

INTERNATIONAL BUSINESS
IN THE INFORMATION AND
DIGITAL AGE

PROGRESS IN INTERNATIONAL BUSINESS RESEARCH

Series Editors: The European International
Business Academy (EIBA)

Recent Volumes:

- Volume 1: Progress in International Business Research – Edited by Gabriel R. G. Benito and Henrich R. Greve
- Volume 2: Foreign Direct Investment, Location and Competitiveness – Edited by John H. Dunning and Philippe Gugler
- Volume 3: New Perspectives in International Business Research – Edited by Maryann P. Feldman and Grazia D. Santangelo
- Volume 4: Research on Knowledge, Innovation and Internationalization – Edited by Jorma Larimo and Tia Vissak
- Volume 5: Reshaping the Boundaries of the Firm in an Era of Global Interdependence – Edited by José Pla-Barber and Joaquín Alegre
- Volume 6: Entrepreneurship in the Global Firm – Edited by Alain Verbeke, Ana Teresa Tavares-Lehmann and Rob van Tulder
- Volume 7: New Policy Challenges for European MNEs – Edited by Rob van Tulder, Alain Verbeke and Liviu Voinea
- Volume 8: International Business and Sustainable Development – Edited by Rob van Tulder, Alain Verbeke and Roger Strange
- Volume 9: Multinational Enterprises, Markets and Institutional Diversity – Edited by Alain Verbeke, Rob van Tulder and Sarianna Lundan
- Volume 10: The Future of Global Organizing – Edited by Rob van Tulder, Alain Verbeke and Rian Drogendijk
- Volume 11: The Challenge of BRIC Multinationals – Edited by Rob van Tulder, Alain Verbeke, Jorge Carneiro and Maria Alejandra Gonzalez-Perez
- Volume 12: Distance in International Business: Concept, Cost and Value – Edited by Alain Verbeke, Jonas Puck and Rob van Tulder

PROGRESS IN INTERNATIONAL BUSINESS RESEARCH
VOLUME 13

INTERNATIONAL BUSINESS IN THE INFORMATION AND DIGITAL AGE

EDITED BY

ROB VAN TULDER

Erasmus University, The Netherlands

ALAIN VERBEKE

*University of Reading, United Kingdom; Vrije Universiteit
Brussel, Belgium; University of Calgary, Canada*

LUCIA PISCITELLO

Politecnico di Milano, Italy



United Kingdom – North America – Japan
India – Malaysia – China

Emerald Publishing Limited
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2019

Copyright © 2019 Emerald Publishing Limited

Reprints and permissions service

Contact: permissions@emeraldinsight.com

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-78756-326-1 (Print)

ISBN: 978-1-78756-325-4 (Online)

ISBN: 978-1-78756-327-8 (Epub)

ISSN: 1745-8862 (Series)



ISOQAR certified
Management System,
awarded to Emerald
for adherence to
Environmental
standard
ISO 14001:2004.

Certificate Number 1985
ISO 14001



INVESTOR IN PEOPLE

CONTENTS

List of Contributors ix

Preface – Lorraine Eden – A Tribute xi

Introduction: International Business in the Information and Digital Age – An Overview of Themes and Challenges
Rob van Tulder, Alain Verbeke and Lucia Piscitello 1

Chapter 1 The Fourth Industrial Revolution: Seven Lessons from the Past
Lorraine Eden 15

PART I IB TRENDS AND THEORY IN THE INFORMATION AGE

Chapter 2 International Production and the Digital Economy
Richard Bolwijn, Bruno Casella and James Zhan 39

Chapter 3 IB and Strategy Research on “New” Information and Communication Technologies: Guidance for Future Research
Christopher Hazlehurst and Keith D. Brouthers 65

Chapter 4 The Changing Face of International Business in the Information Age
Jakob Müllner and Igor Filatotchev 91

