

Project Portfolio as a Network of Temporary Organizations: A New Perspective and a New Challenge for Future Research

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Abstract

In the recent years we have witnessed increasing interests in the issues of project portfolio management. This editorial illustrates the need as well as the possibility of the development of this knowledge domain extending the scope and variety of research perspectives. It constitutes an attempt to indicate new avenues for further research resulting from the analysis of project portfolio as a network of temporary organizations. Special attention is focused on the potential contributions of network-oriented perspective to the progress of project portfolio debate.

Introduction

It is widely accepted that the modern businesses undertake the majority of their activities in a form of projects, as projects are set up to develop new products, enter new markets, introduce changes in internal processes, acquire new funds or implement business strategies as examples. Projects and project management are at the core of understanding of contemporary business. Thus, it is not surprising that the interests in the project management, both in the scope of theoretical knowledge development and practical skills application, have increased considerably in the recent years.

Among the issues currently discussed upon by researchers are challenges faced by many businesses when managing not an individual project, but the multiple projects and project-oriented organisations. This specific area of knowledge has been evolving for years: initially, the project portfolio management was mainly focused on the operational problems connected with allocation of limited resources to many projects and on adopting the proper methods for selection and prioritization, then the focus shifted to the problems of the strategic alignment, the creation of synergetic value as well as to the ways of ensuring organisational flexibility in the complex and dynamic environment [1,2]. It seems, however, that the project portfolio management still offers a rich potential for further research encouraging new challenges relating to everyday practical problems as well as to the development of the theory of management. This editorial constitutes an attempt to uncover these new research areas which could appear when the project portfolio is analysed through the lenses of the inter-organisational network [3,4] of temporary organizations [5]. What kind of new avenues for research on project portfolios could be developed by the approach based on concepts, characteristics and categories taken from the theory of inter-organisational networks? What kind of research problems are revealed by such an approach?

Project Portfolio Management

There is a wide range of Project Portfolio Management (PPM) definitions, as PPM has been described and interpreted by numerous researchers as well as by professional associations, such as the Project Management Institute (PMI) [6]. The analysis of PPM definitions

indicate that their authors perceive the project portfolio in the following ways: as a group of projects under one sponsor, as a set of projects realized with the use of common limited resources [7,8], as a way to implement organisational strategy, or as a purpose of activities undertaken by the Project Management Office (PMO) [9].

Today, it would not be easy to clearly mark the beginning of the research on PPM, however, according to some authors, the development of this particular area of knowledge was stimulated by a number of discussions between professionals attending the IPMA World Congress in Viennain 1990, resulting in numerous research studies aiming at understanding and improvement of multiple projects management [10,11]. Some researchers [1,2] offer synthetic analyses of the existing works relating to the project portfolio. The outcome of these studies indicates certain phases of the development—the project portfolio management evolved from the application of methods for optimisation used for prioritization and planning of the multiple projects [7], through the research on the New Product Development(NPD) portfolio [12] and next, the studies on key strategic aspects, such as adaptation of the portfolio to the strategy and ensuring a proper balance and diversification, finally, to the creation and co-creation of value in value-driven project management [13]. In the recent years the subjects of published studies have been concerning the issues relating to the influence of context [1], uncertainty and dynamics [14] as well as to defining and measuring the success of the project portfolio management [8].

The development of research on PPM does not indicate the lack of further challenges or enhancements - they appear as a consequence of, for example, reflections on the organisational performance and studies of failures in the project portfolio management [15]. Moreover, it can be inspiring to adopt a new theoretical perspective resulting in an attempt to implement the achievements of the theory of temporary organizations and inter-organisational networks in the research on multiple projects. Adopting the perspective based on the theory of temporary organisations [5] stimulates to analyse the portfolio as a particular network organisation which loses the temporary character of its components but preserves its transformational values. Implementation of the research on inter-organizational networks in

the studies on project portfolios shows new aspects focusing on the context, existing relations, their density, heterogeneity or adaptability.

