Preface

In Chapter 1 titled "Mental Modelling Digital Aged Care and Service Management," Hume and Johnston show that aged care is projected to be the fastest-growing sector within health and community care industries and strengthening care-giving compliance, delivery and digital aged health care is not only vital to our social infrastructure and improving the quality of care, but also has the potential to drive long-term economic growth and contribute to the GDP through improved performance and service delivery. They argue that the key to responding to this pressure is increased empowerment and capability of leadership and management within the aged care workforce and offsetting practices through advance technological developments and knowledge creation. Digital health care and digital health care strategies are the focus of current health care discussion and investigation. How can we use digital disruption to improve delivery and enhance patient wellbeing? Aged care is becoming more diverse and complex advancing from residential care to incorporate community directed care. Thus, "aged care knowledge" and the information that feeds it is becoming increasingly heterogeneous placing more emphasis on the need for better Knowledge Management (KM) including its creation, storage access and diffusion to ensure high levels of care. They focus on aged care services as a national priority with this also a priority for many countries worldwide. With limited research related to KM in aged care, this chapter advances knowledge and offers a unique view of KM from the perspective of 28 aged care stakeholders. Using in-depth interviewing coupled with mental model pictorials, they explore where digital aged care may support knowledge capture and management for aged care providers. The chapter culminates in an offering some reflections for a digital agenda for aged care and advances the discourse in this sector. The Australian aged care system is seen as innovative globally and provides the benchmark for many countries developing reforms and strategies for aged care.

In Chapter 2 titled "Leveraging Enterprise Resource Planning Systems to Digitize Business Functions," Nair and Reddy conceptualize Enterprise Resource Planning (ERP) systems as an interaction between social and technical factors of a large organization. The chapter begins with a review of evolution of ERP to recognize the theme of the research. ERP implementation is based on organizational change that ERP brings about due to its intervention on the organization. From this standpoint, ERP implementation research can be classified into two major groups where ERP deployment corresponds to a technical system and ERP organizational intervention corresponds to a social system. Though ERP implementation is highly researched, a framework illustrating all its dimensions to enable the organizational decision makers to configure the most suitable combination of variables for a research theme is lacking. The chapter is significant in terms of theoretical rigor. The unique proposed framework named by the authors as Process Variance Adapted SocioTechnical (PVAST) model identifies variables known here as Critical Success Factors (CSF), a Variance perspective through grounded research methodology for ERP implementation.

The authors have presented the two premises where they compare and contrast the process and variance theoretical perspectives respectively to explain why any one of the perspectives used in isolation may not serve the purpose of evaluating the performance of ERP implementation from an organizational change viewpoint. They then cluster the identified CSF under SocioTechnical dimensions and analyze them based on process perspective. The focal point of this model is that the decision makers of the organization can cluster the CSF based on phase of lifecycle of ERP implementation. The authors have specifically leveraged the Leavitt's organizational change model to evaluate ERP performance through CSF since ERP is a technological intervention on the social structure of the organization. Integrating process-variance perspective with SocioTechnical perspective based on Leavitt's diamond model is an attempt to measure and monitor ERP performance and pinpoint areas where corrective actions need to be taken up during the ERP life cycle by the decision makers or practitioners in a coherent method.

In Chapter 3 titled "Improving Logistics Costs Through ERP Alignment," Muscatello, Parente, and Swinarski study ERP implementations and their impact on business on several dimensions. They argue that little work has been done linking logistics costs and ERP implementation factors. Taking a Work System Theoretical perspective, they examine the alignment success factors necessary to improve logistics cost. They use a two-step approach, conducting a confirmatory factor analysis (CFA) to assess the psychometric properties of our measures and then conducting an independent sample t-test between two groups, one which experienced decreased logistic costs and the second which experienced the same or increasing logistic costs. Organizations attempting to decrease logistics costs via an ERP implementation must consider the processes and activities involved in aligning participants, information, technology, and business process in these ERP implementations. Their research provides more insight into the practice of ERP implementations and has reemphasized the need to judge ERP success relative to impact on firm performance. This chapter is the first study exploring ERP success using Work System Theory to both hypothesize and empirically determine the causal link between critical success factors associated with alignment and logistics costs.