Chapter 5 The Effects of Global Connectivity on Knowledge Complexity in the Information Age
John Cantwell and Jessica Salmon 123

**PART II
ENTREPRENEURIAL STRATEGIES IN
THE INFORMATION AGE**

- Chapter 6 Blockchain Ventures and International Business**
Andre Laplume 141
- Chapter 7 Internationalisation through Digitalisation:
The Impact of E-commerce Usage on Internationalisation in
Small- and Medium-sized Firms**
Jonas Eduardsen 159
- Chapter 8 Global Competitors? Mapping the
Internationalization Strategies of Chinese Digital
Platform Firms**
Kai Jia, Martin Kenney and John Zysman 187
- Chapter 9 New Digital Layers of Business
Relationships – Experiences from Business-to-business
Social Media**
Susana Costa e Silva and Maria Elo 217

**PART III
FUNCTIONAL STRATEGIES IN THE
INFORMATION AGE**

- Chapter 10 The Changing Structure of Talent for Innovation:
On Demand Online Marketplaces**
Keren Caspin-Wagner, Silvia Massini and Arie Y. Lewin 245
- Chapter 11 Expanding International Business via Smart
Services: Insights from ‘Hidden Champions’ in the Machine
Tool Industry**
Bart Kamp 273
- Chapter 12 Additive Manufacturing and Global Value Chains:
An Empirical Investigation at the Country Level**
*Filippo Buonafede, Giulia Felice, Fabio Lamperti
and Lucia Piscitello* 295

**PART IV
INDUSTRY 4.0**

Chapter 13 <i>Amazon and Alibaba: Internet Governance, Business Models, and Internationalization Strategies</i> <i>Xinyi Wu and Gary Gereffi</i>	327
Chapter 14 Industry 4.0 Technologies and Internationalization: Insights from Italian Companies <i>Maria Chiarvesio and Rubina Romanello</i>	357
Chapter 15 On the Role of Clusters in Fostering the Industry 4.0 <i>Marta Götz and Barbara Jankowska</i>	379
Chapter 16 Internationalisation of Science Parks: Experiences of Brazilian Innovation Environments <i>Jurema Tomelin, Mohamed Amal, Aurora Caneiro Zen and Pierfrancesco Arrabito</i>	391
<i>Index</i>	409

This page intentionally left blank

LIST OF CONTRIBUTORS

<i>Mohamed Amal</i>	Regional University of Blumenau, Brazil
<i>Pierfrancesco Arrabito</i>	Federal University of Rio Grande do Sul, Brazil
<i>Richard Bolwijn</i>	UNCTAD, Switzerland
<i>Keith D. Brouthers</i>	King's College London, UK
<i>Filippo Buonafede</i>	Politecnico di Milano, Italy
<i>John Cantwell</i>	Rutgers Business School, USA
<i>Bruno Casella</i>	UNCTAD, Switzerland
<i>Keren Caspin-Wagner</i>	Duke University, USA
<i>Maria Chiarvesio</i>	University of Udine, Italy
<i>Lorraine Eden</i>	Texas A&M University, USA
<i>Jonas Eduardsen</i>	Aalborg University, Denmark
<i>Maria Elo</i>	University of Turku, Finland
<i>Giulia Felice</i>	Politecnico di Milano, Italy
<i>Igor Filatotchev</i>	King's College London, UK
<i>Gary Gereffi</i>	Duke University, USA
<i>Marta Götz</i>	Vistula University, Poland
<i>Christopher Hazlehurst</i>	King's College London, UK
<i>Barbara Jankowska</i>	Vistula University, Poland
<i>Kai Jia</i>	University of Electronic Science and Technology of China, China
<i>Bart Kamp</i>	Orkestra-Basque Institute of Competitiveness and Deusto University, Spain

