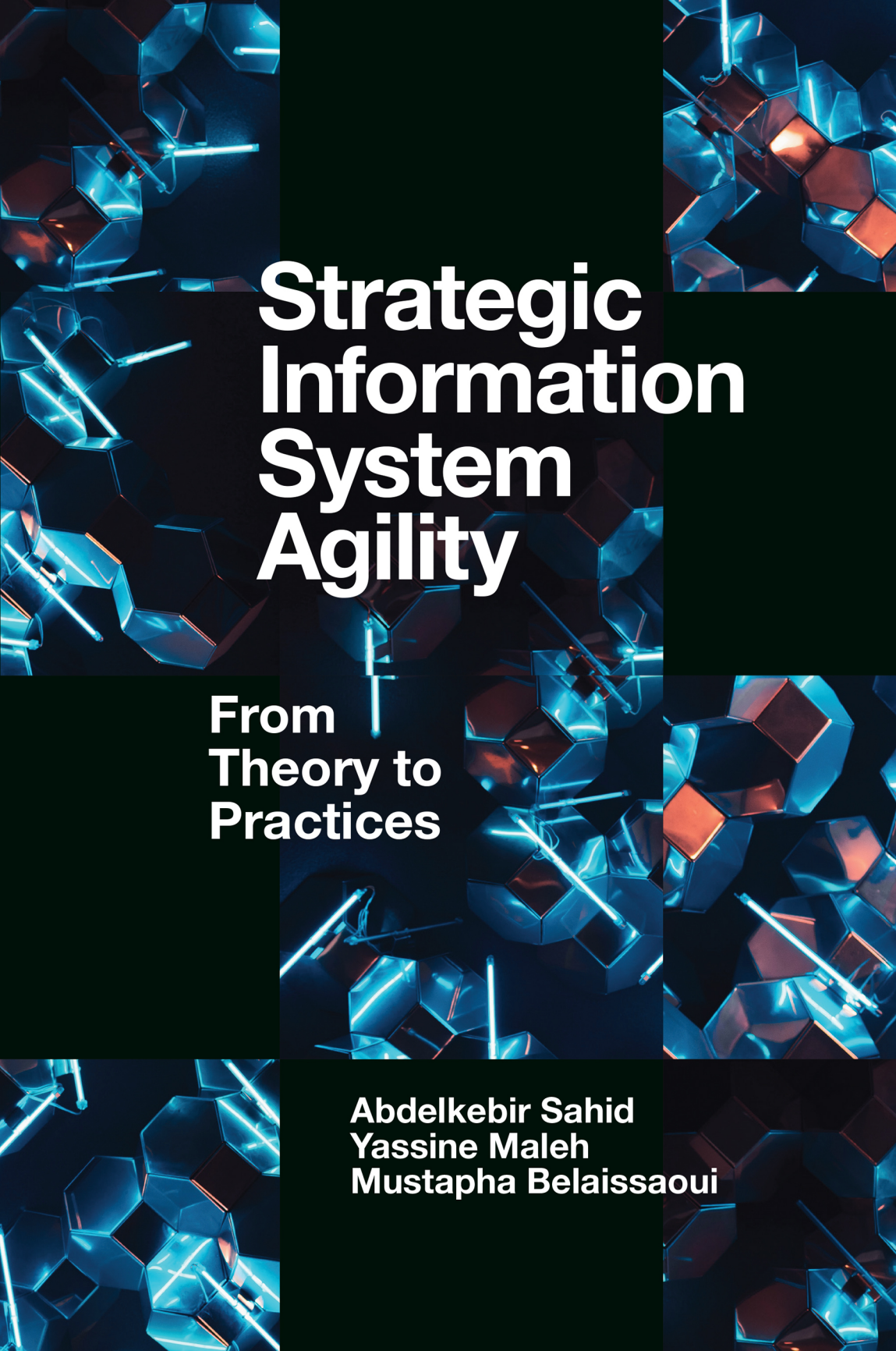
Strategic Information System Agility
From Theory to Practices
Abdelkebir Sahid
Yassine Maleh
Mustapha Belaissaoui

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Strategic Information System Agility: From Theory to Practices

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INVESTOR IN PEOPLE

In loving memory of my aunt Essadia Sahid — *Abdelkebir Sahid*
In loving memory of my mother — *Yassine Maleh*
To my family — *Mustapha Belaissaoui*