In Chapter 4 titled "Approaches for Automating ERP Category Configuration for SMEs," Wölfel presents automation of ERP implementation as a solution for making ERP packages more accessible for small businesses. His motivation comes from the fact that the ERP market is turning more and more towards Small and Medium Enterprises (SMEs) and that the cost of ERP implementation is still a major burden for them. When part of the implementation process can be automated, ERP packages become more affordable for SMEs. The author introduces the concept of category configuration as a general ERP implementation problem and describes the design and implementation of automation approaches to support managers of small businesses to perform an ERP category configuration on their own. The presented solution, the Category Configuration Support (CCS) system, was implemented with and applied to the open source ERP package "ERP5". It is based on innovative approaches from data science such as similarity of example data, automatic vocabulary consolidation through Wikipedia redirects and (meta-) templates. The solution was evaluated empirically for its validity, effectiveness and utility through a laboratory experiment. After introducing the general topic, the author compares the concept of ERP category configuration to other types of ERP package "tailoring". The reader should have a quick look at the exemplary category configuration for a small software company shown in appendix II which makes the concept much clearer. It is interesting to see how this concept exists in completely different ERP packages, such as SAP, OpenERP and ERP5. The author compares the challenge of automating category configuration to prior ERP configuration automation approaches. The mayor difference is that prior approaches focus on parametrization and therefore operate on a relatively small and well-defined

value range and are therefore mostly implemented as rule-based systems. The range of possible values in category configuration on the other hand can be much larger. To tackle this specific challenge of automating category configuration, the author presents a new approach based on a questionnaire filled by the manager of a small company. The answers are used as input to a model built from an example data set consisting of 235 questionnaires already filled by managers of other small companies and ERP category configurations for these companies. Through a similarity measure, the model than outputs the most useful categories which the company manager uses to create his own category configuration. After describing the technical implementation of the designed automation approach – the CCS System – and its application to the open source ERP package ERP5, the author describes the empirical evaluation of the designed artefact. The laboratory experiment with 98 test persons indicates the validity, effectiveness and utility of the CCS System. Finally, the author summarizes the contributions of his research to theory and practice. He shows that the concept of category configuration is universal to ERP systems and the designed solution approach can be used for automating the configuration of categories of other ERP packages, not only ERP5. The main implication for practice is that the CCS System can reduce the financial burden of ERP implementation for SMEs. It streamlines part of the ERP package configuration process by enabling the management of a small business to create an effective ERP category configuration on its own.

In Chapter 5 titled "Continuous Assurance and Business Compliance in Enterprise Information Systems," Marques addresses business compliance and continuous assurance, which are very important and current organizational issues and concerns. The adoption of tools which enable organizations to improve business compliance and to reduce the likelihood of situations that may jeopardize their operational performance and corporate image, also allow them to simultaneously achieve their organizational objectives and be compliant with external regulations. The work described in this chapter is innovative and contributes to a new vision of organizational auditing focused on assurance services in transactions executed in digital format and supported by a business ontological model. It presents a conceptual architecture of an information system with continuous assurance services and describes some details about the prototype development. An innovative aspect of this solution is related to the fact that the author considered that there are different risk profiles (execution patterns used as reference) for each organizational transaction and developed a repository that manages the risk profiles of the transactions to monitor and audit, following an ontology. These risk profiles are important because they allow the prototype to compare these references with the data from the executions of monitored transactions and to produce auditing results in run-time. This view of monitoring, controlling and auditing of organizational transactions is innovative since there was no reference in the literature to any implementation of risk profiles repository in the aforementioned way. Another innovative aspect of this view is the attempt to provide assurance services to organizational transactions following the structure of an ontology, which presents the transaction at a very low level, contrary to what happens in most monitoring of transactions, which occur at a high level (for example, compare whether a completed transaction followed a set of established procedures). This chapter is interesting and relevant because the main results from a case study are presented. The case study includes the implementation of the prototype in a near-real organizational environment and the analysis of few hundreds of transactions made up of more than a thousand operations monitored and audited. From the results, the author concluded that the prototype offers continuous assurance services and is applicable to any organizational transaction, regardless of its type, dimension, business area or even its information system support technology. This independence is guaranteed by the abstraction level of an ontological model which is used to represent the organizational transactions we intend to monitor

and audit. Finally, this work is contrary to the tendency of products to be advertised as continuous service providers, when in fact they only provide part of these services. This chapter ensures the feasibility of the development and the effective use of an information system with full continuous assurance services, having as support an ontological model, and which is considerably flexible and adaptable in order to be applicable to any digitally executed organizational transaction.