<i>Martin Kenney</i>	University of California, USA
<i>Fabio Lamperti</i>	Politecnico di Milano, Italy
<i>Andre Laplume</i>	Michigan Technological University, USA
<i>Arie Y. Lewin</i>	Duke University, USA
<i>Silvia Massini</i>	The University of Manchester, UK
<i>Jakob Müllner</i>	Vienna University of Economics and Business, Austria
<i>Lucia Piscitello</i>	Politecnico di Milano, Italy
<i>Rubina Romanello</i>	University of Udine, Italy
<i>Jessica Salmon</i>	Siena College, USA
<i>Susana Costa e Silva</i>	Universidade Católica Portuguesa, Portugal
<i>Jurema Tomelin</i>	Univille University, Brazil
<i>Rob van Tulder</i>	Rotterdam School of Management, Erasmus University, The Netherlands
<i>Alain Verbeke</i>	University of Reading, UK; Vrije Universiteit Brussel, Belgium; University of Calgary, Canada
<i>Xinyi Wu</i>	Duke University, USA
<i>Aurora Caneiro Zen</i>	Federal University of Rio Grande do Sul, Brazil
<i>James Zhan</i>	UNCTAD, Switzerland
<i>John Zysman</i>	University of California, USA

PREFACE

LORRAINE EDEN – A TRIBUTE

The Progress in International Business Research (PIBR) series is an initiative of the European International Business Academy, in collaboration with Emerald Group Publishing. Since 2014, each volume has been dedicated to an International Business (IB) scholar, who has made important and lasting contributions to the scholarly IB community, both in intellectual and institutional building terms. The first two tribute volumes were dedicated posthumously to pinnacle leaders and beloved figures in the IB field, who had unexpectedly passed away at the height of their influence, namely Daniël van den Bulcke (University of Antwerp, Belgium) and Alan M. Rugman (University of Reading, UK). The subsequent two volumes were dedicated to institution builders who are still very active in the field, namely Louis T. Wells (Harvard University, USA) and Rosalie Tung (Simon Fraser University, Canada). In the latter cases, these scholars were selected because their scholarly oeuvre represented an almost perfect fit with the corresponding research volume's theme, respectively advances in IB research on emerging markets (with a focus on the 'BRIC (Brazil, Russia, India and China)' countries) and distance (with a focus on its cultural and institutional dimensions). The PIBR series aims to publish collections of papers on subject matter that is not necessarily considered 'mainstream' at the time of research, or that requires novel ways of approaching it. The selection of tribute volume awardees also signals the Editors' appreciation for innovative, out-of-the-box thinkers in the IB research area.

Following this tradition, the present volume in the PIBR series also covers a relatively new area of research, namely the interaction between multinational enterprises (MNEs) and the digital and information age. This includes, on the one hand, an account of the role that MNEs can have in shaping the new age. On the other hand, the 'maturing' of the Internet creates challenges as well as opportunities for established, emerging and new MNEs, often independently of company size or home country. This volume brings together creative contributions from mainstream IB scholars, and includes work from scholars in adjacent disciplines, such as economic geography, international relations and political science, strategic management and technology studies. IB as a scholarly discipline always faces a challenge when addressing major societal and technological developments; in particular, those that involve multilevel and multimethod research, and placed at the interface between company strategies and government regulation. Studying the 'fourth industrial revolution' is a prime example of such a challenge.

IB studies that cover the interface between technology, regulatory regimes and business strategy in a rigorous fashion, demand that scholars combine qualitative and quantitative insights in a robust manner.

