

Book review

The Review of *Information Technology Project Management*
by professor Witold Chmielarz, written for the Scientific Publishers
of the Faculty of Management of the University of Warsaw in 2015
Reviewed by Dariusz Dziuba *

The book submitted for review is a monograph presenting an original approach created by the author, applied to examine the issue of management of IT systems and their impact on the development of computerized management information systems. The author undertakes an ambitious task of providing the answer to the query whether, and in what way, the development of project management methods affects the development of IT systems. Simultaneously, the author raises the question whether this is a reflexive relationship, i.e. if the development of information technology development stimulates the development of design methods. So far, in the Polish literature on the subject as well as business reality, we have not come across studies which would analyze the issue of IT project management and the development of information systems from such a perspective.

Having considered the reviewed work, I believe that the author succeeds in providing a comprehensive and detailed answer to the above question. At this point we should note that the answer is neither easy nor simple. In order to achieve his goal, the author has analyzed the existing literature on IT project management and the relevant publications on the development of information systems. Moreover, the author has applied his own, original approach to evaluate the issue of development of the two above-mentioned spheres, which are seen as separate, yet closely connected.

Providing an answer to the challenging and important questions was made possible by employing a sequence of considerations and conclusions, encompassing the following steps:

- firstly, the author characterizes basic concepts in project management: undertaking, project, conditions for the implementation of the project as well as the project management, seen through a perspective of both: a traditional and modern approach,
- subsequently, the author comments on the concepts of project management and process management, and he examines the relations between projects and

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- processes, pointing to the increasing proximity of the above-mentioned concepts (existing in practice rather than in the methodologies of project management and process management),
- next, the author examines the main factors affecting the implementation of projects, and he analyzes which of them, and why, could affect the proper implementation of the strategy of informatization of organizations/business entities,
 - the above considerations constitute the starting point to review the methodologies of designing information systems; they present the directions for the development of traditional and modern methods of designing information systems and compare the advantages and disadvantages of the approaches,
 - the considerations presented above and the conclusions drawn based on the analysis of trends in the development of design methods form the basis for the process of reviewing and characterizing the methods of business processes reengineering, pointing to those elements which – as emphasized in modern methodologies of project management – may be seen as a remedy to improve the quality of the created and implemented IT systems,
 - after conducting the complete and original review of the methods influencing the development of IT systems, the author analyzes the development of systems from a different point of view, that is, from the point of view of innovative information technologies; and he proceeds to present his own, original concept (together with its consistent and logical rationale) and point to the directions for the development of information systems,
 - the final stage was to combine the two tendencies: project management and the system development supported with information technologies in the process of historical progress and draw conclusions concerning the interdependence of the methods of project management and the development of information systems, which are the result of their application.

In order to evaluate and properly organize the above described considerations, in his publication, the author distinguishes three consistent parts, coinciding with its three main chapters, which altogether create a logical entity:

- the first one – containing a creative discussion on the trends and tendencies in the development of project management,
- the second one – showing the analysis of changes and the requirements of modern trends in project management included in the commercial methods of project and process management,
- the third one – presenting the development of IT systems together with the consequences of the adopted concepts and – in its final part – analyzing the interdependencies between the development of project management and the development of IT systems.

The above logical sequence affects the structure of the work which consists of *Introduction*, *Conclusions* and three substantive chapters (divided into 17 subsections).

In the *Introduction* (4 pages) the author presents the reasons for undertaking the challenge of writing this book pointing to the general lack of awareness of the close relationship between the process of creation (including methodologies of project management) and the subsequent development and use of management information systems. Thus, the primary objective here was to investigate the relationship between the theoretical solutions of project management and the development trends of information systems. The specific goals were divided into cognitive, methodological and utilitarian ones. Among the cognitive functions, the most important ones appear to be: the analysis of the basis for understanding the project and the process, the differences and similarities in their management as well as the characteristics of the genesis and development of management information systems. The most important methodological aims were: the analysis and comparison of traditional and modern methodologies and the need to create a new approach to systems design (resulting from modern methodologies). The utilitarian objectives were mainly: greater awareness of the liquidity and flexibility of the boundaries between project management and process management and the proper (practice-based) classification and identification of IT systems aimed at proper application of the relevant class of systems within the organization. Another utilitarian objective was to increase awareness regarding the impact of the design solutions on the development of management information systems.

