as “*an organisational unit tasked with centralisation and coordination of management of projects for which it is responsible*” [3, pp. 365–377],
- Frederik Ahlemann and Christoph Eckl define a project management office as “*a centralised organisation designed to improve practices and results of project management*” [1],
- Dominik Hauser defines a comprehensive framework for action in a project management office as “*The task of a project management office is to maintain the whole intellectual capital connected with managing projects and to actively support the strategic planning of an enterprise*” [8].

As can be noted, the definitions above confirm the role of a project management office as an integrator of an organization's project environment, also from

the perspective of knowledge management in projects.

A project management office, as a permanent organizational unit supporting temporary, time restricted projects, ensures continuity and permanence of project know-how. The project management office preserves continuity of knowledge and project experiences, which, after the project is completed, are gathered and added to a project knowledge base from where they can be used in next projects. Preservation of project knowledge allows an organization to learn from projects, reduce time and costs of the access to project knowledge, and, as a consequence, implement projects in a faster and more effective way. The project management office can ensure the development of knowledge and competences of project managers, train project teams, and develop a common methodology for project management and standard documentation to be used in project implementation.

An important aspect of introducing the project management office into the concept of knowledge management in projects is the issue of learning between projects. Knowledge management in projects requires learning both as part of the project and its particular phases and drawing conclusions, learning and transferring knowledge across projects in the multiproject environment of an organization [2].

For a proper transfer of knowledge across projects, it is necessary to make sure that the knowledge to be transferred meets the real needs of the project that obtains knowledge, that it is possible to verify the usefulness of this knowledge, and that it is received by persons who really can use it for the benefit of the project [26].

In this situation, the project management office becomes not only the provider of the infrastructure for information exchange but also a unit that preserves continuity of project knowledge in an organization, the owner and coordinator of the process of preserving and distributing knowledge in projects, an entity that maintains project archive and repositories, organizer of meetings to sum up the project, collector of registers and records of project experiences from many projects, a unit responsible for evaluation of project experiences and implementation of the best practices, coordinator and creator

of internal training courses on project management, and many others. By establishing the project management office, efforts to improve project management can take a permanent organizational form and specific activities of the office with the persons responsible for them can be identified. An indisputable advantage of the project management office is its role as the centre for communication and coordination of projects, access to tools and technologies that support people in knowledge and information sharing, and involving them in the processes of solving problems and improving the project environment in an organization [15, pp. 3–19].

#### **4 Project knowledge management in the global aspect – survey results**

Projects are an important element of the functioning of organizations and enterprises in the modern economy. They are the driving force of implementing innovations, which are very important for competitiveness of organizations in the global economy. Initiating new business activities, implementing organizational changes, introducing new products, implementing strategies, all these activities are performed by means of projects. Project management is a field of management concerned with the use of available knowledge, skills, tools, and techniques to meet the needs and expectations of the principal of projects.

According to the popular view that has a strong empirical support in scientific studies – including studies conducted by EU institutions responsible for supporting projects and programs – the key problem in the implementation of projects is inappropriate management of project knowledge, which is reflected in low effectiveness of its use, and above all in weak capacity of an organization to accumulate project knowledge and in loss of organizational memory. These phenomena result in low effectiveness of projects, poor quality of results, dissatisfaction of principals, and ineffective management of resources assigned for their implementation [12, pp. 399–415].

These phenomena directly impact project management, which by its nature is connected with knowledge processing. Project team members – with

specialist knowledge – work together as a part of the project to deliver new products and services on time, in accordance with the budget and specified quality criteria. From this perspective, an important task of the project manager will be to manage the knowledge of his own team and stakeholders – he should integrate it in the best possible way to ensure successful implementation of the project. Project team members also manage their knowledge – individually and as a team – using the already existing knowledge and acquiring new one, passing it to others and together creating new knowledge in an organization. Thus the use of knowledge management methods in the implementation of projects can ensure successful implementation of projects.

Globalization, based on the assumption of the concept of knowledge management in projects, basically refers to team work. Project teams established in global organizations constitute a fundamental element and resource used to perform the process of globalization. Such projects are implemented not by one person but by entire, interdisciplinary teams of experts. Often, these teams are composed of people from a global organization and those located outside these organizations [7, pp. 315–336].

