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METHODOLOGICAL ASPECTS OF PROJECT TECHNIQUES SELECTION FOR INNOVATION PROJECT MANAGEMENT

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ABSTRACT

Project Management offers a variety of methodologies which provides managers with different techniques and tools to use during project planning and implementation. At the same time there is a substantial lack of systematized approaches to the management of innovation projects. In this article key factors in the selection of appropriate techniques in innovation project management will first be identified. Theoretical analysis of different project management standards and possibility of their use will then be discussed. In addition how the techniques can be applied will be investigated through academic paper analysis. This research makes a theoretical contribution to the field of project management by selecting and determining which project management techniques can be adapted and applied to innovation projects. Recommendations for practical application are based on theoretical findings of the research. These include two main factors, which are: influencing the choice of project management techniques and the structure of project selection process. The significance of the results obtained is confirmed by creation of theoretical knowledge, which permits to thoroughly understand and capture issues which may emerge during innovation project planning and implementation, through the use of established project management methodology.

Keywords: Project Management; Innovation; Project Management Standard; Innovation Project; PMBoK, Prince2; ICB.

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1 INTRODUCTION

The topic of developing innovation project processes is well established in current academic literature, and in everyday practice in businesses. Due to the turbulent conditions in modern economic, technical and other types of environments this leaves no alternative but to establish clear processes in order to maintain future development and ultimately survival. That is why solutions to the problems of innovation are in demand.

Taking into consideration the way in which innovation emerges, it is worth mentioning that innovation is mostly implemented through projects. However, project management's focus is on the project itself, and to achieve its aim it is strongly concerned with scientific areas such as strategic management, human resource management, organizational behavior and so on. As can be seen project management draws from quite a broad spectrum of disciplines within management science. Therefore the importance of not only project management techniques and models, but also its interconnectedness with other sciences might be useful for academics and practitioners too.

Over the past few decades the development of Project Management (PM) has resulted in a huge number of different PM models, classifications, estimation techniques, approaches etc. The accumulation of these tools is presented in PM standards in a very systematic way. Different PM professional organizations from many countries have participated in the creation of their national or international standards.

Nowadays the popularity of employing PM standards is partly reflected by the quantity of certified specialists, who study and put PM tools into their PM practice. According to the results of a recent study by Demos group, in January, 2010 there were nearly one million certified project managers in the world (including 360,000 PMP®1, 90,000 IPMA, 500,000 PRINCE2), and these figures are expected to grow by 20-25% every year.

The main principle used during PM standards 'creation was accumulation and analysis of the best project practices implemented. Their usage depends on a variety of factors such as corporate culture or project environment. Sometimes the choice of a standard is due to some regional factors. But the main purpose of having a PM standard tools selection process is to enable practitioners to choose from a variety of established PM techniques, depending on their individual needs. Some of the standards suppose using the tools, in order to organize different management fields of study, like, for instance, human resource management, communication management, quality management or time management. But not all the standards cover all these fields, so the manager's task is to combine them.

The structure and approach can differ from standard to standard: for example, the problems of risk management and human resource management are not considered in British PM standard PRINCE2. At the same time there are some common elements in all of the standards: basic information about project management, and problems of project team roles and responsibilities are presented everywhere. Here in table 1 the comparison of three PM standards is introduced in a systematic way. This comparative analysis is based on the research of Demos group research data and completed with classification of definite criteria.

Table 1. Comparison of PM standards, in regards to the aims, approaches and structure (Source: Demos group report "PM certification" (2010):

Criterion	PMI	PRINCE2	IPMA
Approach	Process	Process	Competence
Structure	9 knowledge areas, which contain management process: inputs, tools, outputs.	7 principles interconnected with 7 themes.	3 types of competencies: technical, behavioral, contextual
Aim	Satisfaction of business strategic needs	Satisfaction of business strategic needs	Sets out the business and strategic rationale.
Focus	Project processes	Justification of the business case and customer supplier environment for business needs satisfaction	Guidance for individuals, teams and organizations to have a balance between knowledge, behavior and experience.
Roles and responsibilities distribution	Includes Project Human Resource Management and connected with organizational structure, i.e. scope management. The project manager is the person responsible for managing the project.	Areas such as Leadership and people management skills, detailed coverage of PM tools and techniques are not covered. But the various levels of management are introduced in detail: with a very clear description of roles and responsibilities, e.g. the project manager has the day-to-day responsibility within agreed levels of tolerance.	Project manager competencies on the team roles appointment are presented.
PM process	No distinction between phases and stages.	Uses stages and distinguishes between management and technical stages.	Based on project life cycle
Object of management	Project life cycle includes stakeholder expectations.	Products. Perceived to be heavy on documentation.	Scope of work

