

Action Research as a Tool for Project Knowledge Management in the Projectified Public Organization

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Abstract: The chapter aims to present the results of an action research project carried out in years 2018 – 2019, which concerned project knowledge management. The entity in which the study was conducted is one of the largest museums in Poland. The museum under study is an example of a projectified public organization where most of the activities are being performed in the form of a project. The intention of the undertaken action research was to introduce an organizational change – to improve the process of project knowledge management in the museum. Hence, the aim of the paper is to show how can action research support project knowledge management processes in organisations and in which way action research affects the knowledge retention of project workers. Analysis of the obtained data allow us to conclude that action research, is an effective tool and approach in the improvement of project knowledge management. Thanks to this approach, members of the organizations, dispersed among different project teams, can e.g. jointly work out the rules for better project knowledge management in their workplace and improve the project knowledge management process in general. Hence, action research may positively impact knowledge retention among project team members.

Keywords: knowledge management, project knowledge, projectification, action research

1. 1. Introduction

Project management as a management method helps solve complex problems in different types of organisations (Bredillet, 2004). The popularity of project management leads to development of projectification, defined as an institutionalization of projects in society (Jacobsson & Jałocha, 2018).

Jensen, Thuesen and Geraldi (2016) point out that projectification is not simply the result of current trends or the popularity of the term “project”. Projectification is the process of creating temporary forms of project work in an organisation. These forms are future-oriented and purposeful, flexible and adaptable to project conditions. The multiplicity of projectified organisations and the penetration of projectified modes of action into people’s private lives contribute to the emergence of the project society (Jensen, 2012).

Projectified organisations attempt to gain an advantage over other organisations also operating in a project-based manner. Factors determining a competitive advantage in projectified organisations include, among others, the way in which the organizations manage project knowledge. In the projectified public organizations, management of knowledge that comes from the projects and programs is especially important. According to research, appropriate management of project knowledge can thus significantly impact the success of organizations implementing an increasing number of projects (Wirick, 2009).

To understand project knowledge management processes in organisations, methodological instrumentation of both qualitative and quantitative nature is needed. It is also crucial to choose engaged research methods that support the development of solutions that are useful from the perspective of practical management of solutions (Coghlan & Shani, 2018). These include action research (AR) – a research approach, a study of the social situation of members of an organisation and the researcher, designed to integrate knowledge creation and practice through collaboration. It aims to work towards improving the quality of activities or solving existing problems. Embedding this research within the organisation contributes to the development of the entity and to its potential to provide knowledge not only to researchers studying management and organisations but more importantly to community members (Coghlan & Shani, 2018).

Therefore, in the presented study, we used Action Research to understand and change the project knowledge management processes in the public museum. The subject of the study was a Polish projectified public institution, the Krakow Museum. In order to present the results of the implemented action research, the paper uses the single case study method. The research problem, concerning project knowledge management processes in a public museum, was explored through two main research questions:

RQ 1. How can action research support project knowledge management processes in organisations?

RQ 2. Does, and if so how, action research affect the knowledge retention of project workers?

This article consists of several parts. After presenting the key issue in the introduction, as well as the research questions, subsection one contains a review of literature dedicated to individuals involved in the project knowledge management process. The second subsection deals with the means by which project knowledge is acquired. Subsection three characterises the use of action research. The result of the study and its conclusions are then presented.

2. Project knowledge management

2.1 Key actors in the project knowledge management process

An important area of project management is the establishment of project teams. Team members, apart from technical competencies, should also be characterised by: commitment to the work, high level of motivation, ability to work in a changing environment – often under time pressure and knowledge of project management methodologies. One of the key elements of the project team should also be the ability to accumulate knowledge, resulting from project experience (Harris, 2016). The focus on the latter very often depends on the type of project, its duration, the stage of the project life cycle and the number of project team members. Project knowledge management is also influenced by how the organisation positions projects in its organisational context (Youker, 2017).

The project manager and those involved in the processes of organising the project, deciding on the ways of carrying out tasks, communication and defining the rules of cooperation, often contribute to the formation of a project subculture. This concept is understood as a kind of subculture that arises in the process of project implementation in a given team involved in its implementation. Such a team is guided by values resulting from the organisational culture, which is complemented by values created in the project management process (Kamiński, 2021). It is worth ensuring that project knowledge management has a special place in such a project subculture.

At the organisational level, the creation of knowledge management systems is supported by so-called knowledge workers. These include senior managers, project managers and technical staff who are specialised in their profession, have experience and ability to solve complex problems. Such people are characterized by unique competences, independence and proactivity (Amoah & Marimon, 2021)

Other people who initiate the collection of project knowledge in an organisation are so-called knowledge seekers (Girard, 2018).