Project teams set up within the existing organizational structures result in overcoming the existing barriers connected with a functional approach to the organization of works and communication. The practice of the implementation of knowledge management in projects presented in the studies shows that the emergence of new organizational structures – project structures – represents the main determinant of the work of teams appointed for the purpose of implementing a specific project. Just like globalization processes shatter local dependencies, project teams break the existing local organizational structures. This approach is also connected with the new models of communication supported by modern software, which rely on shortening and simplifying the communication channel, and introduce new solutions in the area of planning, budgeting, and reporting. These solutions constitute a tool that is used by global organizations not only for effective management of knowledge in projects in the area of communication itself, but they also represent a technique of standardization and unification in the

process of globalization. By deciding to use them, a global organization spreads its standards along with its own geographical development. The implementation of projects by a global organization, regardless of the origin of the members of the project team or the location of the project itself, is a natural phenomenon, which is confirmed by the survey [11, pp. 373–391].

It is also worth highlighting the phenomenon of optimization, which is fundamental for the process of globalization, as it is for the success of projects [5, pp. 167–179]. The concept of knowledge management in projects gives operational dimension to the global optimization. The aim of each project is to achieve three basic, interrelated objectives: deadline, cost of execution, and project scope. The basic task is to find possibly the most effective way to achieve these objectives to ensure that the project is implemented to the extent specified in its scope, at the lowest cost and within the shortest possible time, that is, in an optimal way. This implies that a single project, if executed in an optimal way, which constitutes an element of the process of globalization, will contribute to the increase in competitiveness of a global organization.

#### **4.1 Characterization of the research group**

The study was conducted using a survey questionnaires addressed to project management specialists in international law firms specializing in economic law and running international projects. The answers were provided by 200 respondents. The survey was conducted between September and December 2014 in Germany.

The survey questionnaire was sent to the members of a project staff in German law firms participating in the implementation of international projects as both managers and members of project teams (Fig. 2). Among the respondents, the largest group (110 people) was project managers. Specialists – members of the teams executing a project – represented the second largest group (60 people). The other respondents were members (24 people) of a project management team, two respondents worked on the implementation of projects in an informal way, and four respondents were from the project management office.

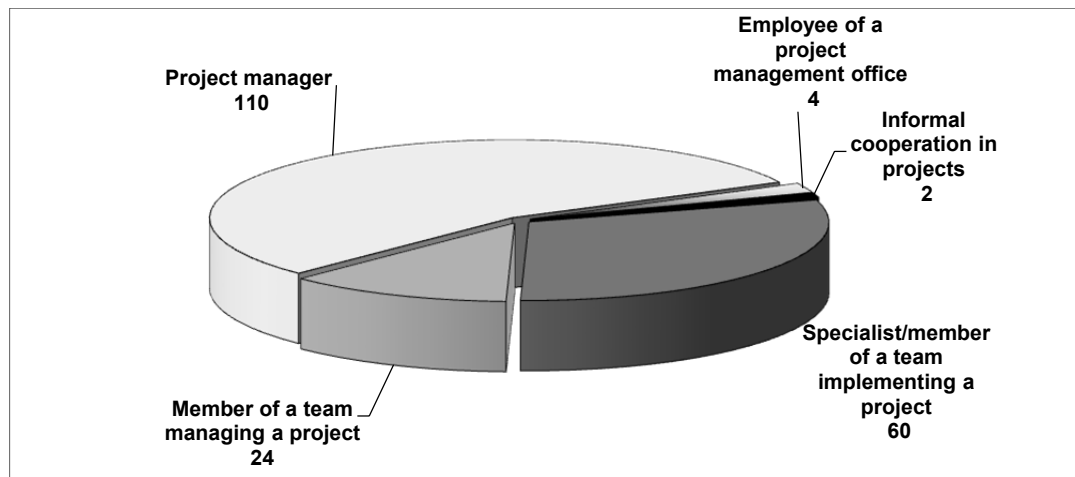


Figure 2. Predominant posts held in projects  
(source: own work)

Asked about the degree of the law firm's involvement in projects, two-thirds of the respondents answered that they worked in organizations where this degree was high (51.3%) or very high (29.8%)

(Fig. 3). One in 10 respondents assessed it as low, indicating that his/her organization runs a few, sporadic projects.