In Chapter 6 titled "Contemporary Issues in Enterprise Information Systems: A Critical Review of CSFs in ERP Implementations," Saygili and Saygili argue that the widespread usage of enterprise information systems (EISs) brings with it the digitalization of organizations' business functions while these systems' extended functionality integrates organizations and stakeholders. For example, new enterprise resource planning (ERP) software extensions include customer relationship management (CRM) and supply chain management (SCM). Given recent developments, the authors discuss contemporary issues in EIS concerning ERP systems various different countries, industries and companies. Due to the increasing demands and varying needs of different parties, ERP implementations are getting more complex, which has increased the number and variety of critical success factors (CSFs) needing consideration. In this paper, 40 CSFs are identified and re-categorized to develop a new conceptual model for explaining ERP implementation success. The model is derived from a comprehensive search through the most cited 17 articles concerning CSFs published between 1999 and 2013 which groups the 40 CSFs under four inter-related categories: Administration (8 CSFs), Project and Team Management (14), ERP Software (11) and Organization (7). The relationship between the categories is created through bridging CSFs. Some CSFs relate to external parties like consultants, vendors, country-specific regulations, customers and suppliers. Most previous studies have relied on literature reviews and case studies to identify CSFs, with only a very few empirical studies. The main limitation in this study was the difficulty of conducting empirical research to access primary data due to justified confidentiality issues raised by private enterprises. Nevertheless, the authors believe that exploring CSFs from stakeholders' perspectives will provide valuable insights that lead to more successful ERP system implementations.

In Chapter 7 titled "Extending IMPLEMENT Framework for Enterprise Information Systems Implementation to Information System Innovation," Raman and Goyal argue that organizations today strive to differentiate themselves to outperform themselves from their competitors. Information Systems innovation has helped the organizations to utilize their capability to the fullest. Further, Enterprise Information systems implementation is one of the most challenging parts of IT strategy for an organization, since implementation brings in efficiency in the system and justifies the investments made. Therefore, it becomes increasingly important to study the perspectives of implementation to understand the current dynamics. They study the literature of information system implementation, exploring the research methodologies and other factors influencing information system implementation. Further, the literature on information system innovation, the factors influencing overall information system implementation and based on the information, information system innovation process is deduced. The basic content analysis is done to review the articles on information system implementation. A total of 47 articles were selected from peer reviewed journals and conferences. The study was conducted to assess the methodology used, the strategies followed along with the issues and challenges faced in the implementation. It presents an arena of the studies done in information system implementation in past 20 years (typically 1993 to 2013). They propose the IMPLEMENT framework to synthesize the literature finding for smooth functioning of IS implementation process. The comprehensive framework for information innovation process is developed. This framework is then mapped to IMPLEMENT framework. Further, the ingenuity that innovation possesses has attracted a lot of researchers to think and study about what the information systems (IS)

innovation is and how it relates to any organization. It applies to varied organizations, from private organizations to cater to the client requests to the public organizations overhauling their services to cater to the citizen and stakeholder needs. An information system is an important component, to improve product, processes and services. In today's dynamic and competitive business environment, success can only be achieved by providing new products, services, and solutions for consumers to provide radically better experience. The Information system innovation process framework is deduced in the study, through content analysis of 49 papers selected from peer reviewed journals. They then map the IMPLEMENT framework to the information system innovation process. This framework can serve as an aid both to the researchers and the managers. The researchers can further prove this model empirically, whereas the managers can understand the IS innovation process in an organization. The usage of IMPLEMENT framework in context of strategy based concepts such as information system innovation helps in establishing the extent to which this concept can be extended to contemporary and relevant contexts.