Looking at table 1, it becomes evident that the most popular standards are very specific. Nevertheless the approach of PRINCE2 and PMI is largely the same, however the standards differ greatly when considering them according to some criteria indicated in the table. So the extent of their usage and adaptation can vary significantly. As mentioned above, there are special conditions or factors, which influence the adoption of PM standards tools and techniques in PM practice. It's worth defining these factors:

- Project size – giant (or mega), large, medium and small.
- Field of industry
- Level of PM maturity
- Size of a company, where a project is being implemented – big, small, medium or start-up company, where the company is equal to a project.

There are some other factors, which are not as significant.

Speaking about adapting PM standards to different types of projects, it is worth mentioning other important factors: size of a company, **size** of a project and type of industry.

As the focus of this research is innovation projects, it is necessary to analyze extra factors and conditions which can impact upon innovation projects during the implementation process, because such

projects are often characterized by high levels of uncertainty and complexity.

The diversity between innovation and so called "conventional" projects is fully presented by Filippov S. and Mooi H. (2009). According to theses authors, innovation projects must conform to one of the following criteria:

- aimed at the development of an innovative (new) product or service (product or service innovation);
- employ innovative methods and approaches (process innovation);
- lead to improvement of innovative and learning capabilities of the project executor (organization innovation);
- be realized in a close interaction with the project owner (user innovation).

The process of managing such projects is particularly challenging due to some additional factors, which separates these projects from conventional projects. These include: (Filippov, S.; Mooi H. (2009):

- **Objectives**. Conventional projects tend to have clearly defined goals and targets. In contrast, innovation projects often do not. Innovation is often intangible and cannot be described before it is actually achieved. Many innovation projects relate to intangible end goals and the commercial success of an innovation project can be highly uncertain. In fact, innovation is often a result of trial-and-error.

- **Risk-taking** is low in regular projects since the objectives are clearly defined and processes are established. In innovation projects, objectives are loosely defined and ambiguous, and processes are more experimental and exploratory, hence the risk-taking is high.
- **Expenses** for innovative and research activities are characterized as long-term, with increased insecurity regarding the eventual amount of generated **earnings** (difficulties in the innovation projects net present value assessment).
- Innovation **project team** is made up of people with diverse backgrounds.

- Traditional PM is shaped by the precision, accuracy and optimal use of resources. However, innovation by its definition is a creative process coupled with **uncertainty** and a need for flexible resources.

On the assumption of these factors, it is possible to draw a conclusion, that there is a need to introduce extra criteria for project classification (which can be considered as factors), influencing the choice of PM techniques during the innovation project implementation process.

Currently there lacks a systematic approach to classifying innovation projects. There are different categorizations presented in the academic literature. The attribution of appropriate innovation project type strongly influences the process of project implementation directly. Thus, the purpose of this paper is to present a systematized range of factors, influencing the project techniques selection and to suggest a tool, which facilitates innovation project implementation. In order to do this the following actions need to be completed:

- to define the direction of innovation project classification;
- to mark out the factors which can impact upon PM standards adoption (the extent of the PM techniques usage);
- to analyze PM standards and additional management techniques;
- to create the model for project methods selection;
- to present methodological recommendations, which seek to use the revealed findings.

2 LITERATURE REVIEW AND RESEARCH

2.1 Innovation projects classification

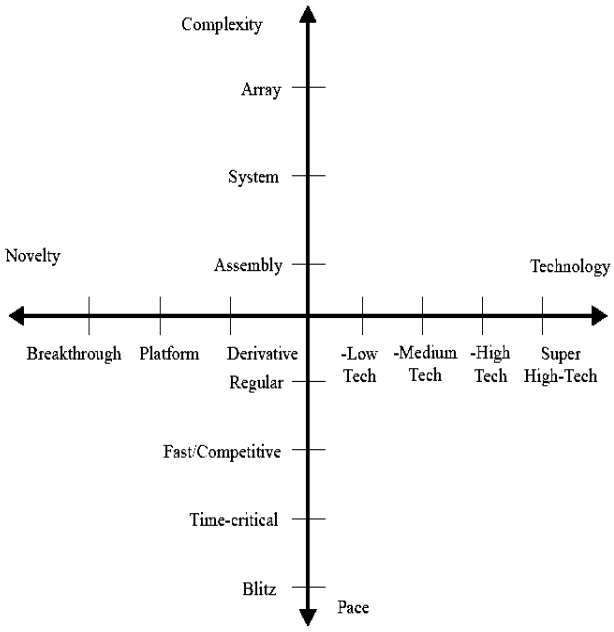
As mentioned above, different types of classifications influence the choice and extent of the project methodology use. Based on this conclusion, research will be conducted applying the innovation projects categorization.