This is where the life-long contributions of Lorraine Eden deserve particular praise. She has contributed immensely to scholarly inquiry into novel and intellectually challenging IB phenomena, and this is the first reason for this tribute. Lorraine Eden is presently a Professor of Management and holds the Gina and Anthony Bahr Professor in Business at Texas A&M University (USA). She is also associated as a Faculty Member with the Bush School of Government and Public Service at the same institution. Her research interests lie, in her own words: ‘at the intersection of economics, international business and public policy’. Her current and past research interests have focused primarily on two areas: Transfer pricing (the pricing of transactions among related parties) and strategies of MNEs to cope with institutional distance, liability of foreignness and the challenges of ‘hot spots’ (e.g., conflict zones, corrupt economies, tax havens). Her books include *Taxing Multinationals* (1998), *Multinationals in North America* (1994), *Retrospectives on Public Finance* (1991), *Multinationals and Transfer Pricing* (1985, 2017) and *The Economics of Transfer Pricing* (2018). Lorraine Eden’s 170+ scholarly publications have earned more than 11,000 citations on Google Scholar. In the period 2005–2015, she ranked fourth as most productive scholar among Management faculty and the 13th most productive scholar among Business School faculty in terms of articles published in 24 ‘journals of distinction’. Her most influential publications (in terms of citations) cover four very different areas of research. These papers signal her broad scholarly interests and willingness to collaborate with other researchers: more than 3,500 citations for an *AMJ* paper on emerging economies (Hoskisson, Eden, Lau, & Wright, 2000), 1,400 citations for a *JIBS* paper on IB methods (Chang, Van Witteloostuijn, & Eden, 2010), and more than 500 citations for both a book chapter (Elsevier) contributing to the literature on distance and liability of foreignness (Eden & Miller, 2004), and for an *AMR* article on government corruption and MNE strategies (Rodriguez, Uhlenbruck, & Eden).

The second reason to pay tribute to Lorraine Eden is her life-long engagement in support of creating a vibrant, global disciplinary community of IB researchers. She has done this in many capacities. First, as an active participant in the annual meetings organised by the Academy of International Business (AIB), over a period spanning decades. She was elected as the AIB fellow as early as 2004, in part because of her lead role in stimulating female participation in the IB research community, for instance, by founding the Women in the Academy of International Business network. Second, as the editor-in-chief of *JIBS*, the top-ranked journal in the field of international business, whereby she consolidated

the status of *JIBS* as a recognised ‘A’ level outlet in the broader management sciences. Third, as the 2017–2018 president of the AIB, a scholarly association in which she also held a Vice President position during the period 2000–2002. As the AIB President elect, she was instrumental in developing Codes of Ethics for the AIB Membership, the AIB Leadership and the AIB journals. These codes outline standards of professional and ethical conduct and procedures for handling violations thereof. In an increasingly complex and volatile world, IB scholars must abide by the most stringent possible norms of professional conduct and ethical behaviour, whereby criteria of scientific integrity are paramount. Lorraine Eden is owed a depth of gratitude for her trailblazing role in this discourse.

The third reason to pay tribute to Lorraine Eden is her unrelenting focus on the societal responsibilities of the IB teacher and scholar, whereby she has never shied away from addressing controversial areas of MNE involvement. At Texas A&M, she teaches courses on transfer pricing and MNEs. Her Transfer Pricing Aggies programme has trained more than 300 masters- and PhD-level students. Over 100 graduates have used this training as a platform to pursue transfer-pricing careers. More generally, she has been actively involved in establishing linkages between academia and society, by participating in a large number of high-level advisory committees and networks. As one example, in 2015, she acted as a member of the E15 Task Force on Trade and Investment, an expert task force within the E15 Initiative on Strengthening the Global Trade and Investment System for Sustainable Development. Particularly relevant for the topic of the present PIBR volume has been her recent (2014–2016) membership of the Research Advisory Network to the Global Commission on Internet Governance. This is a joint project of The Centre for International Governance Innovation and Chatham House (the Royal Institute of International Affairs), on the future of multistakeholder Internet governance. Her technical paper for the Task force (Eden, 2016) established clear linkages among digitisation, foreign direct investment and sustainable development. Lorraine Eden’s oeuvre of policy-oriented papers, written during the past 35 years, provides a wealth of genuine insight on the complexity of policy processes and the impact of public policy, and much of this insight remains as relevant today as when these pieces were first composed.