In Chapter 8 titled "Investigating Impact of Inter-Organizational Factors in Measuring ERP Systems Success: Bruneian Perspectives," Seyal and Rahman present a research to assess the success of an Enterprise Resource Planning (ERP) system in Brunei Darussalam. They first provide an understanding of ERP success factor among Bruneian businesses by assessing the validity of ERP success model of Ifinedo and Nehar within the context of Brunei Darussalam. They then study the various internal and external factors (business vision, top management support, external expertise, government support and perceived benefits) that contribute towards the success of ERP system. The majority of the previous findings which include all contextual variables used were significant with an exception to the top management support which proved insignificant. The significance of four (4) contextual variables in this study provide valuable insights on how businesses find them relevant in measuring ERP success. The business owners and regulatory authorities should focus on these and highlight them in planning seminars and road shows so that the organizations that are in the process of considering the ERP systems should consider it during the implementation phase as well.

In Chapter 9 titled "Re-Thinking the Challenges of Enterprise Architecture Implementation," Dale articulates the concept of enterprise architecture implementation (EAI) and differentiates EAI from enterprise architecture (EA) plan development. It puts forward a historical analysis of EA to demonstrate that early authors of EA frameworks, methods and tools did differentiate between EA plan development and EAI. EAI was seen as a product of EA plan development and was assumed to follow on immediately from EA plan development. A review of the EAI research indicates that EA plan development and EAI are distinct phases of work and that many organizations have difficulty transitioning from the development of their plans to the implementation of those plans. Whilst there is considerable literature attesting to the benefits of EA, the motivations for EAI are primarily to support a new organizational strategy and improve operational performance. However, organizations have little confidence in implementing their EA plans, the costs associated with EAI are too high and stakeholders lose interest in the EAI due to the protracted time required to deliver the systems and platforms specified in the technology selection plans. To date, much of the EAI literature has adopted a technical and rationalist approach to the challenges of EAI and ignored the relational aspects of an EAI. This chapter makes an important contribution to the area of EAI research and practice, by arguing that greater attention needs to be paid to the practices of architects that promote and inhibit connections with their stakeholders. In an EAI, architects will engage with a number of stakeholders from the business and technology who have a legitimate interest in the EAI. Based on the gaps in our knowledge of the social aspects of EAI and the emphasis on the technical aspects of EAI found in existing research, we need to improve our understanding of the practices

of architects, including the relationships they build with their stakeholders and how this may affect the transition from the development of the EA plans to the implementation of those plans. While organizations continue to develop EA plans in order to benefit from the advantages of EA-enabled systems and platforms, many EAI initiatives continue to fail and more are likely to fail than succeed. Despite the active interest of organizations and governments in EA, academic interest in this area remains comparatively modest and tends to focus on EA frameworks, EA modelling approaches and methods, and the management of the EA function. The role of the interactions between architects and their stakeholders plays in the ability of architects to build support for and commitment to the systems and platforms specified in the EAI is under-investigated.

In Chapter 10 titled "Developing an Effective Strategy for Organizational Business Intelligence," Hawking and Sellitto contribute to understanding the growing importance of Business Intelligence in the modern-day enterprise. As an extension of firm's ERP system, Business Intelligence can provide significant benefits associated with allowing firms to access accurate, relevant and timely information that enhances corporate decision-making practices. The article uses a case study approach to clearly document and present the strategy an Australian energy company developed and used as part of their adoption of Business Intelligence. The paper is timely due to recent advent of big data and digital transformation practices—where Business Intelligence adoption has been touted as a powerful tool that can be used with in-memory data processing to enable competitive advantage. The case study is presented as a story, allowing the reader to understand some of the strategies the company adopted in confronting the various challenges and short-comings encountered. Indeed, one important component of the strategy was to adopt an enterprise approach to the use of Business Intelligence. This was initially achieved through the consolidation of existing Business Intelligence technologies and subsequent introduction of enterprise-wide data warehouse (EDW). Illustrative examples of the types of software considered and replaced are part of the case study— for instance, the discontinuance of the Business Objects environment was facilitated by SAP acquiring Business Objects. The case study presents insight into the developed an Information Management Strategy (IMS) to provide some overarching guiding principles for the implementation and use of Business Intelligence to ensure a closer alignment with company's needs. The IMS reflects a set of multi-faceted application points that can be used by researchers or practitioners per se to be better informed about not only the implementation process, but to also promote the alignment of business objectives. The authors make a relevant and timely contribution to the Business Intelligence domain by documenting the importance of business strategy aligning with the proposed solution. Although centered on the energy sector, the strategic approach reported could be usefully adopted by companies in other industry groups.