The key actors in the project knowledge management process are therefore employees with above-average knowledge of the organisation and how it implements projects. They are therefore a valuable resource – supporting knowledge management processes with their insights. Sometimes organisations choose to enlist the support of external consultants to plan and improve their project knowledge management process.

2.2 Methods of obtaining project knowledge

Organisations characterised by project management maturity include in their strategies information on the use of knowledge management tools before, after and during project implementation. One of the key challenges in project-oriented organisations is generating project knowledge and engaging employees in the process (Gupta, 2020). However, before an organisation takes action to acquire project knowledge, management should adopt a strategy for gathering this knowledge. In this respect, it is useful to draw on the developed knowledge management models (O'Meara & Kelliher, 2017).

The abovementioned knowledge managers, knowledge workers, knowledge management coordinators or experts, in order to plan project knowledge management processes, should select ways of obtaining project knowledge which will support the timely realisation of project goals in the organisation.

This means that they should be aware of what sources they can obtain project knowledge from and what type of project knowledge is most useful to them (Girard, 2018). The following types of project knowledge are distinguished in literature:

Table 1 Knowledge acquisition methods for specific types of project knowledge

Type of project knowledge	Specific character of the knowledge	Example method of obtaining project knowledge
Process knowledge	involving the knowledge of the project team, concerns the project structure, procedures, tasks and time constraints. Its purpose is for the team member to understand their role in the project and to support the team in implementing the plan.	<ul style="list-style-type: none"> • Organisation of project launch meeting • Analysis of project documentation, staff notes • Formal and informal discussions among project team members
Domain knowledge	related to the area of specialisation of the organisation, information about the current situation, potential opportunities and difficulties and acceptable solutions.	<ul style="list-style-type: none"> • Working in task forces • Regular project team meetings • Supporting staff initiatives under project activities
Institutional knowledge	involving the project team's knowledge of organisational and project structures, distribution of power and systematisation of processes within the organisation. This type of knowledge is especially important for management who is not members of the organisation and for external entities involved in the undertaking.	<ul style="list-style-type: none"> • Analysis of memos, reports, documentation, intranet • Consultation with others involved in the project • E-mail correspondence/ telephone contact
Cultural knowledge	knowledge of the cultural values and artefacts present in the organisation and among stakeholders. It helps understand prevailing norms and accepted behaviour	<ul style="list-style-type: none"> • Regular meetings with the project team, mentoring, workshops • Maintaining formal and informal contact with employees

Source: (Reich & Wee, 2006), (PMBOK Guide, 2017)

In the case of documentation analysis proposed in the table 1, should be carried out in a transparent way, while selecting relevant information and keeping it in easily accessible repositories. Furthermore, keeping documentation and repositories requires the introduction of a uniform nomenclature for terms and problems. People searching for knowledge that is useful to them need to be informed or be able to verify what phrases to use to find the answer to their question (PMBOK Guide, 2017). The choice of methods of acquiring design knowledge results from the degree of design maturity - i.e. from the assessment of the level of development of project management processes in the organization and verification to which level it aspires (de Souza & Gomes, 2015). Methods recommended by the Project Management Institute (2017) include holding discussion forums, such as setting up focus groups or creating a space for remote communication.

An important aspect is to create events whose purpose is to share knowledge – these can take the form of training or seminars. Another form is workshops devoted to solving problems in order to consolidate the knowledge acquired. As mentioned in Table 1, for project knowledge acquisition, it is important to maintain both formal and informal contacts, which often allow for adaptation of solutions already developed by co-workers (Ekambaram & Jałocha, 2018).

The establishment of an organisational unit supporting the processes taking place within projects – the project management office – may contribute to project knowledge management. The tasks carried out by the project management office as part of this process include creating a portfolio and project programs and gathering knowledge about the profits resulting from the implementation of the task in the form of a project by conducting ex post project controls (Silvius, 2021). Other tasks that help to achieve this goal is include managing the lessons learned from previous projects and developing innovative solutions that can be implemented in subsequent projects (Beste & Klakegg, 2022).

In summary, project knowledge management in projectified organisations is an extremely complex process. This is because it requires a continuous collection of information created in the course of one-off, unique ventures, by teams of varying composition. In addition to setting up knowledge management systems in this type of organisation, it is also important to involve employees who carry out projects on a daily basis, empowering them in the process of collecting and accumulating knowledge. Increasingly, action research is being used for this purpose.

2.3 Action Research - basic assumptions of the method

Action research is a participatory process that aims to develop knowledge that has practical applications for individuals and communities taking up the challenge of change. The research approach is characterised by collaboration with the study subjects by combining knowledge derived from theory and practice observed in the community under study. The aim of the study may also be to identify resources that support the change process or to jointly evaluate processes taking place in the studied entity (Coghlan & Shani, 2018). This study can only be carried out with the participation and consent of members of the given community or organisation. The researcher involved in such a study may come from outside the organisation or be a member of it (Coghlan & Brannick, 2005).

