

Gender Based Perceptions of Project Managers’ Attributes

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Abstract

Construction enterprises depend on the performance of Project Managers (PMs). This paper is aiming at defining the Greek Project Managers’ cognitive abilities, personality characteristics and skills through the eyes of Greek female and male engineers. The research survey recorded 305 responses, originating from engineers throughout the Greek Construction Industry. The study statistically identifies the most significant PM’s attributes and compares the views associated with each gender - group. Finally, a correlation analysis highlights the perceptions of each group of participants regarding PMs’ attributes.

Keywords

Project Managers, Statistical Analysis, Perceptions, Attributes, Gender

1. Introduction

Successful completion of a construction project involves the efficient execution of two major processes: design and construction (Manavazhi and Xunzhi, 2001). Construction fundamentally exists in a social framework because it involves large-scale ventures that develop over extended time (Boyd and Bentley, 2012). Indeed, construction projects are intricate, time-consuming undertakings, which require a diverse range of specialized services (Sears *et al.*, 2008). Benator and Thumann (2003) argue that if one had to single out the most important project success factor, it would be people.

Nowadays, there is also a growing awareness and understanding of the relationship between achieving project success and PMs’ competences (Ahadzie, Proverbs and Olomolaiye, 2008; Cheng, Dainty and Moore, 2005). Fryer (1997) cited in Haynes and Love (2004) suggests that the job of a PM has been defined as demanding, complex and varied. According to Anderson (1992) PMs who have high-quality or

above-average managerial skills and experience are more often associated with better performing projects. Therefore, it is of special importance to examine the person or persons that manage the project realization and record their profile through the eyes of Greek construction Stakeholders. The paper presents a literature review with the common held views of the PMs' attributes. Then the research methodology is analyzed and its results' discussed. Finally, conclusions and future work are highlighted.

2. Literature Review on Project Managers

The term PM is used in the general sense of applying to the person, who has responsibility for managing the whole or some major part of a total project (Pilcher, 1994). PMs' profile has attracted and keeps attracting a lot of research interest, due to their key role in every project (Pilcher, 1994; Crawford, 2000). Martin (1976) cited in Pettersen (1991) divides PMs' qualifications in two main categories, which are namely: personal characteristics and skills. Typical responsibilities of a PM are coordinating and integrating of subsystem tasks, assisting in determining technical and manpower requirements, schedules and budgets, measuring and analyzing project performance (Jha and Iyer, 2006; Royer, 1974). In doing so, PMs devote attention to both the formal system of rules and procedures and the potential informal / human system of motivation and leadership (Liu and Fang, 2006).

The role of a PM has become critical for success (Wolf and Jenkins, 2006; Jha and Yger, 2006). The effectiveness and productivity of organizations have been always depended heavily on their human capital (Wolf and Jenkins, 2006). Typically a large multidisciplinary project needs coordination among the personnel of different departments. The difficulty any PM would have in coordinating resources for sites can easily be imagined (Jha and Yger, 2006). Changes in organizational structure, have encouraged the review of management responsibilities (Druker *et al.*, 1996). Project management practices are becoming increasingly important, as more and more work is organized through projects and programmes (Winter *et al.*, 2006). Part of the problem of defining the PMs' role lies in the assumption that they need only a single set of skills that help them manage any situation (Carter, 1988).

According to Smyth and Morris (2007), projects are context-specific. That's the reason why, Muller and Turner (2007a) propose that different types of projects require PMs to be selected with appropriate competencies. Crawford (2000), Stevenson and Starkweather (2010) suggest that the importance of the PM in the delivery of successful projects has generated a considerable amount of research based literature. Crawford (2000) emphasizes that literature focuses on the knowledge, skills and personal attributes required of an effective PM.

Briner, Hastings, and Geddes (1996), cited in Dainty, Cheng, and Moore (2004), suggest that PMs must fulfill a number of roles including those of facilitator, coordinator, motivator and politician (Dainty, Cheng and Moore, 2003). Muller and Turner (2007b; 2010) identified the leadership competency profiles of successful PMs in projects of different type. Chen and Partington (2006), suggest that the way PMs use the attributes described in project management standards in accomplishing their work are preceded by and based upon their conceptions of that work. Ogunlana *et al.* (2002) suggest that different projects require different skills and capabilities on the part of the PM. El-Sabaa (2001) suggests that the skills of the best manager could be clustered into three main categories: human skill, conceptual and organizational skill and technical skill.