In Chapter 11 titled "To Code or Not to Code: Obtaining Value From the Customization of Packaged Application Software," Balint argue that packaged application software such as ERP promises many benefits in theory. Industry best business practices, professional support, and the elimination of the need to hire software developers are some examples. However, what these claims miss is that no two organizations are the same, and no two organizations implement the same package the same way. In his experience as an SAP consultant, the author witnessed many organizations whose implementation timelines and budgets were greatly exceeded due to the customization of ERP packages. In some cases, the organizations underestimated the amount of resources the custom development would take, a problem endemic to most software development. In other cases, the organization made poor choices when selecting the packaged software initially and tried to "close the gap" with customization. Most of the author's research is empirical, but data describing packaged software customization in different

organizations are difficult to collect and quantify. Instead, the author decided to create a mathematical model of customization and to run simulations while changing the variables of interest. These variables include development and maintenance costs, the purpose of the development and the starting fit of the system. The results provide an interesting description of the effects that different types of custom development have on implementation outcomes. Custom development with the direct purpose of increasing fit, or with the intention of increasing user acceptance, can provide value to organizations. However, even under favorable circumstances the benefits of custom development do not outweigh the benefit of choosing the software package with the highest level of fit "out of the box". This research contributes to the literature on software development in two ways. First, while there is much research on ERP generally there is very little on customization. Project managers who are responsible for packaged software implementations often have to make difficult decisions on how much customization to do and how to prioritize it. ERP projects often use the FRICE framework (Forms, Reports, Interfaces, Conversions, Enhancements) to categorize this work. Instead, this paper approaches custom development by examining the impact of custom development on implementation and organizational outcomes. Second, while the era of huge ERP implementations is largely in the past, this research is more relevant than ever. As more organizations of all sizes are embracing information systems, the question of how much to customize continues to be important. Additionally, the Software as a Service model of application delivery continues to grow. This study should inform SAAS choices in terms of the amount of customizability available to organizations.

In Chapter 12 titled "Decoding Success Factors of Innovation Culture," Burdon, Kang, and Mooney review how successful organizations face the challenge of transforming a creative concept into a new service, product or process – in other words, the development of innovation. The authors chose to survey the Australian IT Industry Association members and assessed responses from 102 organizations. The technology sector was deemed especially relevant as it is often the vanguard of change - a fast moving, inventive and competitive industry whose advances often presage and underpin the innovative progress of many other markets. Because of the fast-changing nature of the IT industry, their approach to risk and reward is particularly pertinent, which encourages them to focus more of their innovation strategy on radical opportunities. Taking a creative idea and turning it into an innovative product requires the involvement of many people, not just the originators, and helps explain why fostering an innovation culture is particularly important. This involves action, collaboration and learning that can handle successive innovation processes – an intrinsic embedding of ways to differentiate acceptable and unacceptable behaviors plus prevailing systems governing decision-making, performance, success, failure, and rewards for a given context. The research confirmed that organizations where employees and competitors believed the organization had a strong innovation culture produced higher profit margins, superior financial metrics, high morale and recognition from peers and competitors. Thus, promoting the right social settings and values ensures an innovation culture that delivers new and improved products and services for customers, sustained improvements in service, better business models, effective branding, and more positive engagement at all levels. Conversely, less open contexts where processes, knowledge, resources, and personnel are more rigidly structured and closely regulated also tend to see a slowing in the pace and number of innovations realized. More specifically, the survey asked the respondents to assess their own organization's ability to meet ten key attributes. The research found that those organizations where their executives believed they had implemented the ten key issues to a high level strongly correlated with organizational growth rate, which was used as a surrogate for success. The most commonly esteemed attributes for successful organizations were the 'ability of the organization to communicate

and align employee activities to the strategic plan', 'ability to create an inclusive interlinked culture' and 'ability to encourage learning and self-improvement in its people'. The chapter also explores differences in fostering an innovation culture, dependent on organizational size, ownership and the ability to build an innovation culture at all levels of the organization. In summary, this research shows a significant difference between the scores for Australian private and partnership organizations compared with those of the multinationals and ASX-listed organizations. Organizations that promoted 'self-improvement' and had an 'inclusive culture' were much more likely to have well-developed innovation cultures - and be recognized for this not only internally but also externally by other companies.

