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Project Indicators for enhancing Governance of Projects

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Abstract

Governance of projects, programmes and portfolios is an increasing research area and practice, but it is not yet considered to be as mature as it happens with project management concepts and practices. This paper presents an intermediate result from an on-going multi case research study addressing the perceived relevance of different projects' indicators, in the context of the governance of projects, programmes and portfolios. It also intends to evaluate in what conditions that perception is influenced by organization's governance of projects structure level, project contract types or by different project types.

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1. Introduction

Nowadays, project management discipline is based on well-defined bodies of knowledge, e.g. PMBOK [1], focused on project management processes, and ICB [2], defining project management competences. Based on these bodies of knowledge, project managers' certification systems recognize today a large number of professionals having required knowledge and competences to manage projects, programmes and portfolios. The discipline maturity, expressed on a comprehensive and well established set of project management processes, used by almost

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organizations in almost times, resulted on a new international standard for project management, ISO 21500, published in September 2012 [3] and a portfolio management standard ISO 21502 in elaboration. All those standardized processes are now available to help organizations developing their own project management methodologies. The set of competencies can also help organizations to select and develop their project management professionals.

More recent approaches intended to address a broader view of the project management discipline focus on the organization level, addressing the discipline “as a whole” [4]. Examples of these approaches are the development of project management maturity models, PMI OPM3® - Organizational Project Management Maturity Model and the new IPMA DELTA® model among a large number of project management maturity models, all of them presenting five maturity levels. These models have been the basis for some project management consultancy company’s start selling their maturity assessment services to organizations and for certification purposes.

However, many studies on projects’ failure have concluded that one of the main causes was the missing governing surveillance of project activities [5], leading to not adjusted project outcomes, waste of money and effort, sustainability and social responsibility problems. The required changes only can be successfully implemented through projects, programmes and portfolios, managed under an adequate project management governance model, coexisting with the Organization’s governance framework.

Effective governance of projects should lead Organizations to improve accountability and transparency in their decision-making process, leading to improve their projects’ success and minimizing the risk of failures. As presented by Lean Crawford and Terry Cooke-Davis, “*As projects and programmes are the vehicles for implementing corporate strategies, effective governance of projects, within the corporate governance framework, becomes a serious concern for Organisations, offering to top management a clear visibility and control of non-routine corporate operations and delivery capability*” [6].

The clear visibility and control should be based on project indicators and not only the traditional project management metrics designed for project management rather than for business decision making [7]. To address this topic, we formulated the study research questions where, two of them, might be addressed as intermediate results:

- RQ1: The projects management indicators’ relevance perception differs with different organization’s governance of projects levels?
- RQ2: The projects management indicators’ relevance perception depends on the project’s contract types?
- RQ3: The projects management indicators’ relevance perception depends on the project’s types?

The overall aim of the final research study, from which this paper is an intermediate result, is to evaluate the perceived relevance of the different projects’ indicators, in the governance of projects context. It also intends to evaluate in what conditions that perception is influenced by the governance of projects structure level, project contract types or even by different project types.

We present first a brief review of literature on the concept of corporate governance and governance applied to the project management field. This is followed by the description of the methodology and the intermediate results. The paper finishes with a discussion and preliminary conclusions that should be confirmed by the ongoing study.

2. Corporate Governance

To avoid confusions we need to clear differentiate between governance and management. The definitions of these concepts are provided in the Oxford dictionary [8]:

- Governance – “*the activity of governing a country or controlling a company or an organization; the way in which a country is governed or a company or institution is controlled*”
- Management – “*the act of running and controlling a business or similar organization*”

Based on the above definitions, governance defines the required rules and structures to ensure conformance to the governance principals, providing guidance and supervision to management activities. The action is up to management, while the actions regulation and supervision should be provided by governance bodies.

Corporate governance focuses on the exercise of power in corporate or organizational entities and is accepted as an organization's practice, applied by top management, to achieve accountability and performance. It emerged from the separation from management and ownership of enterprises as the result from business grew and diversity [9].

During the economic development of industrial capitalism the corporate governance resulted in different governance structures designed to face new economic problems [10].

One of the most cited definitions of corporate governance is the OECD - Organization for Economic Co-operation and Development: "*Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined.*" [11]

The OECD presents 6 governance principles:

- Ensuring the basis for an effective corporate governance framework,
- The rights of stakeholders and key ownership function
- The equitable treatment of shareholders
- The role of stakeholders in corporate governance
- Disclosure and transparency
- The responsibility of the Board

Based on the above definition and principles, the corporate governance concerns with the definitions of objectives, the means to obtain the objectives and the means to monitor progress [12] and when applied to project management field, requires structures to define objectives for projects, to define the means of obtaining those objectives, and the process to monitoring progress to ensure that those objectives are achieved [13].

