

THE ROLE OF THE PROJECT MANAGER IN THE CONTEXT OF THE PROCESS APPROACH IN PROJECT MANAGEMENT

doi: 10.2478/cqpi-2021-0009

Date of submission of the article to the Editor: 13/09/2021

Date of acceptance of the article by the Editor: 13/10/2021

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Abstract: One of the main determinants of the success of a project is the right choice of people. The main focus of the present paper is on the role of the project manager in project management. The project delivery model and the execution, support, and management processes were described. Attention was paid to quality assurance processes in project management. The problems of creating and leading project teams were discussed. Based on empirical research, the main traits, skills, and competences that a project manager should have were identified. The final part of the paper provides an example of the competence profile of a project manager according to the IPMA model.

Keywords: project management, process approach, project manager, IPMA competences

1. INTRODUCTION

Each project has its own requirements in terms of the desired outcome, delivery time, costs, the structure itself, and the resources involved. Therefore, one can talk about the specificity of working in a project team, indicating the features that distinguish it from working in conventional teams that perform repetitive activities within the organization. To achieve the intended outcomes, it is necessary to properly manage teams and apply solutions that are often different from those adopted for managing a permanent structure of the enterprise. Therefore, one of the key activities is the choice of the project team manager. This choice should be preceded by the assessment of competence of the potential project manager in such areas as personality traits, education, experience, expertise, and project management skills.

In the literature, a project is defined as a temporary undertaking aimed to create a unique product, service, or to achieve a unique outcome (Stackpole 2010, as cited in Freitas et al., 2020). An inherent attribute of any project is complexity, which for many years has been recognized as a critical dimension of projects. A novel approach that is gaining popularity is based on understanding the project team as a temporary group of knowledge exchange and social networks (Botchkarev, Finnigan, 2015).

As the number, size, complexity, and importance of projects in organizations increase (Pinto 2013), so does the requirement to ensure good project quality. Increasingly,

organizations are looking for ways to increase project success, and one of such factors is the use of project management methods (Wells 2012, Biggins et al., 2016).

Projects can also be thought of as temporary production systems that need to be designed, planned, produced, and delivered within a specific time frame. Many researchers argue that fast-paced, complex, and uncertain projects cannot be managed through conventional means. Project managers must utilize and implement modern tools, skills, techniques, and available resources to achieve the goal and be able to complete projects on time. Effective and efficient project management helps meet and even exceed customer expectations, maximize the use of available resources (time, money, people, space), and build trust among team members (Ansah et al., 2016).

Project management is now a rapidly growing field and is defined as the ability to define goals and plans to achieve them, and to execute the plans responsibly and with control (Freitas et al., 2020). According to Project Management Institute (2000), project management means the application of knowledge, skills, tools, and techniques to a wide range of activities to meet the requirements of a specific project (Oyegoke, 2011). Fewings defined project management as planning, monitoring, and control of all aspects of a project and motivating all those involved to achieve the project objectives on time and at reasonable costs, with adequate quality and productivity (Fewings 2005). A characteristic feature of this field of science is its variability related to the dynamics of the economic environment. Projects are implemented to improve existing processes, create completely new processes, and solve specific problems related to the need for process changes (Chmielarz 2012). Top managers must create the conditions for the development of project teams within the company and a project-oriented culture. By their nature, projects require at some stage intensive employee involvement that may go well beyond their typical work pace and may exceed their standard working time (Miklosik, 2014). Therefore, Olenich and Shatska emphasize the importance of forming project teams early and defining responsibilities (Olenich, Shatska, 2012). The project management methodology, style, processes, and personality of the project manager are critical to project success. Many researchers stress that it is necessary to know the principles of good project management and its structure. A project must have a project manager who manages the entire project and is responsible for the outcome (Miklosik, 2014). Morris also points to the need to focus on the research on projects and the role of managers in their creation and delivery (Morris 2010). Therefore, project management appears to be a research field that can integrate different disciplines (Soderlund, 2004), and the choice of a good project manager can be viewed as a multi-criteria decision-making problem, where personality traits, technical skills, or experience-related competences can be listed among the selection criteria (Chaghooshia et al., 2016). Project team members who do not have relevant experience can have a negative impact on project delivery. Therefore, one of the most important issues is to choose a project manager with specific abilities, skills, and competences. The importance of managerial competence for project success has also been identified in previous studies (Livesey, 2020; Duy Nguyen et al, 2004; Jha and Iyer, 2007). The project manager must coordinate the use of resources through the management of planning, organization, staffing, leadership, and control. To be successful as a manager, a person needs certain skills (Wolniak, 2019).