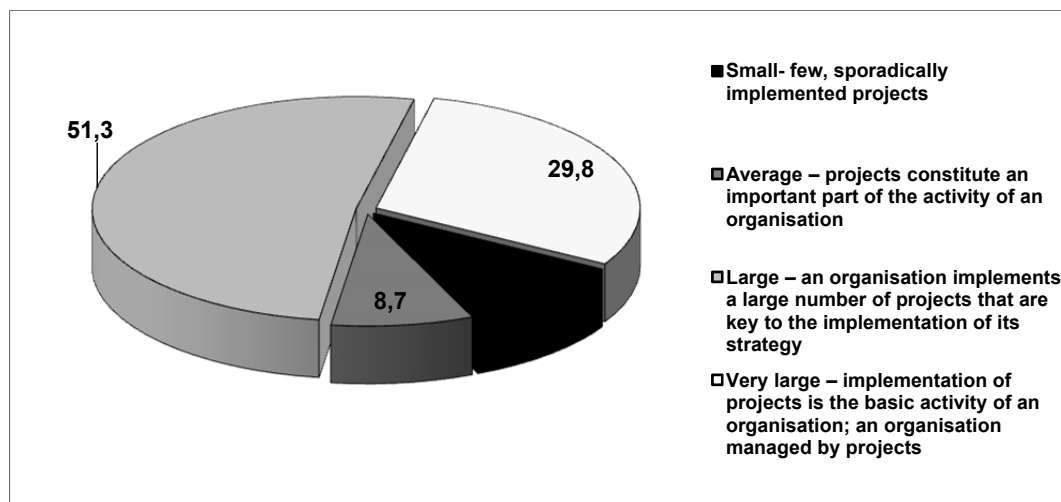


Figure 3. Degree of involvement of the law firms analyzed in implementing projects  
(source: own work)

#### 4.2 Results of the questionnaire survey

In the main part of the survey, respondents indicated to what extent particular statements applied to their organization or how often specific actions were undertaken. The aim was to identify the practices of knowledge management in organizations implementing international projects. The respondents were presented with six statements:

- 1) starting a project, I can draw on project experiences from previous operations in my company;
- 2) the level of knowledge and competences of project teams is adequate from the perspec-

tive of the requirements of implemented projects;

- 3) the members of a project team are willing to share their knowledge and experiences gained during a project;
- 4) during a project, gained project experiences are documented;
- 5) at the end of a project, a meeting to sum up the project is held;
- 6) the project management office helps teams to get access to the knowledge necessary to implement the project.