The next type of classification can shed light on the major part of specific innovation project features. A type of innovation directly defines the complexity and uncertainty of an innovation project:

- imitation, incremental or breakthrough (degree on innovation);
- technological, marketing, organizational or social (nature or object of innovation project) etc.

Other criteria for innovation project classification were offered by Malach-Pines A. *et al.* (2009). Among them the authors sorted out four criteria: novelty, technology, complexity and pace. Based on these criteria the model (NTCP-model) of innovation project classification was constructed (see figure 1). The letters in the model mean: "N" and "T" – Uncertainty of Novelty and Technology, "C" – Complexity and "P" – Pace. Often innovations strongly depend on the level of technological development (low-, medium-, high- and super-high tech) and novelty of the technology in the market. Complexity of a project is defined by the number of elements the final product includes (assembly, system and array projects). Pace concerns the time limitations and speed of a project (regular, fast, time-critical and blitz)

Fig 1. NTCP model (Source: Malach-Pines A. *et al* (2009)



Earlier, in this paper, general criteria of project classification were mentioned: "size of a company or of a project", "project duration". Relying on the paper of Turner R. *et al.* (2012) some of their findings can be adopted in innovation project practice. In their paper the authors consider the possibilities of adapting PM

techniques (i.e. PM standards) for small and medium enterprises (SMEs). This approach applies to the problem currently being explored, because innovation projects are frequently implemented in such companies. And often there is no

significant difference between innovation and "conventional" projects fulfilled in SMEs.

The fundamental principles of PM in SMEs were defined by Ghobadian and Gallear (1997):

- the processes usually require a simple way of planning and control;
- the quantity of standard procedures is low;
- the organization structure is not highly-specialized, with multi-tasking, and has a high degree of innovativeness;
- the staff and project team usually prefer proven PM tools.

In their article, Turner R. *et al.* (2012) supposed that "Smaller and younger companies will be less likely to employ dedicated project managers, and less likely to adopt identifiable PM practices".

The importance of project size is proven by the model, which can assess PM functionality required in a company (Turner *et al.* (2010), but the major part of SMEs adopt lighter versions of PM, as it was revealed.

All in all, it might be supposed, that company size is an important criterion for the choice of PM standard tools application for an innovation project.

Additional groups of classification should be also considered which probably do not influence the choice of project methodology directly.

Errasti N. *et al.* (2012) believes that innovation strategy influences the choice of innovation project type:

- Prospector strategy corresponds with the imitation (or sometimes incremental) innovation project (author's note)
- Analyzer strategy – incremental innovation project (author's note).
- Defender strategy - breakthrough innovation project (author's note).

The authors, based on their research describe the approaches (used in each strategy) which the innovation project manager should follow to plan and implement a project. Each approach influences the degree of PM standards degree adaption: when following prospector strategy (mostly in imitation innovation project), the application of PM standards is the simplest. During analyzer strategy implementation (in incremental innovation project), the way PM standards is adapted is also quite vague. The range of PM techniques can vary from one project to another.

Accept defender strategy (in breakthrough innovation project) where the use of PM standards is similar to the incremental innovations implementations, but the project lifecycle factor impacts more.

To summarize the approaches to innovation project classification, it is worthy to note that variety of innovation project types takes into consideration peculiarities of each project and to establish complex techniques for managing such projects in each specific case.

2. PM standards

As can be seen above, there are a variety of project classification groups which strongly suggests the need to adopt an "individual" approach to innovation PM. At the same time, it is possible to make some scientific generalizations in regards to the influence of innovation project types on the appropriate management techniques selection. So, close discussion of PM standards methodologies and some extra approaches will enhance the whole picture of classification and influence the way in which innovation projects are implemented. The next part of the research will be dedicated to revealing some of the peculiarities involved in innovation PM

standards techniques and PM practices application.