In the first theoretical chapter, *Characteristics of the evolution of IT project design methods* (73 pages), the author focused on the conceptual dimension of project management. The chapter consists of five subsections. In the first subsection, a comprehensive literature overview allowed the author to present the changes which have occurred with regard to the approach to project management due to the transition from the traditional to modern approach. The aspects of publication which deserve particular attention are: the analysis and theoretical discussion concerning the relations between processes, projects, programs and undertakings as well as the identification of the similarities and differences between processes and projects, seen in terms of both: a traditional and modern approach. The next subsection concerns the determinants of effective project management which were established on the basis of the data provided by subsequent reports of Standish Group. The data allowed drawing conclusions concerning the evolution of the concept of success of the project which go beyond the factors considered so far (time, budget and scope of the project) to include also

the quality assessment and the requirements of the project user. It allows the author to create a concept of the ‘golden pyramid’ which takes into account five basic parameters of the project applied at present (inspired by the literature-based “golden triangle” based on three parameters). In the next two subsections, the author characterized traditional methodologies of information system design and the directions for their development. Here, the author presented the division of factors into the basic groups of functional, structural, object-oriented and socio-psychological design, and subsequently commented on their detailed characteristics from the point of view of the most frequently applied stages of the lifecycle of information system. This, in turn, formed the basis for the presentation of the characteristics of modern (agile) methods of project management and relevant changes in the lifecycle of information systems. Apart from the creative criticism concerning the application of modern methodologies, the author presents his own insights into the application and versification of Confrontational Patterns Design Method, which finds its place within the mainstream agile trend.

The second chapter titled *Overview of business re-engineering systems* (40 pages) contains a review of the most commonly used commercial methodologies of business process reengineering, which are used in project management. The author’s presentation of the issue is concise and innovative: it focuses on the aspects allowing the application of these methods in economic reality, with the careful consideration of their advantages and disadvantages. In addition, in subsequent subsections, the author addresses the methodological aspects of specific practical standards such as Project Management Institute (PMI) or Prince II, as well as the methods supporting project management developed based on the theoretical framework such as CMM or CMMI, TOGAF; repositories such as ITIL; or the methods resulting from many years of industrial practice, e.g. Six Sigma. Moreover, the author addresses the possibility of applying quality management methods according to ISO standards within the project management processes, paying particular attention to their systematic application, which would be in line with the current technological changes. This chapter is supplemented with concluding remarks on the effects of implementation of the system and generating profits or losses in the post-implementation period, which can be optimized or reduced respectively with the application of relevant methods of project management.

The third chapter, *Development trends of IT systems supporting management* (35 pages), provides an innovative approach as to the perception of development trends and integration of information systems supporting management, in three basic areas:

- logical structure of the systems complexity,
- functional integration,

- the development of network solutions.

Such an approach, developed as a result of numerous meetings and discussions with business and IT practitioners, is a phenomenon which is not frequently encountered in research publications or academic textbooks.

Given the recent changes regarding the methods of management information systems presented by the author in the *Conclusion* (8 pages), the presentation of the concept of the evolution of information technologies is a specific supplement of the analyses contained in the last chapter. It constitutes a summary of the discussion concerning the development of information systems and, simultaneously, the link (or a stapler) interconnecting various aspects of the discussion concerning the impact of design methods on the innovativeness in this field. The latter provides a satisfactory and adequate response to the queries contained in the *Introduction*.

The noteworthy, original and innovative aspects of the present publication are:

- analysis of the similarities and differences in the process and project management and the development trends in the field,
- generalized concept of determinants and conditionings of project management,
- comparison of traditional and modern methods of project management, together with the presentation of their advantages and disadvantages,
- the author's original concept of Confrontational Patterns Design Method, with its verification and application examples,
- increasing users' awareness regarding the intersection and mutual influence of the theoretical output of project management and the results of practical commercial methods of project and process management as well as their impact on the use of information systems in the organization,
- development and presentation of the new approach with regard to the concept of the development of information systems,
- analysis of the need and usability of project management methodologies in the development of management information systems and their parallel development in historical perspective.

The book is a monograph designed not only for academic lecturers or students of computer science for economics. It may also be used as a handbook for students of economics and management studies, both at universities and polytechnics, which presents the phenomena such as the analysis and design of information systems. An additional advantage of the present publication is the practical approach as to the possibility of using the above described methods in economic reality. Thus, it should be of interest to many recipients: professional/non-professional readers from academic circles and business practitioners. It can be a valuable source of knowledge or inspiration and a conceptual guide for specialists, representatives of business practice, engaged in project management.

It may also bring tangible benefits to managers who rarely have contact with the issue of developing information systems supporting management processes: it may provide specific guidelines on how to formulate their own requirements and to present them to contractors responsible for the design and implementation of the systems.

In summary, we may conclude that:

- the subject of the work selected by the author is relevant and properly formulated,
- the primary objective of the work has been achieved: the information provided by the author supporting the arguments and providing explanations and justifications of the author's views is adequate, relevant and sufficient to analyze the concepts and to evaluate the research problems contained in this work,
- all the assumed goals of the study have been reached,
- author's original and creative input constitutes the significant value of the book,
- the author has presented extensive, in-depth knowledge on the issue presented in the book and properly selected and applied the available source literature.

All in all, due to its substantive content: comprehensive and detailed theoretical considerations and relevant practical references, I believe that the presented book is a valuable contribution to the development of the research concerning the presented issue.

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