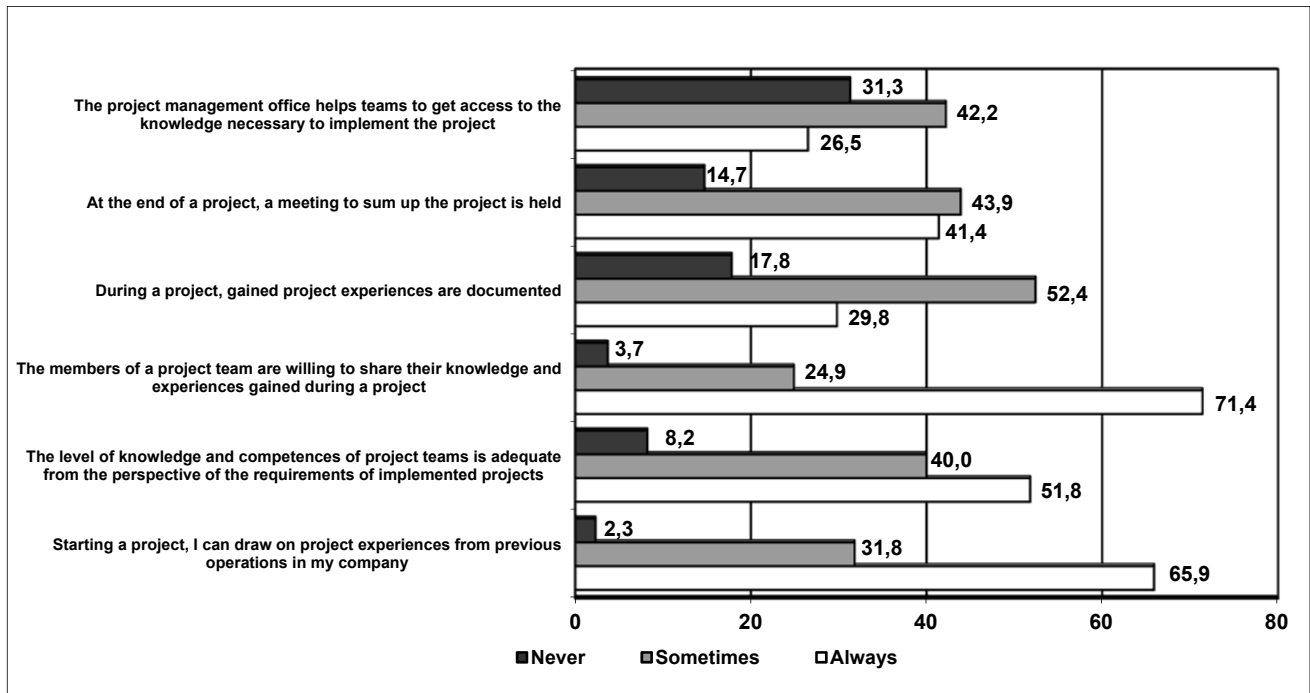


Figure 4. Overall presentation of how frequently the above-mentioned practices of knowledge management in projects were indicated  
(source: own work)

Fig. 4 presents how frequently the above-mentioned practices of knowledge management in projects were indicated.

Creating possibilities of referring to previous project experiences in organizations at the moment of undertaking new projects seems to be the basic and key practice from the perspective of knowledge management in projects. This thesis is confirmed in numerous scientific studies [24, pp. 83–96], as well as in the analysis of the content and recommendations of project management methodologies, which directly recommend such actions [17]. Among the participants of the survey, 65.9% indicated that the possibility of referring to previous experiences “always” occurs, and almost one-third of them indicated that it does so “sometimes” (31.8%).

The importance of the competences of a project team is universally known and unquestionable [21, p. 29–36]. Although it is individual persons' knowledge and competences that should determine their membership in the team and their roles in it, in fact the process of selection and recruitment of the right people is often beyond the scope of impact of the project team [23]. The knowledge of a team, comprising the sum of its members' knowledge and syn-

ergistic benefits, should match the specificity of the project and be supplemented where deficits are identified.

In the distribution of the answers concerning the proper level of knowledge and competences of project teams from the perspective of the requirements of implemented projects, the dominating answer was: it “always” (51.8%) meets these requirements. The answer “sometimes” was indicated by 40.0% respondents. It is at the same time worth noting that the answer “never” was indicated by 8.2% respondents.

Knowledge sharing within a team and willingness to pass it was the subject of numerous surveys [6]. Knowledge is regarded as a resource that gets increased when it is shared [18]. At the same time, depending on the approach, knowledge sharing can be seen as something positive – for example, as building personal and team competences, developing ideas – or negative as weakening own position, loss of invested funds, or feeling of uniqueness [22, pp. 110–127].

Almost 72.0% of respondents had a definitely positive attitude to the practice of knowledge sharing



in projects, indicating that the team members are “always” willing to share their knowledge and experiences during a project. This “sometimes” takes place in the case of 24.9% of respondents.

Documenting project experiences during a project is one of the elements of gathering knowledge, both at the individual, team and cross-team levels. Owing to the fact that a project implementation is extended in time – sometimes significantly – there is a risk of omitting important experiences caused by the limitations of the human memory. Therefore, it is recommended to regularly document them during a project, not only after its completion [14, pp. 177–224].