Speaking about PM standards, listed previously[2], it is necessary to say, that despite the fact that PRINCE2 has the highest adoption rate in the world, PMI standard PMBoK is required frequently, because of its simplicity and universality: almost all PM elements are presented there. Although PRINCE2 is a standard, it only caters for a PM specific environment, the need to execute PM procedures in a logical sequence and team roles and responsibilities. However, the problems of time, cost and human resource management are outside the standard. That's why it is essential to apply PMBoK in the research. As regards to ICB, PM standard, enhanced by IPMA, required project manager competences are introduced here. Personality and professional competences of a project manager are key factors of project success, so, it is necessary to pay attention to this problem too.

As mentioned above, not only will PM standards methodology be discussed, but academic papers will be touched upon too. So analysis of the approaches, presented in these papers and in PM standards will be presented.

2.1 Innovation project management in small and medium companies (SMEs)

To follow the categorization of projects according to the **company size**, Turner R. (2009) identified that SMEs use just some of the tools, presented in PM standards (PMBoK in particular) in innovation project implementation. They are techniques for planning duration and resource usage, appointment of team member roles and responsibilities, "request for change" tracking and ensuring etc. But such methods as "Critical Path Method" (CPM) for timeline creation or Earned Value Method (EVM) for cost and time control are not very popular among project managers. Sometimes so-called "agile" methodologies are in demand for SMEs. So it is possible to conclude that there is a tendency for management to process simplify to decrease the degree of bureaucracy, and to simplify the methods and documentation system.

2.2 Innovation project management in large companies

The use project practice confirms that application of PM standards' elements suitable for a company or a project will improve organization of PM performance. So now, the adaptation of PM standards for innovation project implementation, fulfilled mostly in large companies will be considered. A new set of specific features emerge.

So, it is convenient to consider the possibilities of project methodology application to innovation project management in light of their categorization groups at once.

It is worth to define a type of project according to the revealed classification groups. As a rule the scholars and practitioners distinguish innovation projects, depending on the degree of innovativeness (incremental, breakthrough etc.) or on their nature or object (technical, marketing etc.).

This division is extremely important, because it strongly influences on such PM areas as:

- cost management;
- procurement management;
- stakeholders management.

Pons D. (2008) conducted research with regards to using different PM areas tools possible for innovation project

[2] We intentionally did not include another famous PM standard P2M in this research. As far as this standard is positioned as standard for innovation management, the most part of the standard is dedicated to programme management or to adoption innovations in a company. A certain list of special innovation project management techniques is not presented there.

implementation. The author tried to analyze adoption of PMBoK (PMI PM standard) to innovation PM practice. He considered project knowledge areas specific features in innovation projects and the application of different PMBoK tools. He defined that the major deviations from the standard methodology concerns cost management. It is worth mentioning that not only costs must be taken into consideration during project efficiency assessment, but the revenues too. Another problem for cost management is expenses distribution. If a project is fulfilled in a medium or a large organization, many departments can take part in it. So the difficulties connected with the process of budgeting arise. To resolve these kinds of problems Erner M. and Presse V. (2009) suggest to create a special system of accounting.

Accounting systems can include such elements as recording (data fixation), allocation (distribution and attaching to the company departments), measuring (assessment) and clearing methods (looking for the assessment method). It is permissible to make cost and revenue detailed, as this brings clarification and comprehension with regards to their location and flows.

The acuteness of the problem of cost and revenue evaluation is strongly dependent on the type of innovation (Preez ND. Du, Katz BR. (2007). For instance, it is quite complicated to measure costs and revenues of incremental innovation project. Incremental innovations improve existing products, thus the benefits for customers and product sales increase. However, it is difficult to determine to what extent the growth has actually been triggered by the respective innovation. Costs can generally be allocated to innovations in method, process, and infrastructure, as well as to product innovations. This applies to capital expenditure as well as to any cost savings which may be achieved later through improvements. In terms of costs, the allocation of overheads is the biggest challenge. The accurate breakdown and attentive capturing greatly simplifies subsequent cost allocation to the relevant innovation projects but entails increased expenses.

Radical innovation project costs identification is on the other hand much simpler than in incremental innovation projects. The amount of expenses for such projects is usually clear and activities completed throughout the project are evident. In regards to the revenues, in this case their assessment is carried out according to special methods (e.g. analogues) With radical innovations benefits being much easier to allocate too since they usually create new self-contained benefits for consumers. Radical innovations often lead to a completely new product range, hence the resulting revenues can be clearly attributed to the relevant innovation.

