



7th International Conference on Engineering, Project, and Production Management

Modern Research Trends within Technology Management in the Light of Selected Publications

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Abstract

The author of this article highlights the exploration for contemporary research trends within technology management. Thereby, this paper primarily focuses on investigating research areas and issues connected with technology management in contemporary scientific publications selected from the Web of Science database. The results of the undertaken overview of the selected literature lead to a visualisation of issues most frequently occurring in configuration with technology management, as well as the aspect of their coexistence in the analysed compilation of literature. Along with the description of the conducted analysis, it constitutes a fundamental result of this work.

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Peer-review under responsibility of the organizing committee of EPPM2016

Keywords: technology; technology management; research trends; visualisation of knowledge

1. Introduction

Technologies, as a dominating factor in shaping the competitiveness of enterprises, require a careful insight into the scope their development. It is both crucial to identify available technologies (including their assessment), select appropriate solutions as well as perform activities connected with chosen technologies. Modern enterprises are forced to monitor emerging market trends within new technologies [1, 2]. The enormity of appearing technological solutions also necessitates the need to estimate their value, accounting for the complexity of technologies, their systematic character and relation. Customer expectations and needs determine shortening of the product's life cycle, as well as the cycle of technology application. Technologies become a dominating element in raising competitiveness of the

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enterprises that use them. Observing the development of technologies, in turn, protects the interrelated investments to some extent. It appears logical to necessitate the search for the adequate mode of technology management.

The interest in technology management as a research field has grown considerably, particularly in the last decade, though it already dates back to the 1950s. This interest became an independent discipline together with the appearance of professional organisations, such as PICMET (*Portland International Centre for Management of Engineering and Technology*) and EITIM (*European Institute for Technology and Innovation Management*), [3]. According to Beyan and Cetindamar, the number of papers on this issue published in the years 1995-2005 grew by over 160%, as compared to preceding years (since 1986), [4]. In 1994 Tschirsky already indicated that technology management, apart from the need to understand the scope and potential of both current and future technologies, as well as the development of methods increasing the credibility of decisions connected with technologies, is one of the main research and practical areas of interest within technological changes and advancement [5]. While analysing a number of publications (Fig. 1) indexed in the Web of Science (WoS) database and referring to the concept of technology management, a growing interest into this issue can also be observed. The database provides access to multidisciplinary research connected with linked content citation metrics from multiple sources.

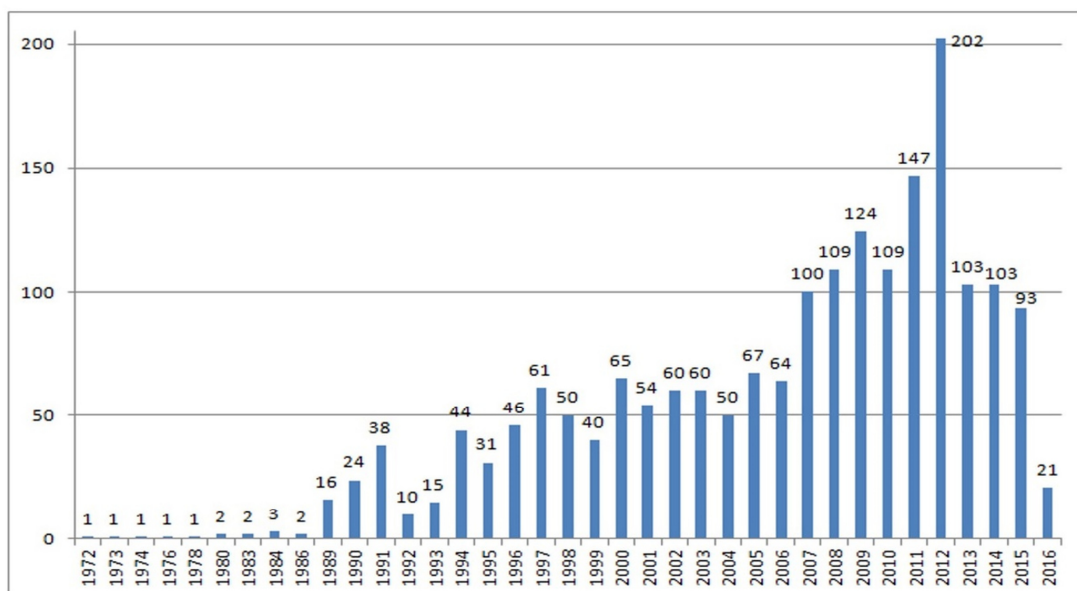


Fig. 1. Number of publications indexed in the Web of Science (WoS) database and referring to the concept of technology management.

It can be observed that a significant growth in the interest into the concept of technology management in the context of indexed publications in WoS took place after year 2006. In 2012, this issue attracted a range of considerations in scientific papers. In subsequent years, the number of publications on this topic oscillated around a constant number of papers. The issue of technology management has been undertaken by researchers publishing their papers in various periodicals, though there also exist magazines that issue publications on that matter more frequently (like *Procedia Social and Behavioral Sciences*, *International Journal of Technology Management*, *IEEE Transactions on Engineering Management*, *Technovation*, *Journal of Engineering and Technology Management*, *Technology Analysis Strategic Management* or *Technological Forecasting and Social Change*). Among the authors publishing in magazines indexed in WoS there are also scientists that both often raised the issue of technology management and have their papers cited in other works within this scope. These are: R. Phaal, D. Probert, C.J.P. Farrukh, D. Cetindamar, B. Yu, W.W. Wu and others.

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