Financial Management of Large Projects: A Research Gap

Irimia-Dieguez, A.I.¹*, Medina-Lopez, C.¹, Alfalla-Luque, R.¹

¹Faculty of Economics and Business Administration, University of Seville, Av. Ramon y Cajal, s/n, 41018 Seville (Spain)

Abstract

This paper analyses the research published in high-impact journals on Financial Management in large projects. Our purpose is to answer the following research questions: (a) Which financial aspects are analysed? (b) How are the financial theories applied to large project management? (c) What are the potential areas for further research? The methodology applied is a bibliographic review of articles related with research questions published from 2000 to February 2013 as stored in the main databases. Our findings show that performance is the most intensely studied aspect although no agreement in performance measurement has yet been reached.

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Selection and/ peer-review under responsibility of Academic World Research and Education Center

Keywords: Large projects, megaprojects, complex projects, financial structure, financial performance.

1. Introduction

The study of the Financial Management of large projects is an issue of major interest, since this type of project often encounters financial distress despite the existence of significant opportunities to improve the way managers make major investment decisions, and then structure and finance them. The criteria for classifying a project in the large or mega category still remain an issue in the literature. Esty (2002) sets the threshold at an investment higher than $500 million. Nevertheless, other authors state that the characteristics that elevate a project to mega-status are more complex. Megaprojects have unique structural attributes, such as a high level of leverage, and therefore, a high level of financial risk, which vividly illustrate why the matters remain in contradiction with (Modigliani & Miller, 1958) and their proposition of "irrelevance". The financial structure of large projects, known as Project Finance, implies the creation of a legally independent project company financed with a concentrated equity ownership and a high level of non-recourse debt (Esty, 2004). The purpose is to invest in a capital asset, however this investment decision cannot be separated from funding decisions, which is another contradiction, concerning the valuation methodology usually applied in finance.

*Irimia-Dieguez, A.I. Tel.: +34-954-559875; fax: +34-954-557570.
E-mail address: anairimia@us.es

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doi:10.1016/S2212-5671(15)00495-5
In spite of the high impact of the financial structure on the success of large projects, very few papers have been published on this topic. This paper analyses the research published in high-impact journals on Financial Management in large projects. Our purpose is to answer the following research questions: (a) Which financial aspects are analysed in the literature on large projects? (b) How are the financial theories applied to large project management? (c) What are the potential areas for further research?

As far as we know, there are not literature reviews focused on the financial aspects of large projects. Therefore, our contribution is to perform a bibliometric analysis of the papers that focus on financial aspects in large projects, with a previous identification and analysis of the financial aspects studied in previous literature. The main result is the identification of gaps in research into financial aspects of large projects.

2. Methodology

In order to identify the articles that have studied financial aspects in megaprojects and thus respond to the research question set, a systematic literature review following the methodology described by Medina-Lopez, Marin-Garcia, & Alfalla-Luque (2010) has been performed. The first step involved a search in the Web of Knowledge and Scopus databases, to find articles published from 2000 to February 2013 that include the key words “megaproject”, “mega project”, “big project”, “complex project” and/or “large project” in the title, keywords, and/or abstract fields. This first search was extensive to all the articles concerning large projects so that those papers which study the financial aspects would not be overlooked, even though the papers were not primarily focused on financial aspects and analysed them solely in a tangential way. Following this first step, 258 articles were selected.

These articles were then reviewed and classified into three categories: a first group of 68 articles that focus on the financial aspects of megaprojects; a second group containing 39 papers that address the financial aspects in a tangential manner; and finally, a third group of 151 articles that does not address financial aspects of megaprojects. In our study, the 107 items included in the first two categories are analysed in both a quantitative and a qualitative way.

A checklist to systematically review such articles was used. This checklist was developed based both on our previous experience in literature reviews and on a first reading of the 107 selected references. Furthermore, this tool was also reviewed by two experts and was used to classify the papers through numerous criteria, such as year of publication, research methodology, data analysis methods, geographical area of the megaproject, sector, and type of financial aspect studied. Each paper was checked by two of the present authors. In the case of doubtful classification, the paper was discussed in order to assign it to the correct category in the checklist. For this process, RefWorks, Microsoft Excel, and Atlas.TI software have been applied.

3. Analysis of the bibliometric characteristics

Following the explained methodology, 107 articles have been selected (available on request to authors). These articles have been published in a total of 79 journals, although there are only 4 journals (5%) with more than 4 papers; International Journal of Project Management (7), Journal of Operational Research Society (5), International Journal of Urban and Regional Research (5), and Public Road (4). Therefore, the scarcity of literature on the financial aspects of large projects in indexed journals is highlighted.

By analyzing the temporal distribution of these publications in the 13 years reviewed, the financial aspects of megaprojects is found to be a topic into which interest has been steadily growing in recent years. Between 2000 and 2008, a total of 52 papers were published at an average of 5.7 papers per year. During the period 2009-2012, 53 papers were published, with a minimum of 10 papers per year, thereby increasing to an average of 13.25 per year. It is noteworthy that, in the last four years, the volume of published papers has reached the same number as the total of the previous nine years. Regarding the number of authors per paper, the greatest number of articles are written by a single author (44 papers, 41.1%), although the presence of up to three authors is relatively common (33 are signed by two authors (29%), and 22 by three authors (20.6%)). In addition, when there is more than one author, they often belong to different institutions; only in 21 of the papers, were all the authors from the same institution.

3.1. Characteristics of research in financial aspects of megaprojects
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