Therefore, the aim of this paper is to attempt to identify the most important traits, skills, and competences that should characterize the ideal project team manager. The project management environment, including the process approach, quality management, and

project human resource management, was described as a background for the investigations.

2. PROCESS APPROACH IN PROJECT MANAGEMENT

In any organization, there are both process and project activities. Process means here a set of interrelated activities undertaken to obtain specific products and services. It is characterized by the related inputs, resources, time, implementation tools, and expected outcomes (Chmielarz 2012). In general, project processes can be divided into two groups:

- organizational processes that ensure smooth project implementation (How? In what order?),
- object-oriented processes that allow for more precise determination of the conditions of project delivery or providing services (What? How? Which techniques to use?).

Processes intertwine with each other at successive stages of the project, may occur simultaneously, and interact in numerous ways.

Projects are processes, so project management should be based on a process approach, its principles, models, and methods. The process model is used to describe dynamic organizational phenomena, which include projects. In the implementation of project activities, one can distinguish between executive, support, and management processes. Project execution processes, also referred to as operational or basic processes, involve the transformation of the project's inputs into its expected outcome, i.e. they are directly involved in the creation of the intended outcome (object, product). Their starting point is specific needs, and their outcome is the satisfaction of the needs. Processes supporting the project, also referred to as service or support processes, are not directly involved in the creation of project outcomes, but create the conditions necessary to achieve them. These include legal support processes, HR support processes, financial and accounting support processes, information support processes, administrative and office support processes, and technical support processes. Project management (managerial) processes involve combining execution and support processes to achieve the intended project outcome.

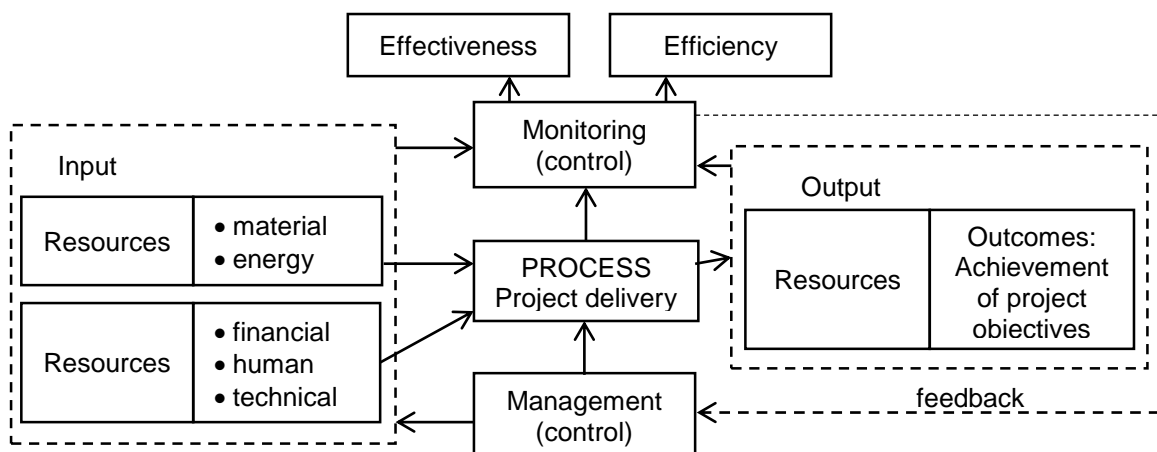


Fig. 1. Project delivery process

Source: elaboration based on Wirkus et al. 2014

The concept of project management is based on the assumption that, although the objectives and content of projects vary considerably, it is possible to define a set of

management processes that are common to all of them. The classical division distinguishes the following processes (functions) of management: setting goals, planning, organizing, motivating, controlling, and coordinating (Trocki 2012).