3. Governance applied to projects

According with Turner, there are three levels of governance within the projects-based organizations [12, 13]:

- Level of the parent organization: organization's board level and their interest in initiating and monitoring the projects, programmes and portfolios as mean to obtain organization objectives;
- Level linking the objectives of the parent organization to the temporary organization (the project). Level where the right organizational structures are defined to link project objectives with organization objectives, ensuring that the right projects are done and the appropriate capability exists within the organization to deliver projects successfully; In this level we may include external contracts as part of the governance structures;
- At the level of the project, defined as temporary organization, it is a legal entity which needs governing.

The UK Association of Project Management (APM), in its guide to governance of project, defines the governance of project management as a component of corporate governance restricted to those areas specifically related with project activities, designed to ensure project's alignment with organization's objectives. The governance of project management structures should also establish the means by which "timely, relevant and reliable" information is provided the top management and major stakeholders [14]. For APM, the governance of project management is based on four components: Portfolio direction (all projects in one portfolio); Project sponsorship (effective link between the board and each project); Project management capability; and Disclose and report. The first three APM's components are aligned with the second governance level proposed by Turner.

Ralf Muller presents a definition of governance applied to projects, programmes and portfolios management including the "*value systems, responsibilities, processes and policies*" required to ensure the organization's objectives achievement, aligned with the stakeholder's interests. [15] The same actor refers the need to have governance structures with the purpose to align objectives at the different organization's management levels [16].

Williams, Magnussen and Glasspool presents a definition of governance through projects that includes the rules for selecting the right projects, the means to archive the right objectives, and the means to ensure that projects and their outcomes are sustainable. [17]. The same authors defined governance of projects as the framework established

around the project execution, including governance roles, policies, regulations; as guidelines for planning and management of projects [17].

From the above approaches, we may extract different concepts: project governance; governance of project management; governance of projects, governance through projects.

To avoid conflicting concepts, we choose to use the concept governance of projects, including the role of ensuring the right management systems or structures exists, to link of project objectives with organization's objectives; the capabilities and competencies are aligned to enable projects success; and the means of monitoring performance are determined.

The project's performance indicators should provide reliable information, required for decision making and alignment with corporate objectives, to the different governance levels: Executive Board Level, Contextual Level, and Individual Project Level [13]. This complete and understandable set of performance indicators, across the projects' life cycle, is required as an input to evaluate and improve the governance structures, responsibilities, processes and polices applied to projects, programmes and portfolios.

4. Methodology

The research study is based on multi-case studies, using a sequential mixed method approach, studying contemporary events, allowing for in-depth investigation of a contemporary event in its context (the organization). [18]. We chose to use six case studies in order to identify the commonalities and differences across different organizations, using replication logic. We selected the organizations as a unit of analysis and the project managers, project sponsors, project support functions and senior suppliers as their data sources, based on structured interviews to understand the organization's project governance structures, authority roles and responsibilities and the perceived relevance of a set of predefined project indicators. Using multiple and contrasting – customer and suppliers- case studies, we will be able to synthesize the facts and identify patterns, which might be tested in future studies.

For each project, we evaluated the inputs and outputs provided to the different project stakeholders: investor or owner; end-users; sponsor; senior supplier; project manager; other suppliers; project management structures (PMO and/or portfolio management), project support functions (finance, human resources; legal; purchasing,...) [19].

A list of project indicators was built, mainly based on my long experience on IT projects field and supported by Kerzer [7]. The list was subdivided in four categories: Performance indicators; sustainability indicators; satisfaction indicators and practice indicators.

The project stakeholders are asked, during the structured interviews, to rank each indicator in a scale from 0 to 4, where:

- 0 is irrelevant, not needed;
- 1 is a nice to have, it's not an input for any decision making process, just to increase project management quality;
- 2 is important, relevant to projects' decision making. (if available, it will be an input to improve the project decision making process);
- 3 is very important. Important information for organization's governance. Should be available (if available, it will be an important input to the decision making process, affecting the on-going resources allocation and forecast);
- 4 is mandatory. Very important information for organization's governance. It's impossible to run the business without that information (it's a must for all decision making process, affecting the on-going organizational business).

5. Preliminary results

Tables 1, 2, 3 and 4 present the results of detailed indicators' perceived relevance, resulting from 33 structured interviews from three organizations, all of them solution providers of IT integration or systems development.

In this intermediate result, we just present average values, considering that the sample is not yet significant to do a proper statistic treatment. Senior supplier, in the study context, is an organization’s senior manager with accountability for the lead contract [19].

Table 1. Project performance indicators perceived relevance (average results).