In Chapter 13 titled "Benefits of Customer Relationship Management on Customer Satisfaction: An Empirical Study," Mohammadhossein, Ahmad, and Zakaria assess the effectiveness of customer relationship management (CRM) benefits from customer point of view in relation to customer satisfaction. Main objective is defined as finding out the important benefits of CRM for customers based on the previous literatures. Personalized service, responsiveness to customer's needs, customer segmentation, customization of marketing, multichannel integration, time-saving and improving customer knowledge were proposed as important benefits which would affect customer satisfaction. The authors propose a model which has seven constructs that will influence customer satisfaction. The participants were 150 customers of three Malaysian companies (AEON, Tesco, PETRONAS). The authors find that customer satisfaction was positively related to all the CRM benefits found, except for time-saving. The correlations between using CRM and improve marketing performance were significant. The findings confirm that the companies that using CRM can improve their customer satisfaction. In addition, this paper contributes to the existing literature by incorporating the benefits of CRM for customers and the relationships of these benefits with their satisfaction in a proposed research model and empirically tested.

In Chapter 14 titled "Information Technology Paraphernalia for Supply Chain Management Decisions," Patro and Raghunath provide the readers with an insight into the world of Supply chain management after technology was encapsulated into it making organizations facilitate production and distribution with much easy, cost effective and moreover with better customer service. The companies are trying to improve their agility level with the objective of being flexible and responsive to meet the changing market requirements. The authors deal with the current scenario of supply chain management process and how it is managed keeping in mind the growing need of various stakeholders in this business. They also analyze how both supply chain management and Information Technology has gelled together for the benefit of stakeholders, by articulating the functional role of IT in supply chain processes in and around organization. Supply chain management emphasizes the overall and long-term benefit of all parties on the chain through co-operation and information sharing. Going ahead in this chapter, readers can gain some significant insights into the existing and emerging trends of Information Technology in Supply Chain Management process highlighting the advancements Information Technology has in SCM. Along with that we also observe the influence of these Information Technological trends on supply chain areas or to say as Supply Chain decisions like Location Decision, Inventory decision, Production decision, Transport/Distribution decisions. For the purpose the opinion of the employees of different companies has been analyzed to give a better understanding of the implementation of these emerging IT trends. The strategic and technological innovations in supply chain will impact on how organizations transact in future. Information and communication technologies are beneficial for co-operation and integration within the stakeholders of the supply chain. However clear vision, strong planning and technical insight into the transformational capabilities would be necessary to ensure that organizations maximize the technological potential for better supply chain management and ultimately improved competitiveness.

As we all know change is not easy and welcome and of course even in Supply Chain Management and after reading this chapter readers will be able interprets the various challenges that organizations come across while implementing Information Technology in Supply Chain Management. Finally, the chapter also discusses the impact and benefits of e-business technologies that helps to re-structure the entire supply chain process for achieving higher productivity and sustain the competitive market.

In Chapter 15 titled "Data Envelopment Analysis for Measuring and Evaluating Efficiency on IT Outsourcing Operations," dos Santos and da Silva deliver a model for efficiency measuring in IT outsourcing operations. A deep research on service operations was made, to identify the service dimensions and service items applicable to IT outsourcing operations, which displays a multi-input and multi-output set of variables that need to be known and managed, thus knowing what service dimensions and service items are available for IT outsourcing services configuration is essential to delivery optimised IT operations. Then, Data Envelopment Analysis (DEA), which is a linear programming technique able to manipulate multiple inputs and outputs, was used for efficiency measurement in IT outsourcing contracts (DMUs) to identify potential sources of inefficiency, recognizing best-practice DMUs for subsequent standardization of operations. During the research, authors, found several challenges, the first one was to gain access to real data to test the proposed model, and even with real data, not all the simulations were possible to execute, namely the multiple time periods also named as windows analysis (time series data). Secondly, the nomination of the seven service dimensions and the 23 service items can be considered excessive or minimalist depending on the research problem and service configuration to attain. However, according to the results obtained, they are found adequately complete, broad and capable of fitting in most scenarios of IT outsourcing operations. The developed research was based on design science research, and eighteen contracts were used to evaluate model utility, the results show the importance of quantitative measures in a dynamic business environment like IT outsourcing, which will allow IT outsourcing providers to identifying the "pain points" and act for efficiency improve in a multi-client environment.