All the processes mentioned above should be each time adapted to the specificity of a particular enterprise, organization, or institution, and correlated with the adopted objectives.

Project delivery is the process by which input resources are transformed into output resources. Resources in a project are assigned to specific activities and are transformed into project outcomes as part of the ongoing process (Fig. 1.). This process is monitored and controlled. With feedback, there is an opportunity to influence input resources and process flow within project management. This process consists of multiple sub-processes.

3. QUALITY ASSURANCE IN PROJECT MANAGEMENT

In the case of project management, systemic quality management activities are particularly difficult to implement due to the fact that the project is a one-time undertaking, with no repeatable sequences of activities. This makes it more difficult to utilize continuous improvement methods and quality assurance procedures.

One of the criteria for the success of a project is the quality of the outcomes, which means that its outputs must be of "adequate quality". The concept of quality in the PMBoK Guide is defined in the ISO 9000 standard as the degree to which a set of certain characteristics meets specified requirements. Therefore, the project manager faces a very important task of managing the project properly so that the characteristics of the product, service or project itself meet the requirements and needs of the stakeholders. The project manager must identify approaches and methods to ensure quality and that the project will meet quality expectations in terms of the usability of the product or service, its compliance with standards and legislation, and ensure customer satisfaction. The project quality management processes proposed by the standard maintain compliance with common quality management standards and systems, such as ISO, TQM, FMEA, and Six Sigma (Trocki 2017).

The following processes can be implemented within quality management (Wirkus et al. 2014):

- quality planning,
- quality assurance,
- quality control.

Quality management planning is connected with recognizing, identifying, and describing stakeholder requirements concerning quality features of the project, individual stages, or final outcomes. With proper quality management planning, many errors can be avoided and the ways, means, and resources necessary to meet these requirements can be correctly identified. This process is most often carried out in parallel with the other project planning processes.

Quality assurance refers to the work processes in the project and aims to monitor how the project is implemented and to regularly improve the methods of its implementation. It enables continuous improvement of the process quality, which increases their effectiveness and eliminates activities that do not bring satisfactory results.

As project outcomes, the products and services are submitted to quality control and are subject to evaluation independent of the contractor and examination of the extent to which they actually meet the requirements. The process of quality control is aimed to

verify the correctness of the work done in the project, detect deviations, and prevent the occurrence of errors. With quality control, one can report proposed solutions to eliminate the negative effects of failure to meet the requirements.

The project manager should therefore ensure the implementation of actions planned and described in the quality management plan, conduct periodic quality audits, analyze the implementation of processes, and use helpful tools for quality management and control.

4. HUMAN RESOURCE MANAGEMENT IN THE PROJECT

In project management, the problems of creating and managing task teams become crucial, as project delivery usually places higher demands on employees compared to those that must be met in the case of repetitive activities (Skalik 2009).

A project is a team effort. Among the people involved in the project, two groups can be distinguished: people who perform project activities and project managers, whose tasks include planning, organizing, directing, and closing the project. The project manager and project team members play a major role in the project. The project manager sets goals and coordinates the work of subordinates. A well-functioning project team is fundamental to the project's success and the achievement of the planned outcomes. The role of the project manager is therefore to establish a course of action, recruit employees to the project, build an effective and efficient team from them, and skillfully manage their work. The project team consists of people who have been assigned specific roles, tasks, responsibilities, and the authority to perform them, including the disposal of resources.

Several processes should be distinguished within the framework of human resource management in a project (Trocki 2017):

- human resource management planning,
- project team sourcing,
- developing the project team,
- project team management.