Lorraine Eden’s paper prepared for this volume (Chapter 1) shows in a very personal manner how her scholarship developed over the years and how she managed to relate her research to relevant societal themes and to her service to the wider IB community. We hope that Lorraine Eden’s account of her personal journey, which truly reflects the philosophy of ‘service above self’, may inspire the coming generation of IB scholars to follow in her footsteps.

The Editors,
Rob van Tulder, Alain Verbeke and Lucia Piscitello

REFERENCES

- Chang, J., Van Witteloostuijn, A., & Eden, L. (2010). Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178–184.
- Eden, L., & Miller, S. (2004). Distance matters: Liability of foreignness, institutional distance and ownership strategy. In M. Hitt, & J. Cheng (Eds.), *The evolving theory of the multinational firm*. Advances in International Management (Vol. 16). Amsterdam, The Netherlands: Elsevier.
- Eden, L. (2016). Multinationals and foreign investment policies in a digital world. In E15Initiative, International Centre for Trade and Sustainable Development and World Economic Forum, Geneva. www.e15initiative.org.
- Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, 43(3), 249–267.
- Rodriguez, P., Uhlenbruck, K., & Eden, L. (2005). Government corruption and the entry strategies of multinationals. *Academy of management review*, 30(2), 383–396.

INTRODUCTION: INTERNATIONAL BUSINESS IN THE INFORMATION AND DIGITAL AGE – AN OVERVIEW OF THEMES AND CHALLENGES

Rob van Tulder, Alain Verbeke and Lucia Piscitello

1. INTRODUCTION: A CHALLENGING AGENDA

The emergence of the “information and digital age” is rapidly changing the face of international business (IB) activity (Alcacer, Cantwell, & Piscitello, 2016; Friedman, 2005). Some call the present stage of transition the “third industrial revolution” (Rifkin, 2011), others refer to it as the “fourth industrial revolution,” Industry 4.0, or the “digital” or “new economy” (Schwab, 2016). There appears to be broad agreement on the fundamental and “disruptive” nature of the ongoing transformation.

Features relevant for IB studies, which have been suggested as characterizing the new age, include: organizational decentralization (Ghoshal & Bartlett, 1998), vertical disintegration and specialization (Langlois, 2003), modularity (Baldwin & Clark, 2000), flexibility (Volberda, 1998), accelerated knowledge creation, exchange or diffusion, and increased knowledge complexity (Foss & Pedersen, 2004), inter-organizational collaboration and openness (Chesbrough, 2003), various kinds of networks (Ghoshal & Bartlett, 1990; Zander, 2002), new manufacturing technologies (Laplume, Petersen, & Pearce, 2016), and new business models leading to a “(digital) platform” or “network economy” (Kenney & Zysman, 2016).

Institutional settings have also evolved alongside the new wave of technological innovation, leading to changes across countries in the mechanisms responsible for standardization, intellectual property rights protection, and the institutional conditions fostering individual and local creativity (Mowery, 2009). The rules of the competitive game (North, 1990) are changing. Consequently, new regulatory challenges have appeared – requiring a new take on not only what constitutes

effective industrial and trade policies, but also on effective privatization and liberalization measures. Many of the new organizational forms around the world that shape the digital (Internet) economy have benefited from two particular regulatory characteristics: (1) the absence of government regulation and involvement at a global scale and (2) the introduction of hybrid governance structures for the Internet. In particular, the creation of the Internet Corporation for Assigned Names and Numbers (ICANN) in 1998 as a private, non-profit making and public benefit corporation signaled a new approach to global governance. ICANN succeeded in taking over the centralized coordination and management of the Internet's Domain Name System from the United States government (Muldoon, Aviel, Reitano, & Sullivan, 2011) – thus, facilitating a much more rapid spread of the Internet than had previously been thought possible. *The Economist* (July 12, 2017) talks about an “era of digital exceptionalism,” in which online platforms in America, and to some extent in Europe, “have been inhabiting a parallel legal universe (... in which) they are not legally responsible, either for what their users do or for the harm that their services can cause in the real world.”