Project Portfolio Management as Networks

Referring the idea of a network to project management has a long history –the development of project management as a field of the management sciences was initiated in connection to the methods of operational research, network programming and optimisation of project realization based on the Critical Path Method (CPM). Nowadays, the implementation of the concept of inter-organisational networks in the project portfolio management offers primarily a different perspective of defining and studying relations between the projects. The portfolio of projects from the network perspective constitutes the network of temporary organisations. The nodes of the network are not recognised as the isolated temporary organisations, but as those which functioning depends on the inter-organisational context: the projects do not only realize the adopted targets but they also compete for resources, and their success results from cooperation and their position within the network. Arcs of the network describe the relations of different nature: time relations defined by the required steps of realization, resource relations connected with the allocation of tangible and intangible assets (knowledge and information) and the exchange of these resources, interpersonal bonds or inter-institutional connections relating to the subjects (institutions) involved in the realization of common projects. When studying the above mentioned inter-organisational relations (network arcs) the reflection could concentrate on such elements as mutuality of relations and exchange processes, the purpose of the relation (e.g. sharing of benefits, information flow and risk sharing), as well as the perception or deliberate modification of specific relations due to the management decisions.

The analysis of project portfolio as inter-organisational network focuses on identifying and describing the most significant characteristics which are important from the point of view of a network. These key characteristics can be recognised as follows:

- The network size, i.e. the amount of nodes resulting from the potential of an organisation, resources and competences; this amount is subject to financial conditions (e.g. capital budget) but it is also a consequence of the ability of acquiring external clients, outsourcing, relations with subcontractors and other business partners (e.g. sponsors).
- Density, i.e. the number of relations between the projects, subject to diversity and number of nodes as well as to perception and deliberate selection and shaping of the relations between the projects.
- Homo- and heterogeneity of portfolios, representing the diversity of projects and relations, depending on the nature of activity, acceptance of diverse orders from external clients, e.g. due to the financial condition or the need of learning or developing the business through realization of internal projects.
- The network structure, including detailed characteristics such as prominence of projects (significance of position) within the network and their centrality (mono- or multi-centrality of the network). The position of individual projects has a crucial significance, e.g. their presence in the structure of flagship (leading) projects, projects realized in the form of main and associated investments, and within the frames of project programmes or consortia.

- The network dynamics, i.e. its variability, resulting from incorporating new projects in the portfolio, making decisions about abandoning or suspending the realization of certain projects, and depending on the size of the realized projects and on the scale of the engaged resources, e.g. realization of many short projects increases the dynamics of the project portfolio.

- The network stability, i.e. the networks are recognised as stable when they are subject to incremental and planned changes; unplanned changes, for example, resulting from the situation on the market or unstable relations with clients lead to instability of the whole network.

The list above presents the key characteristics of the project portfolio, however it does not represent the complete list. Some examples of other such characteristics include, among others, network flexibility or adaptability to the changes in the internal and external environment, “contagiousness”, i.e. the speed at which individual components adapt and tendency towards migration (flow) of values within the network.

The classification of the network of temporary organisations

The analysis of project portfolio in the network perspective enables to distinguish different categories depending upon the adopted classification criteria. Among the most important categories determined in relation to the scope and purpose of potential research on PPM the following can be recognised:

- The inter-organisational network built on the basis of temporary organizations as the meta-organization, which due to its dynamics and continuity of rebuilding loses the temporary character [16]; as much as a project is a temporary organisation, the project portfolio does not have such a characteristic and the network requires mechanisms for constant coordination.
- The network of values [17] oriented towards the synergy of values of many organisations; individual projects remain in relations which influence the co-creation of value and provide the value superior to the total value of individual projects. The factors which are crucial for this perspective include processes of value distraction and appropriation due to the prominence of projects or monocentricity of networks.
- The business network created to realize business targets of the whole organisation; this vision of portfolio represents the idea of subordinating the mechanisms for portfolio shaping to the strategic matching and realization of the determined business model of an organisation, e.g. through incorporating e-business projects into the portfolio.
- The project ecosystem, i.e. a portfolio of projects represented as a heterogenic coalition of various temporary organizations creating a certain society of interests accumulated around the particular leading project, which affects other organisations through its pace of development [18]. For example, the project ecosystem can be exemplified as a big infrastructural investment involving a number of small associated projects.
- The network of interpersonal relations based on social connections between internal and external stakeholders of individual projects: project teams, clients and sponsors etc.
- The network of institutions, which is an important category in terms of the projects realized jointly by many contractors, both profit-oriented and non-profit; the important mechanism that needs to be analysed here is the institutional mechanism of coordination [19].

