Project Manager Profile Characterization in Energy Sector

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ABSTRACT

This article describes and analyzes the fundamental characteristics of the project-manager profile in energy sector. This article includes a literature review, qualitative analysis based on expert’s interviews, quantitative analysis based on surveys of project managers and finally, analysis and benchmarking of internationally recognized modern project management standards. This exercise contributes to the culture of project development and project management, specifically the recognition of the project manager’s role and contribution to the successful project delivery. The identified profile shows satisfactory levels of education, training and experience, with some weaknesses in managing project complexities (environmental, risks, methodologies, communication and social responsibility).

KEYWORDS

Characteristics, Competencies, Energy, Profile, Project Manager, Skills

1. INTRODUCTION

Research has acknowledged the importance and influence of project manager competency in the successful delivery of projects (Goodwin, 1993; Frank, 2002; Pant & Baroudi, 2008; Müller & Turner, 2007; Giraldo et al., 2013; Kar & Mitra, 2015; and others). According to Müller and Turner (2007) and Giraldo et al. (2013), selecting project managers and developing their skills increases the probability of successful projects and improves organizational performance. According to the Association for Project Management, when a project manager deploys interpersonal skills, he provides an opportunity to create high-performance teams, builds individual effectiveness and confidence and fosters success (APM, 2013). Therefore, it is vital to select project managers with adequate skills, profiles and characteristics (Turner & Müller, 2006; Müller & Turner, 2007).

Consequently, various studies have focused on identifying the most significant characteristics, attributes, competencies and skills required in the role of project manager so that project managers can respond—appropriately and within the project framework—to the challenges of today’s competitive, globalized economy. The characterization addressed by this research—and which is the cornerstone of this article—aims to identify the aspects that most affect project success or failure in terms of the project-manager profile, including his education, training, skills and experience (Giraldo et al., 2013; Kar & Mitra, 2015).

Conversely, the energy sector has a significant and strategic impact on the socioeconomic development and growth of every country. In recent decades, this vital sector has been growing steadily and is expected to continue to do so in the future. During the period 2013-2040, the increase in global
energy consumption is estimated to be approximately 56%, primarily driven by energy demand from countries like China and India (EIA, 2013).

If this trend continues for a considerable length of time, energy-sector organizations worldwide will be confronted with the challenge of undertaking major engineering and construction projects to assemble new energy or fuel-generating installations (Berends, 2007). As a result, the manner in which projects are developed and managed will attract a great deal of attention worldwide. Understanding that “the fundamental concept on which project management is based is that a single individual, the project manager, is accountable for the success of the project” (Goodwin, 1993), it is expected that for the next few decades, project manager characteristics and attributes will draw even more attention from researchers, entrepreneurs and different types of organizations.

This research formulates a characterization of the project-manager profile in Colombia’s energy sector by comparing and contrasting “positive” project management—which is observed in various organizations representing the sector—and “normative” project management, in terms of the different norms, standards and best practices globally recognized as modern project management, accepted and recommended by specialized institutions such as the Project Management Institute (PMI), the International Project Management Association (IPMA), the Australian Institute of Project Management (AIPM) and the International Organization for Standardization (ISO) (Giraldo et al., 2013).

This study presents findings, conclusions and recommendations related to the project-manager profile in Colombia’s energy sector and identifies significant aspects, including the following:

• Project manager strengths and weaknesses in the energy sector;
• Education and training needs for project development and management in Colombia, primarily in the energy sector (i.e., oil, gas, coal and electricity);
• The most significant skills for project managers in the sector;
• Years of experience for current project managers in the sector; and
• Proposals for improvement in light of existing weaknesses and gaps and the benefit of identified opportunities.

Following this introduction, the study is structured as follows. Section two explains the significance of Colombia’s energy sector. Section three presents the project manager competencies and characteristics described in the literature. Section four presents the conceptual and methodological framework used in this research. Section five reports the findings. Section six presents the conclusions and recommendations. Section six also presents future work.

2. THE ENERGY SECTOR (MINING AND ENERGY) IN COLOMBIA

The importance of Colombia’s energy sector is derived from aspects such as the need to meet the growing demand for energy from different sectors of the national economy—generating foreign exchange and income for the private and public sectors while creating recognition of the sector’s huge impact on the economy, society and the environment (UPME, 2009)—and its consolidation as a major driver of the country’s productive activity. The Colombian Petroleum Association (Asociación Colombiana de Petróleo—ACP) states that “Mining and oil have been traditionally distinguished as sectors promoting economic growth and foreign direct investment, entailing significant investments in technical knowledge and ongoing research, along with substantial economic investments whose returns are generally delayed until the implementation of prospecting, exploration, operating, mining, refining, trading and realizing the benefit of the activity” (ACP, 2010).
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