Implementation of radical innovation projects causes the appearance of distinct interconnections between suppliers and other stakeholders. Often during the conception of a radical innovation there is a need to create project-specific technologies, machinery, materials, or spare parts which do not exist in the market yet. It emphasizes the importance in developing special relationships with R&D and innovation companies, as the companies are capable in carrying out the task. Creation of the so-called “business ecosystems” (Moore J.F. (1997) – communities of different economic agents, who cooperate and, at the same time, compete with each other (coopetition) gives opportunities for supply chain formation and provides safe resource provision (the latter approach is not presented in standard methodologies).

Stakeholder management, as one of the PM knowledge areas, is very important for successful project implementation. There are plenty of stakeholders in a project, including internal and external project

participants. One of the project goals is a satisfaction of majority of stakeholders' aims and interests. That is why it is crucial to pay extra attention to this field of PM.

To complement the standard approach, this paper presents an overview of contemporary academic thinking on this matter.

Vos J. and Achterkamp M. (2006) studied the peculiarities of stakeholder management in an innovation project. As a result, they elaborated a model, which allows to:

- classify project stakeholder based on the degree of their involvement in the project and role in the decision-making process: designer, client, decision maker; parties, involved actively and passively; passively involved, representative;
- map stakeholders on the basis of their participation in the project phases: initiation, development, implementation, closure.

So, according to the model, the following stakeholder types can be defined:

- the parties that should be involved for certain,
- the parties that should possibly be involved,
- the parties that should not be involved during a specific project phase.

The model therefore forecasts a change of stakeholder involvement and their role in the decision-making process throughout the project phases.

Basing on the above classification, the model then allows to intelligently tailor the effort needed to satisfy specific stakeholder interests during various project phases. This approach is convenient for innovation PM, because it gives an opportunity to consider innovation project in dynamics.

Stakeholder management is a quite complicated field of PM, because it is inherently linked to supply (procurement) and human resource management. Members of project team can be viewed as internal stakeholders too. But the team influences project implementation in a much more significant way than the other stakeholders, so a special approach is required to manage this project element.

All of the PM standards listed in Table 1 can be tailored to apply to human resource management in an innovation project. Pons D. (2008) points out that general approaches from the PMI PM standard do not work for innovation projects and that strategic human resource management is more convenient for this purpose. The innovations "are not realized in vacuum", so many people in the company must be involved in this process directly or indirectly. Therefore the aim of human resource department is to pursue a policy of positive attitude to innovation projects among personnel. PRINCE2 presents a clearly defined picture of roles and responsibilities in the project. In regards to ICB PM standard, it can be used directly in innovation PM, because it describes PM competences. So the extent and degree of PM competences needed in a specified innovation project is defined by its nature.

Azim S. *et al.* (2010) conducted a research of "soft" skills usage in complex projects. The authors explained in detail what they meant by a "complex" project. It is worth noting that some of their characteristics of complex projects[3] coincide with the innovation projects - uncertainty (in goals and methods) and structural complexity (size: number of elements and interdependence of elements). Therefore it is interesting to consider application of Azim S. *et al.* approach to innovation PM research.

"Soft" skills are usually considered to be a type of essential PM competences (personal or professional). Nevertheless professional standards frequently almost completely disregard this aspect of PM. At the same time "hard" skills (e.g. knowing

[3] A complex project is considered as a complex adaptive system, which can be characterized by the next features: adaptiveness, emergence, non-linearity and sensitivity to initial conditions and others (Remington and Pollack, 2007, p. 12).

specific models, methodologies and techniques) are discussed in great detail. ICB PM is the only standard (among the ones considered above), which provides project manager with a list of necessary competences. Among them are the ability to negotiate, capacity to resolve conflicts, skills of team working, leadership, learning and development management, and so on.