Performance indicator	Project Managers	PMO’s	Senior Suppliers	Top Management	Finance Support
Total Cost/Effort related with additional work in % of total project's cost/effort resulting from additional requirements	3,5	2,7	3,1	3,0	3,3
Total Cost/Effort related with additional work in % of total project's cost/effort resulting from non-clear requirements	3,2	2,0	3,1	3,3	1,8
Invoicing plan based on project performance (milestones)	4,0	4,0	4,0	4,0	4,0
Schedule variances - project level	3,6	4,0	3,6	4,0	1,3
Schedule variances - work package level	3,4	3,5	3,0	2,7	1,3
Schedule forecast (deliverables)	3,9	4,0	3,4	4,0	2,7
Effort variances - project level	3,8	3,0	3,3	4,0	4,0
Effort variances -work package level	3,2	1,0	2,8	2,0	2,7
Effort forecast	4,0	3,5	3,9	4,0	2,7
Cost variances - project level	3,8	4,0	3,9	4,0	4,0
Cost variances - work package level	2,6	1,5	3,0	4,0	2,6
Cost forecast	3,8	4,0	3,7	4,0	4,0
Number of non-conformities during acceptance tests	3,4	3,7	2,7	3,5	0,0
Average time to fixed non conformities	1,3	1,3	2,0	0,5	0,0
Number of non-conformities detected during warrantee/users support period	3,1	3,7	2,5	2,5	0,0

From the above data, we may conclude that the most relevant performance indicators, for all internal project stakeholders are the ones related with costs and invoicing (actual and forecast, where all organizations are using earned value analysis to estimate the costs at completion). Aggregated indicators, on project level, are consistently more relevant that the ones based on project structures (the work package level). The average time to fixed non conformities presents a lower level of relevance due to the different technologies used in each project.

As finance support project indicators perceived relevance is restrict to performance indicators, we didn’t present this structure for the remaining indicators.

Table 2. Project sustainability indicators perceived relevance (average results).

Sustainability indicator	Project Managers	PMO’s	Senior Suppliers	Top Management
Use of new technology	2,8	1,7	2,3	3,0
New capacities generation	2,4	1,0	2,7	2,0
New competencies generation	2,8	1,0	2,5	3,0
Team members competencies growth	2,9	3,0	2,5	3,0
Value of assets that can be reutilized in future projects	2,9	2,5	3,2	3,7
New business generation	3,1	1,5	2,5	1,5

Based on the results presented in table 2, sustainability indicators have less relevance than the performance ones. The new competences generation is more relevant for the top management and project manager than for PMO’s and senior suppliers. In this sample PMO’s shows very low relevance to sustainability indicators (except team competencies growth).

Based on the results presented in table 3, the perceived relevance of satisfaction is mainly centred on the project owner satisfaction, showing less interest by the end users satisfaction. This result is clear influenced by project type, where project managers with direct interface with customer's business areas show a relevance ranking of 3 and 4; and the project managers with no interface don't look to this indicator. Team member's satisfaction is very important to project managers and even for some top managers.

Table 3. Project satisfaction indicators perceived relevance (average results).

Satisfaction indicator	Project Managers	PMO's	Senior Suppliers	Top Management
End users satisfaction	2,1	2,0	2,4	3,0
Owner satisfaction	3,5	3,0	3,7	3,7
Team members satisfaction	3,1	1,7	2,3	2,5
Key suppliers satisfaction	2,3	1,0	2,3	2,5
Sub-contractors Satisfaction	3,2	1,0	1,5	0,5

Table 4. Project practice indicators perceived relevance (average results).

Practice indicator	Project Managers	PMO's	Senior Suppliers	Top Management
Communication effectiveness (with organizational alignment)	2,9	3,5	3,3	3,3
Clear roles and responsibilities	3,8	3,7	3,2	3,7
Respect and Trust	2,8	3,5	3,4	2,7
Collaboration	2,6	3,3	2,8	2,3
Political support	3,4	3,0	3,0	2,3
Decision making effectiveness	3,5	3,5	3,2	3,0
Business case maintenance	3,4	3,0	0,8	2,3
Project management standards compliance - number of non-conformities detect during project audits	3,7	4,0	3,7	3,5

Based on the results presented in table 4, the more relevant indicators are related to roles and responsibilities, political support and decision making. Respect and trust seems to have a lower relevance for project managers and top managers, probably because they are considered as a cultural assumption.

6. Discussion and conclusions

In the actual stage of the research, the intermediate results extracted from three ITC suppliers organizations doesn't present significant difference of projects performance indicators' relevance perception between internal project stakeholders or even project types. This seems to present a negative answer to RQ1 and RQ3. Based on the gold triangle – costs, time, and quality – the most relevant set of indicators is the one related to costs, followed by time. Quality indicators are the ones that present more differences in their perceived relevance. Those results need to be compared to internal project executed by customer organizations in order to answer RQ2.

Sustainability and satisfaction indicators present lower relevance than the performance ones and they are more relevant for top management than for the other stakeholders. Further investigation needs to be addressed to understand if this result is linked with the individual objectives, since project managers and other project support functions performance are not evaluated based on the organization's sustainability criteria.

The expected outcomes of the final study is to present a consistent model of project management performance indicators, linked with the different organization's governance of projects paradigms, different governance of projects levels and different ITC project types. The research project should contribute to the existing knowledge in the project governance area and contribute to provide a consistent model to help IT companies to plan and improve their project management governance frameworks.

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