Human resource planning in a project consists of determining the need for employees to join the project team based on the adopted criteria and required skills and then defining their responsibilities. The project manager should define the organizational structure and plan the relationships between the positions.

The process of project team sourcing consists in collecting the human resources needed for the project. These activities are performed by the project manager by implementing the human resource management plan. An important task is project team selection. Recruitment for the team can take place outside or inside the organization. The essence of this process is to ensure staffing and assigning the positions envisaged in the plan and to formally confirm them, enabling the formation of the team and its work managed by the project manager.

The project team needs to be shaped correctly. It is important here to ensure that the level of commitment and quality of cooperation is constantly maintained and that the professional skills of team members are improved. Activities in this area should affect the growth of mutual trust, willingness to cooperate in sharing knowledge and experience, and the quality of relationships between project team members in order to improve teamwork.

The process of managing a project team is one of the primary tasks of a project manager. Aiming to achieve the objectives of the project, the manager, after creating a

team, assigns tasks to be performed, defines the scope of responsibilities, ensures the conditions for the implementation of the tasks, defines the timeframe for the tasks, motivates to work, ensures efficient communication within the team, controls the progress and outcomes, and solves problems.

Managing a project team requires a manager to have a wide variety of skills, abilities, and competences. Performance of the activities and effective implementation of the tasks depends on the traits, competences, and managerial skills of the team leader. This is why the right choice of a project manager is so important. In view of the above, the author decided to conduct research in this area.

5. TRAITS, SKILLS, AND COMPETENCES OF A PROJECT MANAGER IN THE LIGHT OF THE AUTHOR'S RESEARCH

An important role in the successful project delivery is played by project team members and the project manager, who constitute the human capital of the project. The project team is a key resource for project success. The outcome of the project depends on the qualifications of the team members and their involvement in the project. The role of the project manager is also extremely important. Project managers assign work to their subordinates, motivate them to effort and holds them accountable for their tasks (Słonec 2015).

The author of the present publication conducted in the period from June to July 2021 a preliminary survey of academics at universities and colleges who have experience with project delivery and working in project teams. The survey concerned the traits, desired skills, and competences that should characterize a project manager and employees performing tasks in project teams. An electronic survey questionnaire was used for the study. After analyzing the initial survey results, it was decided to expand the scope of the survey to include more entities (academics of universities), so the survey questionnaire was sent out in August 2021 to additional respondents. The aim of the research was to collect opinions on the traits, skills, and competences that should characterize the ideal project manager and a member of the project team on a scale from 0 to 5, where 0 meant no competence in this area and 5 meant the highest level of competence. The focus of the study was, therefore, on seventeen traits, skills, and competences of the project manager and thirty-two traits, skills, and competences of the team member considered most important for the effective work of a project team. The characteristics of the team members as part of the research conducted are presented in another publication. This publication concerns the competences of the project manager. Traits, skills, and competences were selected for the survey questionnaire based on the literature review and interviews. The survey questionnaire in an electronic form was distributed to 278 people. Correctly completed questionnaires were obtained from 205 individuals, of which 65% were female and 35% were male. For the purpose of the present publication, the traits concerning the project manager are presented.