According to Azim S. "people" are one of the project elements which are susceptible to complexity influence - both structural complexity and uncertainty. In terms of the "people" element, structural uncertainty means the number of teams, departments, contractors, suppliers, who are engaged in a project. The purpose of "people" structural complexity is to study the interconnectedness between the actors. Factors which influence "people" uncertainty, include the uncertainty between new members in a project team relationship; and the absence of senior management encouragement, which influence the morale in a project, and reduces inspiration etc. The results of Azin S. *et al.* research, shows, that soft skills are more important than hard skills for the management of structure complexity and uncertainty in a project. These skills include communication, motivation, delegation, ownership and sense of achievement; leadership skills in particular, those of the project manager; responsibility, authority and delegation in regards to enhancing team spirit; sense of ownership and belonging to the team. In technically complex projects, the skillset of a project manager is additionally reinforced by the strong ability to delegate, because it is problematic to resolve multiple issues alone. A project manager who manages a technically complex project must appreciate and fully take advantage of the technical strengths and abilities of the project team members. Generally speaking, a project manager's obligations are to place trust in his team and delegate work in order to achieve project goals, to be able to lead confidently, to motivate team members and enhance their sense of achievement.

To achieve, develop and further improve the skills listed above, there is a big range of special tools available. Most of them are adopted from psychology, sociology and other human sciences and therefore highly specialized. For that reason these questions are outside the current research and will not be touched upon here.

As for the innovation project risk management, on the one hand, it does not require special techniques (Bowers J. (2014), so the tools, presented in PMBok, can be adopted directly. On the other hand, an attempt to improve and refine this field of PM is currently being undertaken. Smith P.G. and Merritt, G.M. (2002) combined a model of innovation process and project risk management, resulting in the "stage-gate" method. The authors added a list of valuation criteria, which permit to make a risk assessment at each stage of innovation process. They provide an opportunity to systemically manage risks in a project. The model of Smith P.G. *et al* however has an essential weakness when applied to innovation projects, because the innovation process there is reflected unilaterally. The problem is that while different types of innovation processes exist, only linear processes are taken into consideration in the model. Therefore this model should be improved to suit innovation PM.

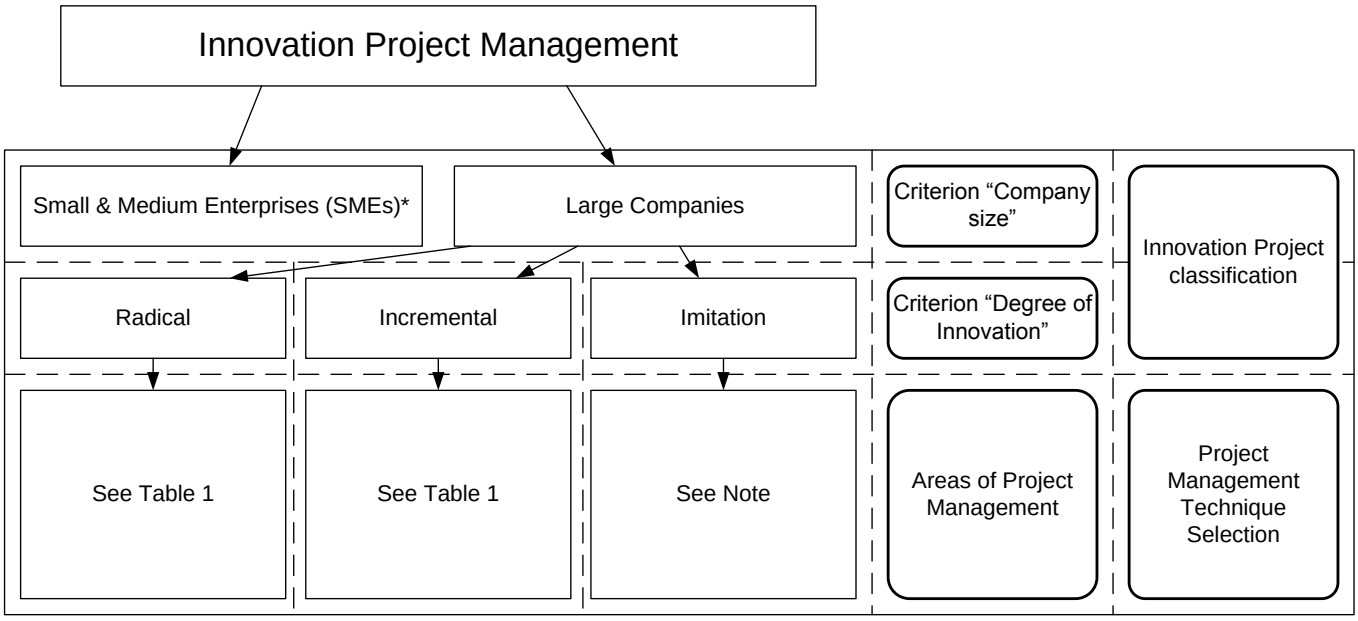
The rest of the PM system elements, i.e. communication management, cost and quality management will not be covered in this article. Academic research identified that there is no substantial difference in communication and cost management of innovation and conventional projects. As for quality management, this area is more complicated and is often determined by the nature and specific features of the project. In addition, a variety of field-specific standards (e.g. ISO) must be taken into consideration. Therefor this field of PM should be analyzed separately.

