OVERVIEW

Businesses use information technology (IT) to increase organizational efficiency and effectiveness. This use has grown at an astonishing rate over the past three decades. Now, information technologies permeate nearly every aspect of modern business operations and communications. As computing and networking machinery proliferated into every aspect of business life, the pressing need to manage these technologies effectively has grown accordingly. Information technology in business organizations now represents an enormous investment in intellectual property and know-how that organizations must manage carefully and protect.

In order to manage IT, business organizations need technologies and methodologies for evaluating their information technology. Such IT managerial approaches include techniques for organizational goal setting and IT strategy development, frameworks for managing perceived effectiveness of information systems (IS) and acceptance of technology, and approaches for evaluating IT benefits and degree of convergence. They include project management paradigms in addition to workflow and financial modeling techniques. Each of these methods and techniques provides an approach for analyzing and measuring a key area of activity in the pantheon of IT management.

Information technology is a critical resource in every modern corporation. It is a competitive weapon in the marketplace, a critical component of businesses everywhere, and an operational and strategic necessity. Given this reality, it is crucial for organizations to
manage computers, networks, data, and technical personnel in a modern, proactive way. This means that business organizations must have ways to collect and analyze data to assess the performance of their IT functions. Without such methods and technologies, a company would be at a distinct disadvantage in dealing with its competition. These issues, then, are today of the utmost importance for the modern business corporation.

**ORGANIZATION OF THIS BOOK**

This book is divided into three broad sections with a total of 11 chapters. The first section consists of four chapters and deals with technologies and methodologies for assessing performance issues in the *organizational effectiveness* of IT. The second section contains three chapters and focuses on various *workflow aspects* in evaluating IT. In the last section, which includes four chapters, we look at methodologies and techniques for evaluating and enhancing *financial investment* in IT. Included in the following paragraphs are brief descriptions of each of the chapters in this book.

Described in Chapter 1 are five theories associated with the use of IT in organizations, and an overview of each theory and related research are presented. Then, empirical research utilizing the widely accepted Technology Acceptance Model (TAM) is presented to predict system usage. Provided in this chapter is a theoretical backdrop for the rest of this book.

Chapter 2 moves us from the theoretical to the practical. In this chapter, an integrated system that connects the organization’s strategic goals with the operational and tactical directives for IT initiatives is summarized. The author presents a measurement system that synthesizes four widely accepted measurement frameworks and provides the measurement methodologies to predict and assess organizational performance.

In Chapter 3, the focus is on user perceptions of IS quality and effectiveness. The authors investigate the differences in user *perceptions* and user *perceptions and expectations* in assessing the ef-
fectiveness of delivered information systems. When considering the results of this work, it is indicated that end-user stakeholders evaluate quality by internally evaluating perceived performance in relation to their preconceived expectations for such performance. Demonstrated in this study is that managing user expectations is key in any assessment methodology based upon a self-reported subjective user feedback.

Described in Chapter 4 is a case study conducted in a large Australian government agency. Pointed out in this case study is that despite high levels of investment in IS/IT over many years, the investment has been used to determine if IS/IT benefits have actually occurred. This case study illustrates numerous problems in achieving a formal IS/IT investment evaluation methodology and shows a general lack of understanding of, or commitment to, any formal benefits realization methodology in the agency studied.

In Chapter 5, the concept of digital convergence is examined, including convergence of devices, convergence of networks, and convergence of content. Then, the physical, technical, and consumer barriers to such alignment are reviewed. The author argues for a definition of convergence based upon the penetration of digital platforms and the potential for cross-platform Customer Relationship Management (CRM) strategies. She then develops a convergence index with which the degree of convergence in different parts of Europe might be compared.

Chapter 6 begins with a brief introduction to workflow modeling and discusses how workflow analysis methodology facilitates standard analysis methodologies, such as traditional analysis and object-oriented analysis. The author points out difficulties in applying requirements analysis techniques and shows how such difficulties can be overcome by first developing a workflow model.

In Chapter 7, the focus is on technologies and methodologies that help organizations filter information from the Internet. The authors point out that with user profiles and a “multiprofile” for a company, employees can be provided with more relevant information, improving efficiency and overall performance. They show how workflow-modeling technology can facilitate information filtering.
In Chapter 8, the economic evaluation of IT systems is considered. The author notes that calculating the return on investment of an IS acquisition may not be as simple or straightforward as doing so for other capital expenditures, but it is still possible, and necessary. Discussed in this chapter are the issues involved in evaluating IS investment decisions as well as the technologies and methodologies of various financial measures to evaluate IS/IT projects.

Presented in Chapter 9 is a project management costing and controlling system to enhance traditional project management. With this methodology, the author makes project management more attractive by creating a fully integrated system to steer a project-driven business like information technology.

Discussed in Chapter 10 is how protection of intellectual property is affected by layoffs. Suggestions are offered for how these problems may be addressed. The widespread dependence of modern organizations on IT makes layoffs of IT employees particularly sensitive. The authors consider legal, technical, and managerial practices that a company may use to protect itself from such harm and point out that many of these recommended practices require action well in advance of such layoffs.

In Chapter 11, research regarding graduate programs in the relatively new academic area of project management is presented. The author notes that traditional degree programs and courses in business schools and other schools do not adequately cover or integrate the skills needed for project management.

CONCLUSION

Proactive management of information technology is made possible by evaluative techniques that include measuring, analyzing, and forecasting performance. Measuring and understanding past and current operations allow managers to forecast and predict the future and make necessary adjustments to prepare for predicted conditions before these conditions arise. These keys to proactive management include managerial perspectives and technical approaches that facilitate evaluating information technology activities within a business,
as a business. This book addresses these managerial issues directly, by presenting research that deals with a range of technologies and methodologies for evaluating information technologies in business.

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