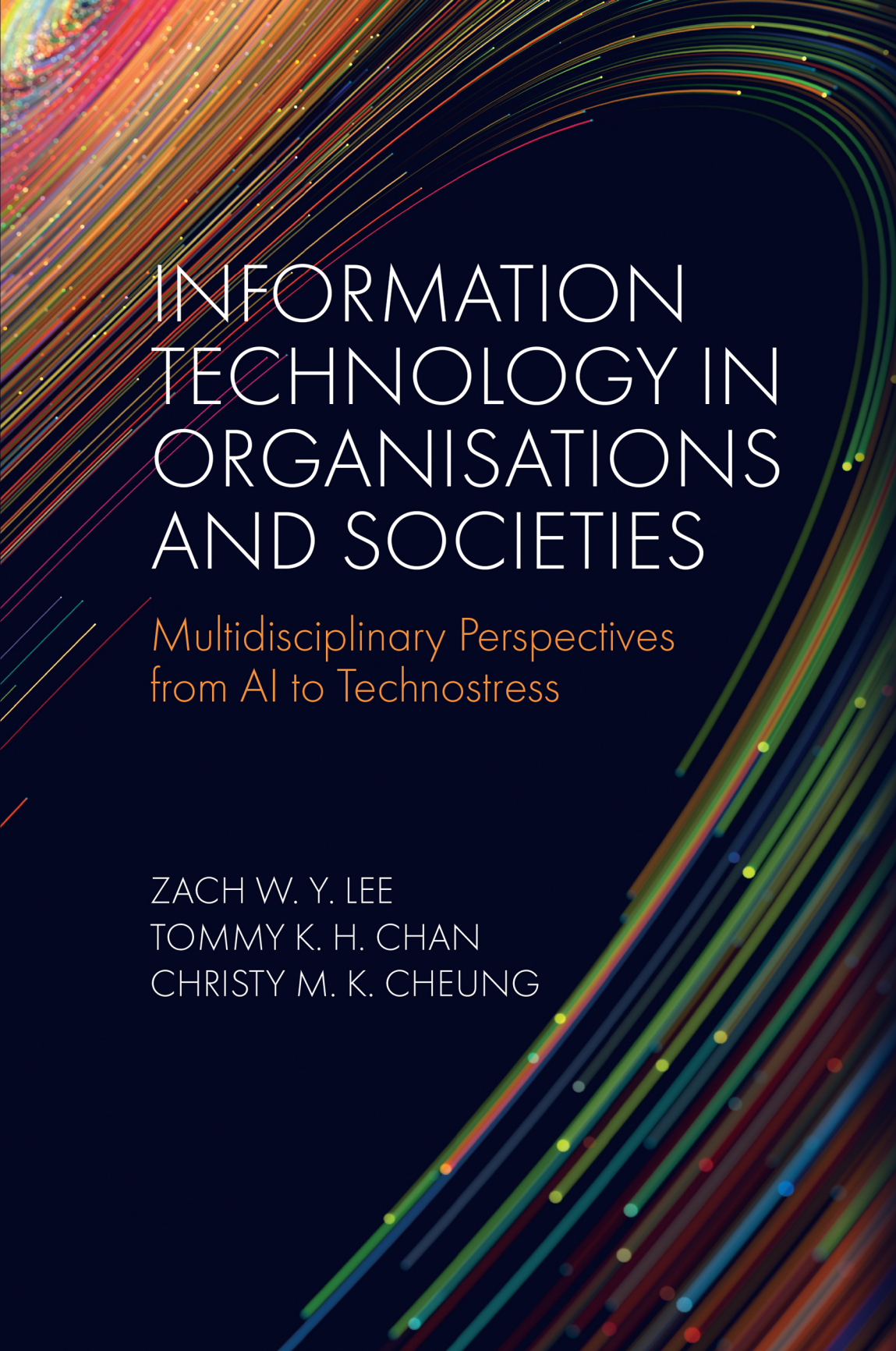
INFORMATION TECHNOLOGY IN ORGANISATIONS AND SOCIETIES
Multidisciplinary Perspectives from AI to Technostress
ZACH W. Y. LEE
TOMMY K. H. CHAN
CHRISTY M. K. CHEUNG

Information Technology in Organisations and Societies

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Information Technology in Organisations and Societies: Multidisciplinary Perspectives from AI to Technostress

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Dedication

To my parents, who have taught me to be kind.
Zach W. Y. Lee

Tommy would like to dedicate this book to master Minho.
Tommy K. H. Chan

For everyone, may you be blessed with good health and happiness.
Christy M. K. Cheung

To all who have interest in learning about the impacts of information technology on our work and life.

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Preface

Information technology (IT) use is typically regarded as a positive phenomenon that generates desirable outcomes. However, the negative consequences of IT use have been increasingly witnessed in recent years. For instance, individual users may experience 'technostress' from personal social media use and IT use in the workplace, and organisations may experience losses in productivity and assets due to employees' failure to comply with information security policies. Thus, researchers have called for further investigation into the negative and positive effects of IT use.

This book, *Information Technology in Organisations and Societies: Multidisciplinary Perspectives from AI to Technostress*, contains multidisciplinary research on the positive and negative aspects of IT use at both the individual and organisational levels, and covers emerging phenomena and topics ranging from artificial intelligence (AI), augmented reality, and organisational transformation to technostress. The book endeavours to provide contrasting views on the positive aspects and outcomes of digitisation and on the potential harms induced or exacerbated by advanced IT. The book also presents innovative discussions on strengthening the benefits of IT use and mitigating its drawbacks.

