Soumi Majumder
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AI-empowered Knowledge Management

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Preface

Our book is focused on AI-based Knowledge Management procedures following the modern trends of business practices. The purpose of the Knowledge Management process is to share perspectives, ideas, experiences, and information, to ensure that these are available in the right place at the right time to enable informed decisions, and to improve efficiency by reducing the need to rediscover knowledge. The objectives of knowledge management are to improve the quality of management decision making by ensuring that reliable and secure knowledge, information, and data is available through the service lifecycle, to enable the service provider to be more efficient and improve quality of service, to increase satisfaction and to reduce the cost of service by decreasing the need to rediscover knowledge. Knowledge Management (KM) is also a multidisciplinary field. AI allows machines to acquire processes and use knowledge to perform tasks and to unlock knowledge that can be delivered to humans to improve the decision-making process. AI has become the latest "buzzword" in the industry today. However, AI has been around for decades. The intent of AI is to enable computers to perform tasks that normally require human intelligence; AI is eventually evolving to take over many jobs once performed by humans. The connection of KM and AI has led the way for cognitive computing. Cognitive computing uses computerized models to simulate human thought processes. Cognitive computing involves self/deep learning artificial neural network software that uses text/data mining, pattern recognition, and natural language processing to mimic the way human brain works. Cognitive computing is leading the way for future applications involving AI and KM.

In recent years, the ability to mine larger amounts of data, information, and knowledge to gain competitive advantage and the importance of data and text analytics to this effort is gaining momentum. As the proliferation of structured and unstructured data continues to grow, we will continue to have a need to uncover the knowledge contained within these big data resources. Cognitive computing will be the key to extracting knowledge from big data. Strategy, process-centric approaches, and inter-organizational aspects of decision support to research on new technology and academic endeavors in this space will continue to provide insights on how we process AI with knowledge management to enhance decision making. Cognitive computing

is the next evolution of the connection between AI and KM. AI can replace humans and explain what is important to consider in making the transformation to the digital organization of innovation. We conclude our study by exploring directions for future research.

In our book, Chap. 1 provides introduction to Knowledge Management. It says about various important parameters of knowledge management like types of knowledge, significance of knowledge management, knowledge management process in business, relation between knowledge management and information technology. Chapter 2 discusses the various tools of knowledge management that are used by business organizations in modern times. This chapter includes document management system, learning management system, customer relationship management system, decision support system, and social communication system. Chapter 3 elaborates knowledge management practice with the help of AI in different sectors. The sectors are like healthcare sector, construction sector, and education sector, small and medium-sized enterprises (SMEs), and e-business or e-commerce sector.

Chapter 4 is based on Knowledge Management System. It describes different types of knowledge management systems and their benefits. This chapter also gives an idea on how to build an effective knowledge management system in the organization citing few important examples of KMS.

Chapter 5 reports AI-empowered Knowledge Management. This includes importance and impact of Artificial Intelligence on Knowledge Management, different forms of benefits of AI for Knowledge Management, and the future of Knowledge Management.

Chapter 6 discusses the role of explainable AI (XAI) in Knowledge Management. Bibliometric analysis of AI in Knowledge Management is reported in Chap. 7. Finally, Chap. 8 concludes the book and summarizes the book content.

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Contents

About the Authors

Soumi Majumder completed her PGDM, specialization in Human Resource Management from All India Management Association (Institute of Business Management, Jadavpur University) in 2012. She did Diploma in Labour laws with Administrative laws (DLLAL) and Masters in Human Resource Management (MHRM) from Annamalai University, under Tamil Nadu Government in 2013 and 2019 respectively. Currently, she is a Ph.D. student of the Department of Business Administration at Vidyasagar University, Midnapore, West Bengal, India. She is associated with the School of Business, Sister Nivedita University, WB, India, Department of Business Administration, Netaji Subhash Engineering College, Kolkata. She is an associate researcher of Universidad International de La Rioja, Logroño, La Rioja, Spain. Previously, she was associated with Techno India College of Technology, NSHM College of Management and Technology, Dinabandhu Andrews Institute of Technology and Management, J. D. Birla Institute of Science and Commerce, Future Institute of Engineering and Management, West Bengal State Labor Institute, Siliguri, Department of Management Science, Sister Nivedita University, Kolkata, India, etc. She is having 6 years of experience in academia and 2 years of industrial experience. She has 20 research papers in national, international conferences and journals in the area of quality work-life, decent work-life, work-life balance, stress management, employee engagement, job satisfaction, leadership, training, and learning, etc. She has presented a research paper at DSMLAI 2021 organized by India–Namibia Centre of Excellence in Information Technology, Namibia University of Science and Technology, Namibia. Furthermore, she is a member of the All India Management Association, ACM, IS, NIPM etc.

Nilanjan Dey is an Associate Professor in the Department of Computer Science and Engineering, JIS University, Kolkata, India. He is a visiting fellow of the University of Reading, UK. He also holds a position of Adjunct Professor at Ton Duc Thang University, Ho Chi Minh City, Vietnam. Previously, he held an honorary position of Visiting Scientist at Global Biomedical Technologies Inc., CA, USA (2012–2015). He was awarded his Ph.D. from Jadavpur University in 2015. He is the Editor-in-Chief of the *International Journal of Ambient Computing and Intelligence* (IGI