Democratisation of the research process and the involvement of all parties in the dialogue and collaboration enables researchers and the studied community to learn from each other, transfer knowledge and experience. It is important to note that reflection and action are not separated in AR – it is the action that conditions the emergence of reflection – including on one's own practice (MacDonald, 2012).

AR is implemented as a study series. The first step is to diagnose the problem and gain knowledge about its sources. In the next stages, actions are planned and implemented to solve the problem. The results of the change are then subjected to critical reflection. The final cycle is designed to collect data on the results and analyse the effectiveness of the changes made. Importantly, when the results developed are not satisfactory to the group, these cycles are repeated until an optimal solution is achieved (Coghlan & Shani, 2018).

There are many types of AR. These include: participatory action research, critical participatory action research, appreciative inquiry, educational action research and action science. These approaches, despite similar assumptions, are characterised by different ways of collaboration and problem solving. Bearing in mind the types of AR, their specific character and the manner of group involvement in problem solving, an adequate choice of research form should be made (Ollila & Yström, 2020).

3. Project knowledge management at the Krakow museum

3.1 Studied organization

The research whose results are discussed in this article was carried out at the Krakow Museum, one of the largest cultural institutions in Poland. The museum has 19 branches located in different parts of the city, with permanent and temporary exhibitions on selected topics of Krakow's history. These exhibitions, as well as educational events, are carried out in the form of projects. The museum also organises scientific projects, carries out investment and partnership projects with the city and other cultural institutions. It is also worth mentioning that as a member of international organisations, the Museum also carries out projects with foreign partners – these take the form of conferences, cultural events and temporary exhibitions. More than 90 projects are undertaken in the institution every year. The multitude of activities conducted by the Museum means that the institution's staff carry out several projects simultaneously, and these projects are at different stages of advancement. Approximately 30% of employees are involved in project implementation. Project management is therefore a key element of management processes.

3.2 Action research and research methods used

To present the research findings, this paper uses a single case study method (Yin, 2009) focusing on issues related to the use of action research as an approach to support project knowledge management. The choice of the analysed case was intentional – the analysed museum is a public institution that organizes a lot of its activities in a project form.

The data presented in this article comes from a wider, completed research project based on the Action Research approach. This study was carried out between March 2018 and March 2019 by two researchers – a student preparing a MA thesis and an employee of the organisation. The researcher from outside the organisation – the student – was responsible for identifying an issue requiring improvement to existing solutions and for involving the organisation's staff in the improvement process by designing a solution jointly. The researcher from the organisation acted as a facilitator – supporting the establishment of contact with staff, sharing data and, through learning about the AR approach, began researching own practices. A thesis supervisor was also involved in the implementation of the study, who was in contact with the researchers and coordinated the process.

The objective of the researchers was to carry out participatory action research. It is an approach based on egalitarian participation of practitioners in the study in order to give them an opportunity to co-determine the design of the study, to control its progress and to share responsibility for the change process (Coghlan & Shani, 2018). Methods such as observations, interviews, analysis of documentation, legal acts and internal procedures, and a survey were used. During the problem diagnosis stage, 21 observations were completed. Information on project knowledge management was obtained by conducting 8 in-depth interviews and analysing project documentation – e.g. project sheets and project procedures. Observations of the work of project teams also took place at this stage. Knowledge was also gained through informal discussions with staff. It was also supplemented by the results of a survey involving 22 employees. We worked with 27 employees of the organisation during the implementation of the study.

3.3 Action research as a method for project knowledge management – study results

3.3.1 Diagnosis of the need to improve project knowledge management processes using action research

Interviews with project team members and project managers were carried out during the action research cycle to gain knowledge about project knowledge management. In order to get a full picture of the issue, the diagnosis stage was extended to include an analysis of project documents and observations. Areas that were identified during the survey as needing improvement included developing a common understanding of project knowledge management strategies, support for sharing knowledge in the organization, collecting project knowledge and functioning of organisational units that support project management processes. The described diagnostic elements in action research allowed the researcher to learn about institutional, cultural, domain and process knowledge. This made it possible to identify issues for improvement. It also made it possible to recognise the rules governing the institution, which is particularly important in case of action research, which is designed to involve members of the organisation. By knowing the problems and the rules of the organisation, it was possible to develop a model of communication that would be acceptable to all participants in the study.

During the interviews to identify issues, there were also discussions about the views of project team members on how changes could be made to the way project knowledge was managed. The reflections and suggestions of the interviewees allowed for their inclusion in the research process. All staff findings were described and presented at the conclusion of the study. This contributed to a higher degree of acceptance of the solutions that were developed in the course of the action research.