Ahadzie *et al.* (2008) suggest that aspects of contextual and task behaviours are unique in how they influence the PMs performance. Liu, Fellows, and Fang (2003) provided ranking of the managerial skills. The order, from the most to the least important was: Social skill, Decision Making, Handling Problems, Recognizing Opportunities, Managing Change. Pheng and Chuan (2006) concluded that team relationship was the most important variable affecting the performance of a PM. On the other hand, Anderson (1992) suggests that project performance is affected by the effective application of project management

principles selected by the PM. Thomas and Buckle-Henning (2007) proposed ways that successful PMs of both sexes rely upon both masculine and feminine logic systems to be successful.

Dolfi and Andrews (2007) have demonstrated that optimism in PMs is an important attribute. Eskerod (2010) examined the challenges related to further development of project management competencies in a company by involving PMs in action learning. Brill, Bishop, and Walker (2006) explored the competencies required for a PM to be effective in the workplace through a Web-based Delphi method. Montgomery (1989) reported on the skills of the PMs in nine countries of the African continent and identified a common group of skills but the ranking of each skill varied from country to country.

3. Research Approach and Findings

3.1 Questionnaire Structure and Sample

A structured questionnaire was used to evaluate the importance of various attributes of PMs. The survey lasted for four years and was addressed to engineers from Greece. The questionnaires were completed through interviews and email. Descriptive statistics were estimated and correlation analysis took place. The questionnaire consists of two main parts, namely: profile of the survey's participants, personality characteristics and cognitive abilities of PMs. Survey participants, have to respond to 13 personal questions, ranging from age to academic and professional background. The total PM attributes sum up to 47 elements. The majority of the answers are collected through check boxes and use of a predefined ranking (1 to 5). "One" represents the lowest value and "five" the highest value. The survey collected 305 answers. Male participants are 183 and female ones are 122. As far as the sample's adequacy is concerned the value of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0,898, very close to the required value of 1,0. In addition, the results of the Cronbach's Alpha computation (= 0,955) reveals that the measure has high internal consistency.

3.2 PMs Attributes Mean Scores

Descriptive statistics are estimated. The answers of the questionnaires were parameterized and a database was created. Every row represented a participant and every column represented a variable, such as PMs' attributes and survey participants' profile data. The mean scores based on male participants, are presented in table (1) and the corresponding results of the female respondents are presented in table (2):

Table 1: Mean Scores of PMs Attributes (Male Participants)

ATTRIBUTE	MEAN SCORE	ATTRIBUTE	MEAN SCORE
PROMPTNESS ON SOLUTION PROVISION	4,5082	FLEXIBLE	4,0710
COLLABORATIVE TEAM SPIRIT	4,4754	STRATEGIC CAPABILITY	4,0437
CAPABILITY OF RISK EVALUATION	4,4615	RESPECTED	4,0328
ORGANIZATIONAL SKILL	4,4536	CAPABILITY OF ASSIGNING RESPONSIBILITIES	4,0109
CONFLICT MANAGEMENT	4,4153	SELF CONFIDENCE	3,9672
EFFECTIVENESS	4,3956	PERCEPTION OF SCALE	3,9617
SCHEDULING CAPABILITY	4,3901	INTEGRITY	3,9508
COMMUNICATION SKILLS	4,3880	PERSISTENCE	3,9508
LEADERSHIP CAPABILITIES	4,3770	DYNAMIC	3,9392
EXPERIENCE	4,3571	JUSTICE	3,9286
PERCEPTION OF THE WHOLE PICTURE	4,3187	ETHICS	3,8689
PERCEPTION OF TIME	4,3022	INVENTIVE	3,8011
PROMTNESS ON DECISION MAKING	4,2896	SELF CONTROL	3,7802
DECISIVENESS	4,2896	DIPLOMACY	3,7377
CAPABILITY OF PREDICTING	4,2678	PATIENT	3,7158
CAPABILITY OF CONSIDERING ALTERNATIVE SCENARIOS	4,2568	COMMITMENT	3,5847
PRACTICAL WAY OF THINKING	4,2186	UNDERSTANDING	3,5137
CONFLICT RESOLUTION	4,1967	CAPABLE OF PSYCHOLOGICAL EVALUATION	3,4918
RESPONSIBLE	4,1639	POLITENESS	3,3571
CAPABILITY OF OUTSOURCING	4,1475	INVENTIVE	3,2678
DILIGENT	4,1148	SOCIAL CONSCIOUSNESS	3,2240
PUNCTUALITY	4,1148	INSPIRATION	3,1803
METHODICAL	4,1038	FRIENDLINESS	3,1093
HARDWORKING	4,0934		

Table 2: Mean Scores of PMs Attributes (Female Participants)