In Chapter 16 titled "Knowledge-Based Systems for Data Modelling: Review and Challenges," Šuman, Jakupović, and Pavlić argue that data modelling is a complex and knowledge intensive process and show data modelling is appropriate for Knowledge-Based (KB) system approach because it is a non-algorithmic, non-trivial, and not fully deterministic nature. The primary benefits of introducing KB system into the process of a data modelling are: gathering rare and costly human expertise and performing and validating design activities. KB system also provides an explanatory system, which explains the rationale behind its actions and therefore educates the user. Finally, a KB system updates its knowledge base and so constantly improves itself. It is expected that KB system will help designers to create semantically high-quality data models. This will be achieved through the main KB system functionality: proposition of a data model based on the previous cases, user question-answering guidance, identification of the semantic errors in the data model, and advising users. This chapter argues about the main problems in the process of the data modelling and reviews some KB systems, methods, and tools for the data modelling. Reviewed KB systems are used for identification of their existing problems (for example too complex formalisation of the business description in natural language, too many questions to a user, no past data model repository etc.). Based on that, in the paper is proposed a conceptual model of the new KB system that tends to simplify input format in the form of the controlled natural language, uses case-based reasoning, creates a minimal number of specific questions to a user, and has an explanatory system. The main mechanism for developing a data model is a translation from one language into another. Business description is observed as the text-expressed knowledge in natural language that needs to be translated into the text-expressed knowledge in the data model formal language. A conceptual model of

the new KB system is represented through a Logic model framework where its Purpose Context, Inputs, Activities, Outputs and Effects are identified.

In Chapter 17 titled "Six Sigma Project Teams and Rational Decision Making: A Shared Leadership Perspective," Galli, Szabat, and Kaviani argue that the concept of how teams make decisions in the team environment is a very important topic for all organizations and leaders to consider. More and more organizations rely on teams to complete a variety of projects, from new product development projects to process improvement projects, all of which impact the performance of the organization as a whole. Therefore, it is of the utmost importance that organizations and leaders understand how teams work and what styles they use to make effective and rational decisions. Only by understanding how teams make decisions and what makes them tick (in terms of performance and decision-making), will organizational leaders have the ability to help the teams to maximize their performance and therefore maximize the return on investment (ROI) to the organization. This research helped to build on the body of knowledge by studying and understanding the most common and effective forms of decision making methods that teams utilize to not only make timely decisions but also rational and quality decisions. A decision-making framework was developed that outlines the appropriate method of decision-making a team should use as a team's level of shared leadership increases. A team can utilize the findings from this research to more effectively plan how decisions should be made based on their level of team cohesion and style of team leadership present in the team environment. Team coaches or mentors can actively plan how they mentor and guide the teams they are responsible for. They can utilize the framework as an assessment tool to diagnose their team's performance and quality of decisions in order to adjust their style and level of coaching and mentoring, which in turn should help to maximize the quality and rationality of the team level decision-making.

In Chapter 18 titled "An Exploratory Study on the Influencers of the Perceived Relevance of CIO's Activities and Skills: An Update," Trigo and Soto-Acosta present a study which is the continuation of their research activity on the management of information systems and its main actor as the information systems manager commonly known as the Chief Information Officer (CIO). This study presents the activities and skills that 102 CIOs consider to be the most important for the performance of their profession. It is important to emphasize that this study is a rich study from the point of view of the respondents because they are experts in this domain, that of the management of information systems, knowing as nobody what the most important activities and competences. In addition to presenting a list of the most important activities and competencies, the authors also investigated whether the personal or company characteristics that CIOs belong to influence the perception of the importance of the activities performed by CIOs. This is an important aspect not previously investigated by the authors who tries to see if there is conditioning in the CIOs' responses in function of the characteristics described above. Regarding the contributions to the body of knowledge of the CIOs theme, the results show that managing projects, interacting with top management teams, optimizing business processes, and making strategic decisions are main CIO's activities; and that the importance recognized to these activities is influenced by characteristics such as the CIO's age or the hierarchical structure of the organization. Regarding CIO's skills, understanding business processes and operations, and strategic thinking and planning, are the ones CIOs identified as being the most important. Being this an explorative study, it would be also interesting to expand it with further studies considering other variables as, for instance, business sectors or business geographies.

Madjid Tavana
La Salle University, USA