Among the responses defining the frequency of using this practice, the response “sometimes” (52.4%) was most often indicated. About 29.8% of respondents indicated that project experiences are always documented during a project, but as many as 17.8% responded that they never did it.

A meeting to sum up a project is an important element of a project process. Its aim is to assess the effects and course of the project and gather knowledge before it is formally closed and dissolved, and the project team dispersed [20].

Gathered project experiences – in the form of postulates of positive effect and changes – should be entered into the project knowledge base and transferred to other projects and the whole organization.

A meeting to sum up the project is “always” held in projects in the case of a relatively large (41.4%) group of respondents. In the case of 14.7% of respondents, this practice is never used, whereas the largest group of respondents was composed of people declaring that meetings summing up projects are “sometimes” held in their organizations – 43.9% of respondents.

The frequently mentioned aspect of project implementation is the temporary, time-restricted character of projects, resulting from specified starting and completion dates of projects. This may cause a phenomenon of discontinuity of the project environment in an organization. This discontinuity will result, among other things, in dispersal of project documentation, temporary character of the function of a project manager, reluctance to invest in the de-

velopment of project management practices, lack of learning mechanisms – drawing conclusions and learning from experiences – inconsistent processes of project management, necessity to establish each time new principles and tools for project implementation, unfamiliarity with methodologies and best practices of project management in project teams, and other negative phenomena.

The project management office – as a permanent organizational unit designed to support temporary, time-restricted projects – ensures the continuity and permanency of project know-how, for example, through gathering project experiences or creating training programs [15, pp. 3–19]. It is thus an important element of the infrastructure of the project environment in an organization, especially in the area of supporting and coordinating knowledge management in projects.

However, only 26.5% of respondents indicated that such support is always available. Slightly over 42.0% of respondents indicated that project management office (PMO) “sometimes” provides support. Almost 31.3% people chose the answer “never.” This means that in the case of a quarter of project management offices, members of project teams think that they never receive support from them.

## 5 Summary

The character of projects, which are complex, unique, and time-restricted activities, poses new challenges to the existing processes of knowledge management, which are mainly focused on continuous actions.

The empirical studies allow a range of research conclusions to be drawn. A vast majority of the organizations surveyed notice a significant rate of loss of business opportunities because of difficulties with an effective use of knowledge in projects. At the same time, however, this phenomenon is largely connected with the implementation of the practices of knowledge management in projects. In the group affected by the risk of the loss of opportunities, the average frequencies of practices were lower in all cases. The biggest difference in the averages was visible in documentation of project experiences.

The degree of intensity of project activity significantly impacted how often practices were used. The importance of the position held by respondents in projects was relevant only from the perspective of the evaluation of the operation of the project management office in terms of assistance in access to knowledge.

The results of the survey show project management as an area that, in a very specific way, becomes the beneficiary of knowledge management, creating new quality and enriching the achievements of both the fields. In the existing research works, the concept of knowledge management in projects or project knowledge management, appears very rarely and is located beyond the main area of interest of researchers, both dealing with project management and knowledge management. This fact constitutes a very strong substantive justification of further interest in this subject, both from the perspective of management studies and the implementation of solutions in the practice of business activity of enterprises and organizations. Organizations are becoming an initiator of globalization processes they are striving to develop and ensure long-term existence. It is in these organizations that visions and ideas for new projects emerge aimed at ensuring business development to increase its competitiveness.

Knowledge management in projects is a fully universal concept that cannot be applied only in a selected area or industry in the economy. It respects no national or cultural borders. This concept, similar to globalization, is fully flexible and universal, as projects constitute an element of globalization processes. The concept of knowledge management in projects supports globalization processes, as projects constitute an element of globalization processes. These processes are implemented within global organizations that transfer their models of functioning to other geographical, cultural, and business areas. Every global company is continuously creating and developing a catalogue of good practices, that is, a catalog of techniques and methods that enable the implementation of projects as part of globalization. Techniques and methods of knowledge management in projects constitute a clearly formulated and logically connected system which global compa-

nies rely on. Today, it is not possible to find a global company to which the knowledge and use of the concept of knowledge management in projects is unfamiliar and unclear.

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