ATTRIBUTE (FEMALE PARTICIPANTS)	MEAN SCORE	ATTRIBUTE (FEMALE PARTICIPANTS)	MEAN SCORE
PROMPTNESS ON SOLUTION PROVISION	4,6333	FLEXIBLE	4,2437
PERCEPTION OF TIME	4,5798	INTEGRITY	4,2373
SCHEDULING CAPABILITY	4,5714	DILIGENT	4,1864
CAPABILITY OF RISK EVALUATION	4,5630	HARDWORKING	4,1849
RESPONSIBLE	4,5378	DYNAMIC	4,1513
PERCEPTION OF THE WHOLE PICTURE	4,5210	JUSTICE	4,1345
COMMUNICATION SKILLS	4,5169	PERCEPTION OF SCALE	4,1102
CONFLICT MANAGEMENT	4,5167	ETHICS	4,0504
DECISIVENESS	4,5126	RESPECTED	4,0085
LEADERSHIP CAPABILITIES	4,5042	SELF CONFIDENCE	3,9916
ORGANIZATIONAL SKILL	4,5042	PERSISTENCE	3,9748
CAPABILITY OF PREDICTING	4,4831	DIPLOMACY	3,9664
PROMPTNESS ON DECISION MAKING	4,4831	INVENTIVE	3,9664
COLLABORATIVE TEAM SPIRIT	4,4786	SELF CONTROL	3,9244
EFFECTIVENESS	4,4538	COMMITMENT	3,8067
PRACTICAL WAY OF THINKING	4,3983	PATIENT	3,7815
CAPABILITY OF OUTSOURCING	4,3950	CAPABLE OF PSYCHOLOGICAL EVALUATION	3,6379
PUNCTUALITY	4,3866	POLITENESS	3,6050
CAPABILITY OF CONSIDERING ALTERNATIVE SCENARIOS	4,3750	UNDERSTANDING	3,5932
EXPERIENCE	4,3590	SOCIAL CONSCIOUSNESS	3,3277
CAPABILITY OF ASSIGNING RESPONSIBILITIES	4,3390	FRIENDLINESS	3,2101
METHODICAL	4,3277	INVENTIVE	3,2017
STRATEGIC CAPABILITY	4,2542	INSPIRATION	3,0672
CONFLICT RESOLUTION	4,2458		

3.2 Correlation Analysis

Correlation analysis was again conducted with SPSS. Data were treated as categorical. The analysis examined whether each gender is correlated with a specific score. The main results could be summarized in the following table (3). The table presents the way each gender group tends to score each attribute.

Table 3: Correlation Analysis Results

GENDER	SCORES PROVIDED TO EACH ATTRIBUTE						
	CAPABILITY OF OUTSOURCING	CAPABILITY OF ASSIGNING RESPONSIBILITIES	INTEGRITY	DECISIVENESS	RESPONSIBLE	CAPABLE OF PSYCHOLOGICAL EVALUATION	PERCEPTION OF TIME
FEMALE	5	5	5	5	5	4	5
MALE	3	3	3	NA	3	NA	3

4. Conclusions and Future Work

This study aimed firstly at identifying the perceptions of the female and male Greek Engineers as far as the dominant attributes of PMs are concerned and argue that the profile of the participant affects his / her own perception of PMs' competencies. The attributes which receive the highest scores by both groups include: "Promptness on Solution Provision", "Scheduling Capabilities", "Capability of Risk Evaluation", "Communication Skill" and "Leadership Capabilities", which is consistent with the findings of the international literature. "Promptness on Solution Provision" receives the highest score by both survey groups. On the other hand, the attributes that receive the poorest scores and it seems that there exists an overall agreement are highlighted with a grey color in tables (1) and (2). The ranking of these lower scoring attributes is slightly deviating among groups but the general philosophy is the same.

The research produced a ranked list of competencies for a successful PM career according to the views of each gender. The most unique contribution of the current research is the presentation of correlations among survey participants' groups and their responses. In almost all cases there is a constant value attributed by each group to each attribute. Female participants provide an excellent score (5) while male participants provide a mediocre score (3) (see table 3). It is also interesting to note that the identified

correlations in most cases are common among the participants' groups, and the group producing most correlations is the female group.

The future work could focus on measuring the presence of dominant cognitive abilities and personality characteristics in PMs, by applying psychometric tests. Immediate plans for the future work include an increase in the sample size. The survey would produce representative clusters of participants, based on their profile. The goal would be to identify the different viewpoints of the PMs' attributes, from groups of participants based on Discipline, Experience and Job Profile.

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