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List of Acronyms

AM	Agility Management
APO	Align, Plan, and Organise
BAI	Build, Acquire, and Implement
BSC	Balanced Scorecard
ISO/IEC	International Standards Organization/International Electrotechnical Commission
CEO	Chief of Enterprise Officer
CG	Corporate Governance
CIA	Confidentiality, Integrity, and Availability
CIO	Chief of Information Officer
CMDB	Configuration Management Database
CMMI	Capability Maturity Model Integration
COBIT	Control Objectives for Information and related Technology
COSO	Committee of Sponsoring Organizations of the Treadway Commission
DOI	Diffusion of Innovation theory
DSS	Deliver, Service, and Support
DIS	Direction of information systems
DBPA	Data Base Agility Drivers
EDA	Exploratory Data Analysis
EDM	Evaluate, Direct, and Monitor
EUROSAI	European Organization of Supreme Audit Institutions
EIS	Enterprise Information Systems
ERP	Enterprise Resources Planning
DSR	Design Science Research
EG	Enterprise Governance
IT	Information Technology
ITG	Information Technology Governance
ITGI	Information Technology Governance Institute
ITIL	Information Technology Infrastructure Library
ITSM	Information Technology Service Management
IS	Information Systems
SLA	Service Level Agreement
ISO	Information Security Officer
ISMS	Information Security Management System
ISG	Information Security Governance

ISSP	Information Systems Security Policy
ITIL	Information Technology Infrastructure Library
ISACA	Information Systems Audit and Control Association
JIT	Just-in-Time (manufacturing philosophy)
KPI	Key Performance Indicator
MEA	Monitor, Evaluate, and Assess
MENA	Middle East and North Africa
NIST	National Institute of Standards and Technology
OLA	Operational Level Agreement
OA	Organizational Agility
PDCA	Plan-Do-Check-Act
PCM	Process Capability Model
PMBOK	Project Management Body of Knowledge
PSIS	Policy Security for Information Systems
SLM	Service Level Management
SMEs	Small and medium-sized enterprises
SOX	Sarbanes-Oxley Act
SPOC	Single Point of Contact
TQM	Total Quality Management
TQC	Total Quality Control
VE	Virtual Enterprise
UTAUT	Unified Theory of Acceptance and Use of Technology

Preface

In the last decade, the use of information systems as a strategic tool has contributed significantly to the Information Technology revolution. However, the adoption of information systems is rarely successful without adequate precautions and attention. IT systems' deployment is both a risky and profitable choice for an increasingly rapid and evolving economic context.

Nowadays, organizations increasingly require a reactive and proactive response to uncertain internal and external events and opportunities, demonstrating agility of action to reach a company's operational performance. The issue is that organizations are generally not prepared to deal with significant uncertainties and unpredictability. Likewise, information systems are not developed to cope with change and unpredictability. Consequently, for many companies, IT signifies a constraining factor to business agility requirements.

Strategically, agility implied conquering new markets, taking risks, and considering new social and environmental challenges. Thus, in operational strategy, this means integrating stakeholders into the company's practices and improving its understanding by re-evaluating all links in chain value to create a competitive advantage.

In other words, agility necessarily requires strategy and, more specifically, organization, culture, and business model to convey the need for responsiveness as effectively as possible.

Faced with the various transformations, and needs of the internal and/or external environment, it is essential to structure the company's information system (EIS) to facilitate its evolution and modify its positioning, structure, and skills. All this in harmony with the company's strategic development, while ensuring global consistency in terms of permanent IT alignment with the global strategy, interoperability, integration, autonomy, and flexibility. In other words, the EIS must be agile.

The book's purpose is to analyze and explain the impact of IT systems' strategic agility on organizations' business performance in response to highly uncertain and unexpected events potentially significant.

The present book aims to create an explanatory framework that illustrates how and under what conditions IT helps organizations to detect and respond to uncertain events supported by learning capabilities. The main question of this book is the following: What is the role and impact of strategic IS agility on the operational agility of organizations in response to uncertain events?

This book delivers comprehensive coverage of the elements necessary for the development and the implementation of effective Information systems' strategic

agility. The book dissertation includes the concept, theory, modeling, and architecture of an agile information system. It covers state of the art, concepts, and methodologies for developing information system strategies taking into account the environment, the current development of information technologies, and the general trend of IS agility. The book should help companies to formulate the information systems' processes of the twenty-first century to grow in the competitiveness of its area.

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