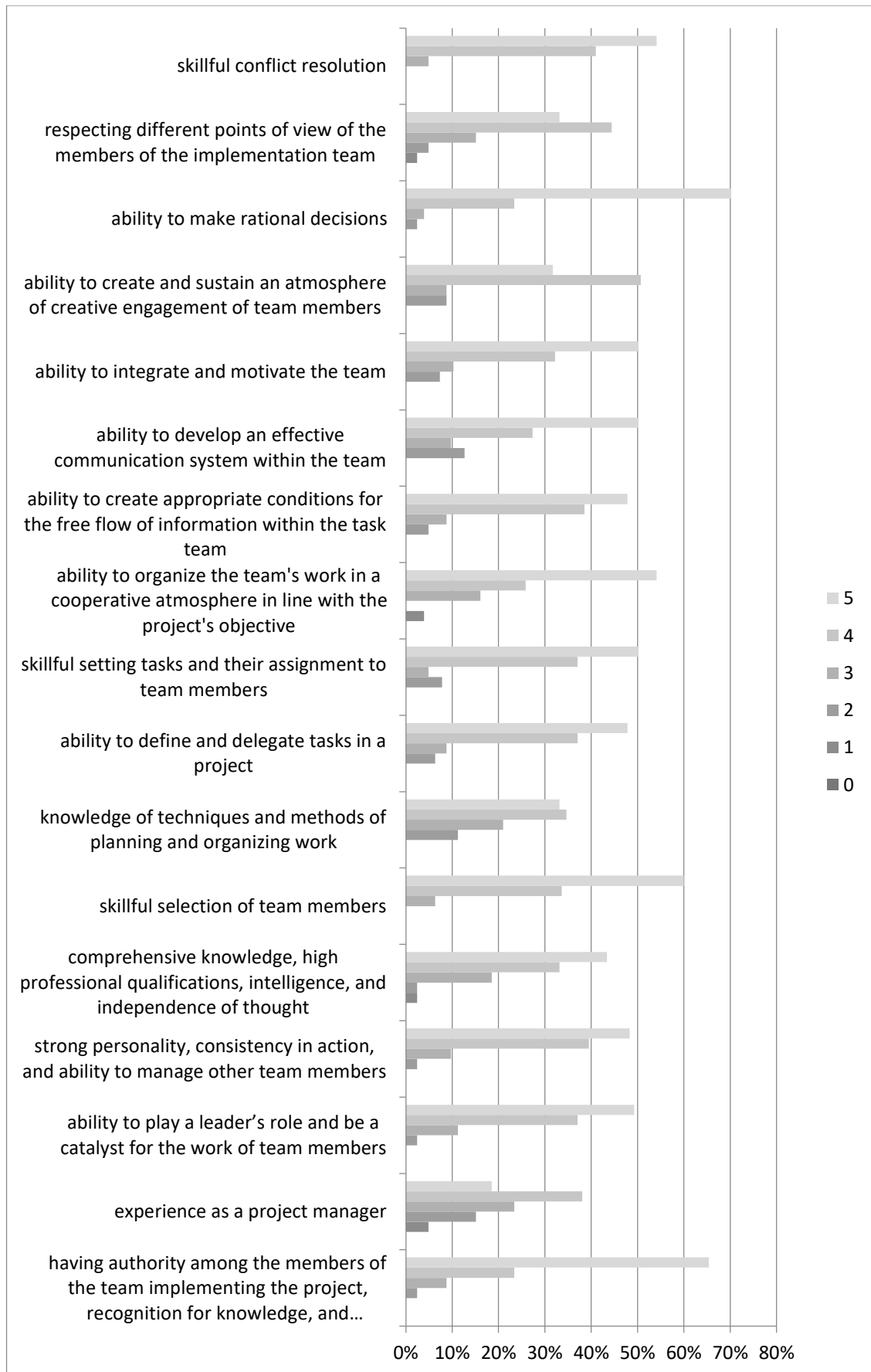


Fig. 2. Project Traits, skills, and competences that an ideal project manager should have
 Source: author's elaboration

Respondents considered the ability to make rational decisions as the most useful traits and skills of an ideal manager (70%, Fig. 2). This choice is justified because decision-making is a fundamental part of the management process, which is determined by the achievement of the set objectives. Decision-making is an elementary part of running a business, but also of any other activity, including projects. Managers make organizational decisions and analyze various situations on a daily basis. In the decision-making process, it is extremely important to set priorities that affect the organization's performance and outcomes. For a manager to make the right decisions, he or she should identify what is actually the problem and what areas of functioning need to be changed. The decision must be a conscious choice based on the knowledge, professional experience, and strategic action skills of the manager as a decision-maker. Having authority among the members of the team implementing the project, recognition for knowledge, and professional achievements were indicated by 65% of the respondents. This emphasizes how extremely important it is to develop authority among subordinates. Sources of authority are related to the function or position held, personality traits, expertise, and ability to motivate people to work. A high position of a leader is an important factor in determining his or her authority among the subordinates. Charisma, creativity, leadership skills, professional knowledge, experience, and competence are also qualities constituting the authority of a manager.