Undoubtedly, a further differentiation is possible, as there is a variety of other criteria conceivably used for categorising project networks, for example: virtual project networks, project networks oriented towards technology or suppliers, or project networks directed towards restructuring the existing business or towards emerging opportunities [17].

The contribution of the network-oriented approach to the project portfolio studies

The above-presented characteristics of project portfolios based on the application of the selected aspects of the concept of inter-organisational networks indicate that adapting this approach to the research on portfolios potentially helps to create new ways of their description and understanding.

Firstly, the research on project portfolio shows a different, alternative method of description focused on identification of network components, i.e. nodes and arcs: project in a portfolio is a node analysed in the context of the network of relations. The project is not an isolated island, furthermore, the description of the context is not oriented on the influence of stakeholders or past experiences, it is directed noticeably towards the environment created by other projects which affects the effectiveness and efficiency of project realization. The relations enable to access resources from other projects (e.g. information or knowledge) and they lead to synergistic effects, e.g. in a form of value added. The relations are crucial in connection to coordination as they complement the bureaucratic coordination, e.g. conducted by the Project Management Office, by providing coordination elements based on social relations, e.g. norms and trust.

The network-orientation seem to encourage to examine the new research issues. As much as the existing studies have been oriented towards the strategic alignment or planning of the flow of many projects (the pipeline), the network approach makes the research focus on the issue of relations, their forms and significance. The research on multiple projects reveals new approaches and concepts used to study company networks, i.e. mono- and multi-centricity of network structures, position of a project in terms of relations, contagiousness, stability or value appropriation.

The new areas investigated within the scope of research based on network approach show that the particularly interesting conclusions relate to the competition and co-competition of projects in the portfolio, i.e. projects compete for resources. Therefore, it is possible to analyse their competitive advantage, including the one resulting from the location in the network or from the type of relations. The centrality of the position within the network provides better access to information and increases influence on knowledge flow within the network. The inequality of project position in relation to the access to resources affects the outcome of project realization. As a consequence, the will to ensure the preferred position requires a deliberate shaping of relations and their strengthening. Other important research problems in the field of project portfolio management include imitation (contagiousness or mimetism), that is the adapting to changes and homogenising, for example, the attitudes of team members influenced by information, observing behaviour of others or appreciating success of other project teams.

Subsequently, the research on project portfolio conducted from the perspective of a network can result in the appearance of the new research questions and concepts in such peculiar fields as coordination, value creation or knowledge and learning within an

organisation. Coordination of many projects is not limited to the determination of the order of their realization. Moreover, coordination constitutes an important basis for creating the relationship resources in an organisation, which in turn makes it a potential differentiating competency and the source of competitive advantage. Similarly, the studies on value creation, destruction and appropriation by individual projects need to be based on the analysis of mutual relations and on contingencies stimulating these processes. Knowledge, especially its flow within the network, provides another potential research area, depicted more clearly when the network perspective is applied. Here, it could be important to discover the mechanisms supporting the flow within the network as well as the mutual relations between the value and the flow of knowledge in the network of projects.

Conclusions

The challenge set by coordination and control of multiple projects demanded by many modern businesses has given rise to the development of research on the project management, evolving from concentration on an individual project towards the project portfolio and project-oriented organisations. This evolution also relates to the research subject itself: the traditional “project as a tool” approach to the project and portfolio management is more commonly replaced by the alternative “project as organization” research approach.

The project portfolio research absorbs and integrates many emerging and popularised concepts presented by management theorists. The theory of the inter-organisational network management provides the opportunity to study portfolios from the view of their network characteristics and to profoundly analyse such phenomena as, e.g. creation of particular relational resources in the group of projects, knowledge flow within the network, its diffusion, stickiness or absorption by individual projects as well as conditions for creating and destructing value within the network of projects. However, it has to be emphasized that the research perspectives are much more comprehensive, these delineated in the paper present only examples and do not constitute a complete research potential offered by this new approach.

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