3 RESULTS

A broad analysis of opportunities for tailored PM techniques adoption in innovation projects was conducted in this article. A range of important factors (e.g. innovation project classification groups) was identified and described. But there is still a lack of a systematized approach, which would facilitate the process of PM techniques selection for innovation projects. Therefore based on the research an appropriate toolset was identified and is described below.

The results of the research are presented in Fig.1 and Table 1 to illustrate the process of project technique selection. Several criteria from the classification of innovation projects are introduced in the model as factors, which influence the selection process. Additional recommendations, including a summary of the findings are provided.

Fig.2 PM technique selection for innovation project implementation process (Source: Research data)



SMEs* - the project techniques selection process was not described for these type of companies, because, as it mentioned above, there is a tendency to simplify the PM process in such enterprises.

Note – during the research similar features between imitation and conventional project management were revealed, so the process of PM techniques selection was researched only for incremental and radical projects (see table 1).

Table 1. Detailed description of PM standards and tools application to innovation projects (Source: Research data)

PM area / Type of innovation project	Incremental innovation project	Radical innovation project
Cost management	PMBok, but can be differences from overhead costs assessment	PMBok
	Design a specialized accounting system, that would ensure: - correct allocation of costs; - accounting not only the costs, but also the revenues.	
Procurement (supplier) management	PMBok, PRINCE2	PMBok, PRINCE2. Problems connected with potential shortages of specific resources in the market
	Create a business ecosystem and develop it with a range of methods explained in the article	
Stakeholder management	PMBok, PRINCE2	PMBok, PRINCE2
	Use stakeholder classification model to define degree of stakeholder's involvement and ability to influence the decision-making process during different project phases	
Human resource management	PMBok, ICB	PMBok, ICB
	Use HR development techniques to foster "soft" skills in project team members, which can decrease the structural complexity of a project (meaning an increase in the level of interconnectedness between people and departments) and uncertainty (by improving the psychological climate and project team relationships).	
Risk management	PMBok	PMBok
	Apply the risk management model adopted for definite innovation process, so to establish concrete risk valuation criteria for each innovation stage.	

During the first stage there is a need to categorize an innovation project according to a number of criteria. In the above classification only the "company size" and "degree of innovation project" criteria are taken into account. The author encourages an application of additional criteria such as "nature of innovation", "size of a project", "NTCP-model[4]". During the second stage there is a need to select an appropriate project technique toolset. The recommended tools are categorized based on the analysis of the most popular PM standards and academic research in the field of innovation project management. Therefore the project manager has an opportunity to tailor each toolset according to the demands of a particular project. In summary, there is an expectation, that this tool will be useful to innovation project implementation.

[4] NTCP model can also be useful for the innovation PM implementation. "Novelty" of a project strongly influences risk management and indirectly, through risk management, cost and time management. "Technology" and "complexity" define the level of importance of procurement management, scope management and human resource management. "Pace" influences the choice of time management techniques.

4 DISCUSSION AND FUTURE RESEARCH

The article reviewed potential issues with PM standards adoption in the innovation projects. The key factors, which influence project performance, were defined (e.g. innovation project classification). This paper therefore makes an attempt to contribute to the development of the expanding field of innovation project management. The fundamental review of the PM standards and the academic papers relevant to the topic in question was conducted. It led to the conclusion that there is no systematized approach to the planning and implementation of innovation projects. As a result, the paper presents a theoretically substantiated algorithm of innovation PM toolset selection to facilitate the task of innovation project management. However each innovation project nevertheless must be considered separately and planned in accordance with its nature and specific demands.

Further research on the topic will focus on studying the practical aspects of the PM techniques application in innovation projects - a questionnaire will be sent to a selection of primarily Russian companies to identify this. As a result, a classification of the real-world usage of the PM tools in the innovation projects is expected to emerge. The tools will be classed in several groups based on the frequency of their practical usage and other relevant parameters.

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