Identifying organizational variables affecting project management office characteristics and analyzing their correlations in the Iranian project-oriented organizations of the construction industry

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Abstract

Today, applying project management knowledge by project oriented organizations for optimal use of resource and increasing productivity is inevitable. An organizational entity generally called “Project Management Office” can be responsible for project management knowledge and systematic developer of it which can centralize and coordinate management of those projects under its domain. Since organizations have different contextual and structural dimensions, we expect different project management offices in terms of their structural and functional characteristics. This article is searching for variables in the context of organizations in construction industry which have significant relationships with project management offices’ characteristics. So that by analyzing these relations we can design and implement more efficient project management offices. Finally, from 29 organizational context variables which had been thought to have decisive impact on project management offices’ characteristics only 9 variables had significant impact on them in which this paper focuses on.

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Keywords: Project management office (PMO); Project oriented organizations; Construction industry; Project management office’s characteristics

1. Introduction

There are several definitions for “Project Management Office”; one of the most respectable is the one provided by Project Management Institute of America in PMBOK 2013. According to this definition a project management office (PMO) is a management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques. The responsibilities of a PMO can range from providing project management support functions to actually being responsible for the direct management of one or more projects (PMBOK, 2013).

The most important results of the PMO implementation regarding the survey which was conducted by Project Management Solutions in 2010 are as follows (PM Solutions, 2010):

- Decreasing failed projects......................31%
- Delivering projects ahead of schedule......19%
- Delivering projects under budget...............30%
- Improving productivity..........................21%
- Increasing resource capacity.....................13%.

Obviously the attainment of the above objectives depends a lot on PMO’s performance and its maturity. The more the project management offices improve to higher level of capability and maturity, the more the achievement of the above mentioned objectives increases. However, due to the different structural and

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contextual dimensions of organizations it is expected that their PMOs are different in terms of structural and functional characteristics (Matin Koosha, 2012). Being aware of these differences and their impacts is indispensable for having efficient project management offices in organizations. Therefore, in this article, correlations of two groups of PMOs’ characteristics and organizational context variables are examined. PMOs’ characteristic variables (its features and properties) are explained in Section 1–2 and organizational context variables which impact on PMOs’ characteristics are explained in Section 1–3.

1.1. Project management offices’ characteristics

PMOs are compared based on various characteristics in different references. This research classifies the general characteristics of PMOs in functional and structural groups. Functional characteristics are those functions and duties that PMO is potentially expected to do in an organization. Structural characteristics are defined as the age of PMO, staff composition and its authority in the organization. This article compares and classifies PMOs’ characteristics from various references (Brown, 2007; Crawford, 2002; Gartner, 2002; Hill, 2008; Hobbs, 2006; Kerzner, 2009; Rad and Ginger, 2002; Wisocki, 2009). These classifications are shown in Tables 1 and 2.

1.2. Organizational context variables

This section is about organizational context variables which are supposed to have impact on PMOs’ characteristics. These variables can be searched in two internal and external environments of an organization as depicted in Fig. 1. Since these variables are not classified and mentioned in related literature clearly, researchers of this article had to complete and adapt them to the characteristics of the Iran’s construction industry by the use of related researches and also a questionnaire which was answered by 51 experts in construction industry wherein the questionnaire and its guide were sent to all of them. In addition they were put on the most visited project management websites in Iran to be filled. At the beginning of the research in the initial stages, the authors started specifying organizations with PMO in the field of construction industry with related personnel and other PMO’s professional experts and consultants. Since the statistical population of this stage was comprised of the project management office’s experts, in total 105 persons were recognized as potential experts for PMO wherein the questionnaire and its guide were sent to all of them. In addition they were put on the most visited project management websites in Iran to be filled.

The criteria for the selection of PMO experts for this research were determined as below:

1. Being a member or manager of PMO in a project oriented organization in construction industry or a professional PMO consultant in implementing PMO in these organizations.

<table>
<thead>
<tr>
<th>Item</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Development of project management methodologies</td>
</tr>
<tr>
<td>2</td>
<td>Development of project management tools and software</td>
</tr>
<tr>
<td>3</td>
<td>Knowledge and lesson learned management</td>
</tr>
<tr>
<td>4</td>
<td>Training and developing project management competency</td>
</tr>
<tr>
<td>5</td>
<td>Mentoring and coaching in project management</td>
</tr>
<tr>
<td>6</td>
<td>Governance and human resource development</td>
</tr>
<tr>
<td>7</td>
<td>Monitoring and controlling projects</td>
</tr>
<tr>
<td>8</td>
<td>Portfolio management</td>
</tr>
<tr>
<td>9</td>
<td>Participate in strategic planning</td>
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<tr>
<td>10</td>
<td>Management customer interfaces</td>
</tr>
<tr>
<td>11</td>
<td>Management vendor and contractor interfaces</td>
</tr>
</tbody>
</table>

Table 2

PMOs’ structural characteristics from the perspective of this study.

<table>
<thead>
<tr>
<th>(Classes of data)</th>
<th>(Elements of data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of PMO in organization</td>
<td>Under 5 years</td>
</tr>
<tr>
<td>More than 10 years</td>
<td></td>
</tr>
<tr>
<td>PMOs’ staff composition</td>
<td>Staff of PMO (other than project/program managers)</td>
</tr>
<tr>
<td>Presence of project managers within the PMO</td>
<td></td>
</tr>
<tr>
<td>Experience of the staff</td>
<td></td>
</tr>
<tr>
<td>Specialty of the staff</td>
<td></td>
</tr>
<tr>
<td>The status and authority of the PMO</td>
<td>Location of PMO within the organizational hierarchy</td>
</tr>
<tr>
<td>Percentage of projects within the mandate of the PMO</td>
<td></td>
</tr>
<tr>
<td>Decision-making authority of the PMO about projects and project managers</td>
<td></td>
</tr>
<tr>
<td>Amount of supportive role of PMO</td>
<td></td>
</tr>
<tr>
<td>Amount of managerial role of PMO</td>
<td></td>
</tr>
</tbody>
</table>

housing construction, building construction, engineering construction and industrial construction.

2. Research method

This research includes two distinct stages after classifying PMOs’ characteristics. The first stage includes prioritizing organizational context variables from the perspective of experts and the second one includes the evaluation of correlation between organizational context variables and project management offices’ characteristics. These stages are discussed in details, as follows.

2.1. The stage of prioritizing organizational context variables from the perspective of experts

2.1.1. Data gathering tool and statistical population

At this stage to prioritize organizational context variables and to select the most important variables to participate in the next stage of this research, questionnaire was used in which respondents ranked the impact of organizational context variables on the project management office characteristics in quintuple Likert scale. To check the reliability of the questionnaire, Cronbach’s alpha test in SPSS software was used and the alpha 0.818 was calculated. So the reliability of the questionnaire is satisfying.

At the beginning of the research in the initial stages, the authors started specifying organizations with PMO in the field of construction industry with related personnel and other PMO’s professional experts and consultants. Since the statistical population of this stage was comprised of the project management office’s experts, in total 105 persons were recognized as potential experts for PMO wherein the questionnaire and its guide were sent to all of them. In addition they were put on the most visited project management websites in Iran to be filled.

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