The studies in this book examine the implications of IT along a continuum from the organisations to the individual. The book starts with chapters on examining the implications of IT specific to the organisational context, and includes studies on the implications of AI for organisations, the organisational transformation framework for data-driven decision-making, and the relationships between technostress and employees' non-compliance with information security policies. Later chapters address the implications of IT in relation to organisations as well as individual users and consumers, with studies that develop an integrative framework for cognitive absorption, examine technostress in the workplace through sociological mechanisms, and explore the impacts of augmented reality on experiential marketing. The final chapters examine the impacts of IT specifically at the individual level, including an examination of the relationship between self-disclosure on social networking sites (SNSs) and well-being, and a literature review on social media stress. The diversity of the studies is also manifested geographically, with contributors from institutions and organisations across Africa, Asia, Europe, and America; methodologically, by using case study, design science, interview, literature review, and survey approaches; and theoretically, with theories ranging from organisational transformation frameworks, sociological

mechanisms, the person–artifact–task model, the stimulus–organism–response model, and the hyperpersonal communication model, to the transactional model of stress arising from the use of SNSs.

The book represents a collective effort not only to consolidate studies on emerging issues and phenomena related to the positive and negative aspects of IT use but also to prescribe future research avenues in connected research domains. The book adds to the growing body of knowledge on the multifaceted nature and outcomes of IT use. It is particularly relevant and appealing to academics and researchers working on IT use research, and should serve them well as a handy reference to the field.

The first chapter of the book, by Madhav Sharma and David Biros, presents an overview of the implications of AI for organisations through a discussion of the core components of AI, the organisational goals that could be achieved with AI, the various types of AI, and their interrelationships. The authors also cover the unintended consequences and vulnerabilities of using AI systems in an organisational setting. The chapter offers a balanced discussion of the benefits and drawbacks of AI systems, and concludes with recommendations for organisations on the development and implementation of AI.

The second chapter, by Hanlie Smuts and Alet Smith, presents an organisational transformation framework for data-driven decision-making (OTxDD) based on a collaboration between humans and machines. The authors use the design science research approach to develop the OTxDD framework, which consists of four major enablers (data analytics, data management, data platform, and data-driven organisation ethos) and twelve sub-enablers, together with an organisational measurement tool. Organisations can use the OTxDD framework and the measurement tool to create a transformation path to data-driven decision-making, applying insights from both knowledge workers and intelligent machines.

While the adoption and diffusion of advanced IT can enhance individual and organisational performance, there are some negative aspects, such as technostress and information security threats. In the third chapter, Forough Nasirpouri Shadbad and David Biros propose a conceptual model to explain the relationships between technostress and employees' non-compliance with information security policies, suggesting that a higher level of perceived technostress is associated with a higher likelihood of employees violating such policies. Measures to reduce technostress and mitigate organisational security threats are discussed.

The fourth chapter, by Raluca Stana and Hanne Westh Nicolajsen, examines IT-related technostress in the workplace using sociological mechanisms. Having identified a lack of investigation of the social environment in which technostress arises, the authors examine technostress in the workplace through the sociological lens of obligation. They use an embedded case study in Denmark to examine political materials and interview employees from multiple organisations. The findings suggest that technostress may be socially constructed, and the authors suggest that a future research direction could be to view technostress as a societal responsibility.

With the growing interest in the uses of hedonic technologies and the gamification of system design, the concept of cognitive absorption, a holistic experience arising from technology use, has become increasingly important in explaining IT usage behaviours at both the organisational and the individual levels. The fifth chapter, by Christy M. K. Cheung, Dimple R. Thadani, and Zach W. Y. Lee, proposes an integrative framework of cognitive absorption in technology use that summarises the antecedents and consequences of cognitive absorption. The framework offers a foundation for future theory building and provides system developers with practical insights into the design of next-generation hedonic and immersive technologies.

The sixth chapter, by Xuewei Yang, continues with an examination of a particular emerging immersive technology, augmented reality, in the context of experiential marketing. Drawing on the stimulus–organism–response model, the author proposes and tests a research model that explains the effects of augmented reality media characteristics on consumers' value perceptions, and how these influence their purchase intentions. The findings show that augmented reality media characteristics positively influence consumers' utilitarian and hedonic value perceptions. The study provides marketers with insights into implementing digital transformation strategies and augmented reality applications in marketing practices.

The proliferation of SNSs has changed how we communicate, network, and socialise with others. The seventh chapter, by Tommy K. H. Chan, explores how social anxiety influences self-disclosure on SNSs and its effect on well-being. Drawing on the hyperpersonal communication model, the author advances a research model to explain how social anxiety leads to self-disclosure on SNSs. The author also hypothesises that online disinhibition has a positive moderating effect on the relationship between social anxiety and self-disclosure. This study enhances our understanding of the self-disclosure patterns of socially anxious individuals on SNSs, providing practitioners and educators with insights into how intimate relationships and a higher level of social interaction with others can be fostered.

The eighth chapter, by Sven Laumer and Christian Maier, presents a literature review on technostress and social networking sites (SNSs). The authors propose a transactional model of SNS use stress. The model shows that social and technical SNS-stressors trigger psychological, physiological, and behavioural reactions (i.e. SNS-strains). Specifically, social SNS-stressors and psychological and behavioural SNS-strains have been found extensively examined in the literature. The chapter concludes by identifying research gaps and offering implications for researchers, SNS users, SNS providers, organisations, and parents to help them prevent and intervene in SNS use stress.

Research on the positive and negative implications of IT across organisations and individuals has gained momentum, and the broad reach of this edited book contributes to the movement. We hope that both researchers and practitioners will enjoy reading the book and will derive new insights that inform their future research and practice. We thank the contributors and the publisher for making this book possible.

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