In third place was the skillful selection of team members, indicated by 60% of respondents. Using the right selection techniques enables the project manager to get the right people on the project team. These techniques allow the manager to collect the human resources necessary to complete the project. Before starting the selection process, the human resource needs should be properly planned, i.e., the degree of demand for employees to join the project team, their roles, areas of responsibility, necessary skills, and describe the relationships between the positions.

The survey results also indicate that one of the most important characteristics was the ability to organize the team's work in a cooperative atmosphere consistent with the project's objective (54%). Poor work organization can cause a decrease in employee engagement and discourage action. Therefore, every manager should provide employees with a sense of security by defining a fixed place of each team member in the project structure along with the scope of responsibility and specific remuneration, define a schedule and a plan of action, provide freedom in the creative implementation of tasks, enable the efficient exchange of information, communication, and transfer of knowledge between team members.

Taking into account the cumulative values of the responses (4 and 5), the respondents considered skillful conflict resolution (195 indications), and skillful selection of team members and ability to make rational decisions (192 indications each) to be the most important. Next, the respondents indicated having authority among the members of the team implementing the project, recognition for knowledge, and professional achievements (182 indications). A strong personality, consistency in action, and the ability to manage other team members were also indicated as important (180 indications), similar to skillful setting tasks and their assignment to team members (179 indications).

Part of the factors overlaps with those previously discussed. However, the ability to manage other team members and set tasks for them is worth noting. Human resources are the most important for the smooth running of an organization, so managing them

effectively is critical. The manager defines the tasks and sub-activities that need to be performed to achieve specific goals. Conflict resolution is also one of the core skills of a project manager. Each member of the team has their own distinct opinion on different subjects. Furthermore, the project team can be characterized by high diversity. Therefore, it is important to strive to decrease the number of disputes that reduce the quality of interpersonal relationships and team effectiveness. To do this, it is necessary to have the competence to manage conflicts appropriately. The great value of effective conflict management is the ability to manage a team during a conflict and direct its course so that the final result is a search for compromise, cooperation, strengthening of relationships, and learning lessons for the future.

6. COMPETENCES OF PROJECT MANAGERS ACCORDING TO IPMA

The International Project Management Association (IPMA) is an international non-profit organization dedicated to the promotion and development of practices, knowledge, and professionals in the field of project management. The IPMA Competence Baseline (ICB) version 3 includes project management competences which are assigned to one of three groups: technical competences, behavioral competences, and contextual competences (Polish IPMA Competence Guidelines, 2009). Version 3 of the ICB lists 46 competence items related to project management. Technical competences are the fundamental competences of project management, describing its actual content, enabling the initiation, management of the implementation, and structured closure of the project. Behavioral competences are related to the project manager's expectations of attitudes and behavior and the values he or she exhibits. Contextual competences are those related to the broad context in which project implementation takes place (Trocki 2012). ICB version 4 lists 29 competence items related to project, program and portfolio management, divided into the following areas: perspective, people, and practice (IPMA 2017).

According to IPMA, the main and irreplaceable resource in the implementation of all kinds of projects is people. Regardless of existing methodologies, such as PRINCE2 or good practices in project management, it is people, with their knowledge and abilities, who make the change or provide the new desired value. The IPMA competence guidelines are the recognized global standard for project management.

Based on the discussed competences, Table 1 presents a sample competence profile of a project manager.

Each element of competence was defined from the perspective of knowledge and experience. According to the ICB model, assessment of the competences of a candidate for the project team allows for the determination of the level of his or her competences and to identify the role in the project in which he or she will perform best.

