

Preface

Information systems have become an essential part and a major resource of the organization; and they can radically affect the structure of an organisation, the way it serves customers, and the way it helps people in the organization to communicate both internally and externally, and the way an organisation runs its business. Managing information systems effectively and efficiently has become an important part of the life of 21st century managers. This book is about managing information systems and focuses on relationships between information, information systems, people and business. The impacts, roles, risks, challenges as well as emerging trends of information systems are an important element of the book. At the same time, many strategic and contemporary uses of information systems such as implementing enterprise planning systems for improving internal operation, adopting customer relationship management systems and supply chain management systems to enhance relations with customers and suppliers/partners respectively, and establishing knowledge management systems for better managing organizational knowledge resources as well as using different information systems for supporting managers' decision making in all levels are an integral part of the book. In addition, essential and critical information systems management skills including using information systems for competitive advantages, planning and evaluating information systems, developing & implementing information systems, and managing information systems operation are a critical part of the book.

This book has ten chapters. Chapter 1 looks at foundations of information system/information technology and discusses topics such as the importance of information systems, key concepts of information systems, information systems competence for managers, critical issues of information systems, and emerging trends & future directions of information systems. In Chapter 2 an important dimension of managing information systems, how information systems can help organisations gain competitive advantages, is discussed.

Organisations can apply strategic planning tools such as Porter's five forces and value chain to analyse their competitive position, examine their competitive advantages, and identify relevant competitive strategies. Information systems can play a very important role in the success of an organisation's identified competitive strategies.

Chapter 3 studies the importance of good information systems planning, which is critical for the strategic use and success of information systems in the organization. Chapter 3 also looks at another important aspect of information systems management: evaluation of initiatives/investments of information systems. There is an old saying: 'If you cannot measure it, you cannot manage it'. Through systematic assessment of their information systems initiatives/investments, organizations can be effective in choosing right information systems projects and managing their chosen initiatives/investments. In order to measure the performance of information systems, organisations could use a set of metrics (such as net present value, return of investment, internal rate of return, payback period, and total cost of ownership)., Meanwhile organisations should look beyond financial metrics, and take into consideration of financial and non-financial data, qualitative and quantitative information, tangible and intangible costs/benefits, and formal and informal processes.

Chapter 4 looks at developing and implementing information systems. Correctly developed information systems can significantly contribute to the success of the business (i.e., enhancing competitive advantages, improving business performance). On the other hand, a poorly developed and implemented information system can have a damaging effect on business performance and can even cause a business to fail. To ensure successfully develop and implement information systems organizations need to adopt systems development life cycle (or its variations), which includes such activities as systems planning, analysis, design, development, testing, implementation, and maintenance. In addition, while organizations are developing and implementing information systems they have to pay close attention to such areas as project management, change management, and risk management, these areas are critically associated with the success of information systems development and implementation.

Chapter 5 discusses the importance of managing organization's knowledge resources/assets. Effectively managing and leveraging knowledge assets, has critical implications for business performance and sustainable business growth. Information systems such as knowledge management systems could assist in organization's efforts of capturing,

storing, disseminating, utilizing and creating knowledge. On a related note, Chapter 5 also discusses data resources management. As a result of global connectedness, the wide adoption of computing tools & mobile devices, the rapid advancement of Internet technologies, and more powerful computing capability, gathering and analysing large (or large large) volume of data is quickly becoming popular among organizations for reasons such as better understanding customers, and better utilizing data resources & computing infrastructure.

Chapter 6 touches on the information systems infrastructure management and discusses hardware, software, networks and telecommunications management. Hardware is a vital part of computer systems and provides the underlying physical foundation for firms' information systems infrastructure. Other infrastructure components of software, networks and telecommunications require hardware for their storage and operation. To be useful, hardware needs software, which gives instructions that control the operation of a computer system. Networks and Telecommunications enable large and small businesses to communicate internally between staff and externally with customers, suppliers, business partners, strategic alliances and others. Making the right decision in relation to information systems infrastructure is vital to the success of the business.

Chapter 7 deals with functional information systems and discusses cross-functional information systems. Traditionally businesses are operated by dividing the organisation into various functions (i.e., accounting, marketing, finance, productions/operations management, human resources management) in a silo structure with each having its own information systems and tending to work in isolation. In order to deal with these problems of silo approach (i.e., information recreation, information errors, communication gaps among departments, loss of information arising from inaccurate information and not-timely shared information, and lack of consistent services to customers), managers need to think beyond the walls of the organisation. Thus there is a need for a cross-functional approach, which focuses on business process and customer services.

Cross-functional information systems are a strategic way to use information systems to share information resources and focus on accomplishing fundamental business processes in concert with the company's customer, supplier, partner, and employee stakeholders. Some typical examples of cross-functional information systems include: enterprise resource planning systems, customer relationship management systems, supply chain management systems, and knowledge management systems. These four systems have different focuses:

enterprise resource planning systems emphasize on internal efficiency; customer relationship management systems concentrate on customer relations; supply chain management systems focus on managing relations with suppliers and business partners; and knowledge management systems facilitate managing tacit and explicit knowledge of the organization. Meanwhile these four systems are inter-related (i.e., accurate information is critical to the success of supply chain management systems and enterprise planning systems; knowledge sharing facilitated by knowledge management systems is important to all the aspect of business including the success of supply chain management systems, enterprise planning systems, customer relationship management systems). Chapter 7 also has a close at enterprise planning systems and discusses implementation issues and emerging trends of enterprise resource planning systems. Chapter 8 looks at various aspects of customer relationship management systems and supply chain management systems, including benefits, types of systems/applications, challenges & issues of implementation, and future trends.

Chapter 9 reviews information systems for supporting decision making. Organisations today can no longer use a ‘cook book’ approach to decision making. In order to succeed in business today, companies need information systems that support the diverse decision-making needs of their operations. The massive volume of available data generated by billions of connected devices and human minds has further strengthened the role of information systems for decision-making support. Providing information and support for all levels of management decision making is no easy task. Therefore, information systems must be designed to produce a variety of information products to meet the changing needs of decision makers throughout an organisation. Examples of information systems for decision making cover management information systems, decision support systems, executive information systems, artificial intelligence applications, data warehousing & data mining, and business intelligence/business analytics.

Chapter 10 looks at managing information systems function and operation. The success of information systems in the organization heavily rely on good management. Good information systems management examines and works on enterprise information systems operation/function management, global information systems management, information systems in mergers and acquisitions, information skills & talent management, information systems governance, and global virtual team management. Chapter 10 also discusses information systems outsourcing management by looking at such areas as advantages and disadvantages

of insourcing, outsourcing, and offshore-sourcing; critical capabilities, challenges, issues, and critical success factors of outsourcing.

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