

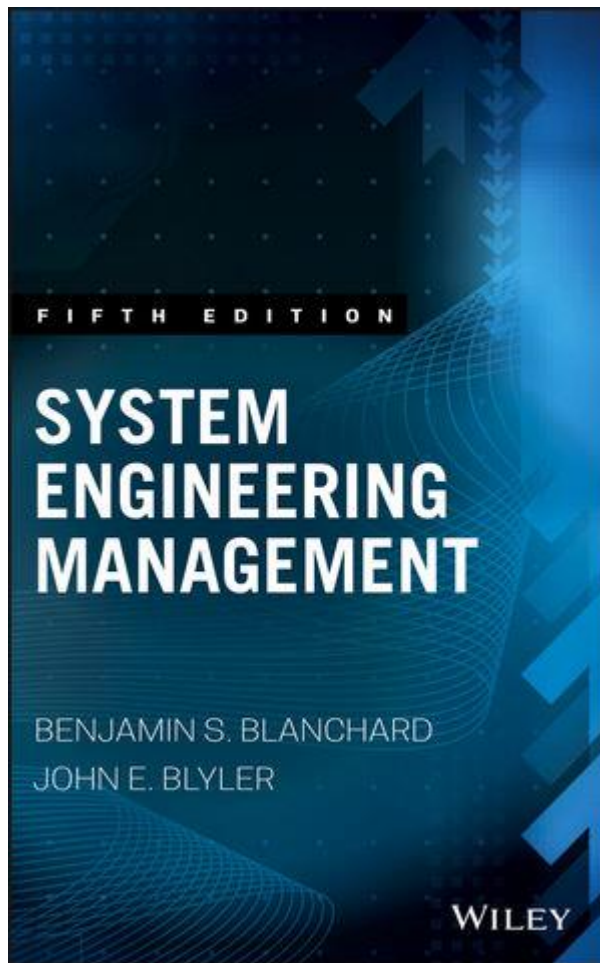


# Book Review: System Engineering Management

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**Systems Engineering Management**, Fifth Edition, by Benjamin S. Blanchard and John E. Blyler (2016), Wiley, Hardback, p. 576. \$161.25. ISBN 978-1119047827

The book reviewed here is a 2016 publication by Dr Blanchard. He received his bachelor's degree in engineering from the University of Michigan in 1951 and did coursework in engineering with a major in electronics. He received an MBA in 1969 from the University of Rochester, USA. In the 1950s, he was employed by the U.S. Air Force as a maintenance officer. In 1953, he started his career in design, staff and management, and field services with Boeing commercial planes, General Dynamics, Bendix Corporation, and Sanders Associates.

Blanchard was awarded the INCOSE pioneer award as a practitioner and advocate of system engineering in 2000. He also presided over the International Society of Logistics. Ben passed on July 11, 2019, after a brief illness.

The book "System Engineering Management" is a collection of methodologies and tools for hands-on experience. That includes system design, testing, production maintenance, and customer support. In this way, rising skills in industrial engineering, management, and leadership are combined. System engineering managers can direct teams to design a system that is strong and maintainable while also being responsive, high-quality, and cost-effective. A skilled

professional is in demand across engineering fields, communications, and healthcare.

For the audience, this book is comprehensive and complete. Each chapter is followed by questions and problems along with case studies. It starts with basic knowledge of engineering and management, i.e., definitions, the system engineering life cycle, concurrent engineering, and analysis. The book covers the whole method of system engineering.

The first chapter lays the groundwork by describing a system, pointing out problems with the current structures, explaining why system engineering is important and trying to give a summary of what system engineering is.

This second chapter discusses the problem identification process by asking a few basic questions, such as "What is the system required?" and "What specific functions should the system perform?" How to collect data to provide a basis for analysis The author also evaluates the viability of the systems, the operating requirements of the systems, and the concept of logistics and support for maintenance, defining and prioritising technical



performance steps, the process of incorporation into the design, system testing and evaluation, development, and retirement. As this chapter does not choose to provide an exhaustive analysis of a certain discipline, it explains how any discipline can involve multiple disciplines needed for system integration.

Chapter three moves through the development of systems and specifications for different systems. Its goal is to provide the reader with a good understanding of system design through system engineering, production and production discipline engineering, system interface integration, and interoperability. Chapter four describes the engineering design methods and tools. Include all the details of present and conventional design practices and computer-aided design reviewed in the fourth chapter. In the fifth chapter, "Design Review and Evaluation," authors discuss the design review and evaluation process, discussing how system engineering specifications are created to validate system design, what constitutes formal design review, the process of design change and system adjustment, as well as supplier review and evaluation, and explaining the need for careful monitoring and control of systems in the system. The focus in the system engineering phase on proper system monitoring and control is valid; failure to track a system properly may be costly. The next chapter, "System Engineering Program Planning," outlines the process of preparing the system engineering programme and takes the reader through the specifications of the system engineering program, the system engineering management plan, the determination of outsourcing requirements, the integration of design specialisation plans, and the risk management plan. It details what needs to be considered when drawing up a management plan for system engineering, and it is very detailed in describing them. This chapter could be used to easily verify a system engineering requirement plan. In chapter seven, "Organization for Systems Engineering," the reader is taken through the development of organisational structures, relationships between customers, producers, and suppliers, customer organisation and functions, organisation and functions of producers, organisation and functions of suppliers, and requirements for human resources. The next chapter, "System Engineering Program Evaluation," takes the reader through the system assessment process, how the findings are recorded, and how the improvements that will need to be made based on the results are evaluated. It stresses the need for input in project and system settings, which I believe is very necessary.

It's a well-written book that every project manager should read. As a project manager, you'll be guided through the entire software development life cycle, including how planning and reporting are integrated into it on a holistic level. For all systems engineers and project managers who aim to be successful, this book provides proof of the writers' expertise and experience.

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## Reference:

Blanchard, B. S. (2004). *System engineering management*. John Wiley & Sons.