Table 1
Project manager competence profile

Competences according to ICB	Knowledge										Experience											
	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
1.06 Project organization								x														x
1.07 Teamwork								x													x	
1.08 Problem-solving							x												x			
1.09 Project structures						x													x			
1.16 Control and reporting							x														x	
1.18 Communication						x											x					
2.01 Leadership							x														x	
2.02 Commitment and motivation						x													x			
2.06 Openness						x											x					
2.08 Result orientation							x														x	
3.01 Project orientation							x														x	
3.08 Human resource management								x													x	
3.10 Finance						x											x					

x - the desired competences of the project team leader

Source: author's elaboration based on competences according to the IPMA model

The competence profile of a project manager was developed based on the competences according to the IPMA model during the implementation of an international project in which employees of the Czestochowa University of Technology participated in 2019-2021. This profile contains competences according to ICB selected from a set of technical, behavioral, and contextual competences. The form also indicated the level of managerial competences desired in terms of the manager's knowledge and experience. Based on the requirements formulated in the profile, it is possible to recruit people for the position of a project manager based on the competences specified in the profile and their desired level, considering it as a minimum during the process of recruiting an employee. This profile is only an example as each organization should adjust the expected competences to the specifics and objectives of the project.

7. CONCLUSION

The dynamic increase in the number and scale of implemented projects has created the demand for management tools and methods supporting and enabling their efficient implementation. The development of the concept of project management has caused that the establishment of project teams, whose task is to perform activities of the project, also supports the organization in taking action to respond quickly to emerging changes and market expectations. A key factor in determining the project's success is the proper selection of people to implement it, including the project manager and project team members. Essential to the effectiveness of the project is the involvement of the right people in the project who are carriers of knowledge, skills, and abilities needed to carry out the project activities through appropriate techniques and methods aimed at the implementation of the planned activities. A cohesive and effective team is the backbone of any well-functioning enterprise, organization, and institution that requires strong leadership. Such a team can be built by a strong leader who is able to motivate people effectively, provide an appropriate atmosphere for the exchange of ideas, information

and knowledge, maintain discipline which allows for preserving the accepted values, and resolve conflicts.

The essence of creating and managing a strong team is being a leader who builds relationships based on trust and loyalty. The way of managing a team depends primarily on the potential of the manager, his or her creativity in managing the team, and the conditions of cooperation with subordinates. Therefore, the manager's role is to coordinate the cooperation of employees in the team so that the cooperation is harmonious and effective. The ability to build and manage a team is an essential competence for a project manager. It is the right selection of members, the way tasks are delegated, decisions are made, or communication is carried out that determines the effective project implementation and the achievement of the assumed objectives. To support the selection of a project manager, it is worth using a project manager competence profile consisting of the proposed set of competences according to ICB. For a team manager to properly fulfill his or her managerial functions, they should have certain skills and personality traits, which in management theory include, among others: skillful problem-solving, correct decision-making, understanding of the processes occurring in the organization and its environment, strategic and analytical thinking skills, precise determination of objectives, maintaining friendly relations with co-workers, delegating authority, and motivating employees to work more efficiently. In this paper, theoretical considerations on the role of a project manager and skills that should characterize him or her are complemented with the results of empirical studies. Forms of project work organization require different management methods, which in turn translates into expectations towards project managers. The results of the present research showed that the traits, skills, and competences that an ideal project manager should display include the ability to make rational decisions, having authority among the members of the team implementing the project, recognition for knowledge and professional achievements, skillful selection of team members, ability to organize the work of the team in a cooperative atmosphere consistent with the project's objective, skillful conflict resolution, strong personality, consistency in action, the ability to manage other team members, skillful setting tasks and their assignment to team members. These results coincide with the competences and skills reported in the literature. The author is aware that the investigations presented in the paper do not exhaust all problems that should be addressed and future research can be extended in this area and conducted towards selecting project team members.

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