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Assessment of Maturity in Project Management: A Bibliometric Study of Main Models

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Abstract

This article aims to examine scientific production about project management regarding the most expressive maturity evaluation models in organizations. The present study is descriptive and exploratory, and has adopted a bibliometric analysis of the existing bibliographical portfolio. The research was carried out in ISI/Web of Science, Scopus and Scielo databases in order to find data for the period from 2010 to 2014. Articles including the most relevant key-words were analyzed quantitatively. The analysis of the data was based on descriptive statictics and, as a result, a profile of the publications was obtained.

1. Introduction

Every organization wants to achieve excellence in projects. Using project management, even if for an extended period of time, is not a sufficient condition for reaching excellence. The basis for achieving excellence in project management is best described by Maturity Models in Project Management [1], which are composed of stages that describe the difference in levels of maturity in project management.

According to Rabechini Junior [2], "the concern with maturity in project management has arisen in organizations because projects represent the best way to change a complex situation". The concept of project maturity is closely linked to their potential for success/failure. Immature organizations are characterized by improvisation in management, without establishing the required connections between the various knowledge areas.

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A maturity model can be defined as a conceptual structure, with constituent parts, which defines the maturity of the area of interest and, in some cases, also describes the processes that the organization will need to develop to reach a desired future [3]. The model acknowledges each step taken on this journey, signaling the progressive maturation of the organization. Another definition presents maturity as the development of systems and processes that are repetitive by nature, setting a high probability that each one of them is successful. However, repetitive processes and systems are not by themselves a guarantee of success. They only increases its likelihood [1].

Developing maturity is a continuous process. Improvements in maturity depend on a concentrated effort to develop, improve and foster communication between executives and professionals in project management [4].

To achieve the outlined strategic objectives, organizations use project management tools to measure results and the level or degree of maturity that the organization finds itself in regarding the use of project management practices.

Experience has shown that organizations work best when they focus their efforts on the improvement of processes in a number of controlled areas that require an increasingly sophisticated effort as the organization improves. A level of maturity consists of specific and generic practices related to a predefined set of process areas that improve the overall performance of the organization [5].

In this context, we decided to carry out a review of the scientific literature on the use of maturity models in project management. This review was based on articles, journals, authors and keywords identified from the chosen bibliographical portfolio.

The research objective is to map the academic production between 2010 and 2014 that addresses the use of the main maturity models in project management. This gives rise to the following research question: How are the main maturity models in project management produced in academic terms?

This paper was divided into five sections: The introduction, where a contextualization is carried out and the research objective is presented. In the second section, the literature review on the subject is carried out. The third section is devoted to the methodological procedures. The fourth presents the study's findings. And in the last section the concluding remarks on the subject are laid out.

2. Maturity Models

According to the Project Management Body of Knowledge (PMBOK) guide [6], a project is a temporary endeavor undertaken to create a unique product, service or outcome, which has goals, a defined beginning and end, and which is concluded when the objectives are completed.

For Vargas [7], a project is defined as a non-repetitive enterprise that is characterized by a clear and logical sequence of events, with a beginning, middle and end, intended to achieve a clear objective and conducted within predefined parameters.

Maturity in project management is the position in which the company finds itself regarding the project management processes. Based on this, maturity models seek to quantify the ability of a company to manage projects successfully [8].

The appropriate level of maturity may vary depending on the available resources and the organizational needs. First, it is necessary to define which type of maturity assessment should be adopted. The models will present the degree of maturity in which the organization finds itself for the subsequent establishment of the level it wants to achieve.

2.1. Capability Maturity Model Integration (CMMI)

The Capability Maturity Model Integration (CMMI) project was developed in 1986 by SEI in order to integrate the various CMM models. CMMI, which sought to improve software development processes, was published in 1993, focusing on the fields of systems and software engineering.