Organisational dialogue, which is the basis of action research, presupposes that every interested member of the organisation is given an opportunity to be heard. Therefore, at the stage of designing solutions that would support project knowledge management in the organisation, a survey was carried out. The purpose of the survey was to allow the organisation's staff to articulate their views on the proposed changes and to put forward their own ideas. In this way, everyone who was interested and wanted to participate in the process had the opportunity to put their point of view on the table. Importantly, this action enabled those who wished to remain anonymous and be heard to be included in the action research.

3.3.2 Attitude of project staff during the implementation of action research

Prior to the implementation of the study, the involved staff were informed about its purpose and the assumptions of action research. Involving staff in the research process through regular contact with them and an analysis of project knowledge management needs carried out by them, enabled a partnership to be established between them and the researcher. Without the approval of the members of the organisation, none of the considered ways of introducing changes in project knowledge management would have been proposed. Obtaining detailed information on project knowledge management from the staff would have been impossible without their commitment and time spent reflecting on their own practices. Considering project knowledge management in teams required interviewees to analyse their own knowledge, tools and resources. It was the participatory form of action research that allowed for the creation of a space to start making changes in this area.

In keeping with the project culture, the tasks carried out by project team members were unique in nature, with project staff involved in the action research process carrying out multiple project responsibilities in parallel. Action research allowed the staff to analyse project knowledge management processes from the perspective of each role performed in the project team, and thus to gain an understanding of the current situation of project

knowledge management in the organisation. Employees at different levels and of varying seniority were involved in the research.

Sometimes, during subsequent interviews, the same people signalled other aspects of project management, which was a clear indication that they had taken the time to explore these issues. The repetition of the process, its successive cycles, discussions on project knowledge management complemented with the questionnaire contributed to the project staff's understanding of which of the change efforts could be most supportive. Each person involved in the action research contributed to the improvement of their workplace through collaboration. The result of the action research was to propose an action plan to implement changes in those areas of project knowledge management that need improvement. These changes have been partially implemented in the organisation. These include: organising meetings to integrate project teams, which enables the exchange of knowledge about projects, starting the process of simplifying project documentation and clearly defining the tasks of the unit supporting project management processes.

4. Conclusion

The multiplicity of challenges associated with the management of projectified public organisations results in the search for alternative methods of gaining knowledge about the processes carried out. Research on project knowledge management enjoys unflagging popularity and the results of the completed research project allow us to conclude that action research is an effective tool for improving project knowledge management. This approach allows for the enrichment of the existing knowledge with the organizational context, with particular emphasis on management staff and employees. Action research, by replacing traditional mechanisms of organizational change with forms based on participation, enabled employees to implement changes in project management while respecting their experiences and knowledge. By using this approach, members of the organisation, carrying out their tasks in different project teams, were able to jointly develop principles for better project knowledge management in their workplace and improve the project knowledge management process.

Referring to research question 1 (How can action research support project knowledge management processes in organisations?), with repeated cycles, action research allows members of the organisation to get a better idea of which activities are working well in project management, how to secure ephemeral knowledge and how to select the accumulated project knowledge to gather practices that are most useful from a project management perspective. AR also helps expose certain weaknesses so that the organisation can pinpoint areas for change. Importantly, discussions on management elements in need of improvement, take place in a collaborative atmosphere, with the focus on solving the problem – not evaluating individual team members.

Action research provides a guarantee to members of organisations who are interested in working together for organisational change that their concerns, problems or ideas will be heard. However, when involving the organisation's employees in AR, it is important to warn them of the new responsibilities arising from the study, which include, for example, examining their own practices, analysing the solutions used to date and critically reviewing their effectiveness. Providing such information makes it possible to choose whether employees have the capacity to engage in the process and take co-responsibility for change.

In answering question 2 (Does, and if so how, action research affect the knowledge retention of project workers?) it is worth mentioning at least a few activities that affect knowledge retention in the organisation. The primary task accomplished through the use of action research is to support project team members in becoming aware of the knowledge resources at their disposal. Very often individuals with project knowledge did not realise that it could be useful to other team members, or they struggled to identify their own practices with the terminological definition of the given project management activity. The completed action research illustrated that improving the process depends on sharing project knowledge with other members of the organisation. The action research also allowed the staff involved in the change process to see that the knowledge they revealed served as the basis for developing solutions to improve the process.

In projectified public organization the value of project knowledge management is the basis for its efficient functioning. The use of action research contributed to the acceleration of design knowledge in the organization and made it possible to learn how to manage them. It was action research that initiated many meetings and conversations in the organizational space that, through the very articulation of reflections on employees' own practices, contributed to the preservation of project management knowledge.

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