Compared with the early twenty-first century, the rapid global spread of the digital age to almost all corners of the world has raised the competitive and regulatory stakes. Consequently, the argument is also mounting that many of the new organizational forms have become either too dominant – because of being concentrated in the hand of a few multinational enterprises (MNEs) – or are undermining local regulatory regimes and social contracts (see also, Chapter 3 of this book). The former relates to the dominant position of a limited number of digital network companies such as Google, Apple, or Amazon (Moore & Tambini, 2018). The latter relates to new business models deployed by centralized platform companies such as Uber, Facebook, Alibaba, or Airbnb. In response, some regulatory agencies have started enacting antitrust laws to push back on the dominance of a limited number of digital age companies. Witness for instance the €4.3 billion fine imposed in July 2018 by the European Commission on Google for abusing its dominant (network) position to discriminate against rivals (and, thus, in the longer run lowering the innovative potential of the Internet). This fine was the largest antitrust penalty ever – and reminiscent of comparable antitrust cases against earlier carriers of the information age, such as Microsoft in the 1990s. Airbnb and Uber are centralized platforms that are increasingly criticized for undermining local safety regulations (to be respected by hotels) or minimum wage conventions (to be respected by tax drivers). The Chinese government's monitoring of its citizens, and the role played by leading MNEs such as Alibaba and Tencent, has triggered other concerns over the “neutrality of the net” – which in its original setup had been favorable to maximizing (democratic) participation across the world. But, in a 2018 UK parliamentary committee report, Facebook and Twitter have been accused of “undermining democracy” through a systematic manipulation of information, and usage of private information of their subscribers for commercial goals.

A new “breed” of MNEs (e.g., Brothers, Geisser, & Rothlauf, 2016) and business models (Baden-Fuller & Haefliger, 2013) is rapidly developing, and redefining the boundaries of what constitutes a firm and a society. The extent to which this contributes to positive or negative transition processes, is open to debate.

The Economist (June 30, 2018) has argued that, while “the Internet was meant to make the world a less centralized place (...) the opposite has happened.” They even quote Tim Berners-Lee, the inventor of the world-wide-web (www), who stated that the Internet “has failed to deliver the positive, constructive society many of us had hoped for.” The main criticism is that the Internet has become much more centralized than originally envisaged, and is dominated by a few giant firms, in particular from the United States and China, such as Facebook, Amazon, Apple, Google, Alibaba, and Tencent. The positive and negative impacts of the information and digital age are in any case heavily influenced by the strategies adopted by leading enterprises. A key characteristic of these enterprises is their multinational nature. Analysis of the interactions between the shape of the information age and MNE strategies has thus become an important area of study for IB scholars.

2. THE STATUS OF IB RESEARCH

The IB discipline is faced with a sizable challenge: how to cover these trends and come up with meaningful, robust, and timely insights. Two chapters in this volume assess the present status of the scientific discourse as covered by IB studies (Chapters 4 and 5). They come to contradictory conclusions: Hazlehurst and Brouthers (Chapter 3) argue that the interest shown in new information and communication technologies by IB and strategy scholars is far lower than that of marketing and information systems scholars. Müllner and Filatotchev (Chapter 4), on the other hand, present a more positive assessment of the status of IB research in analyzing the effects of the information age on firm-level internationalization strategies.

Both chapters use different methodologies to cover the literature; thus, we complemented their search with a more focused check on the way seven¹ of the leading IB journals over the 1990–2018 period have covered *key concepts* within three dimensions of the information and digital age:

1. *The organizational dimension*: Specific functional concepts related to the information age like “algorithm,” “artificial intelligence,” and “e-commerce” have received some attention in IB journals. Most articles on e-commerce already appeared in the 2001–2003 period as part of a special issue of *Journal of International Business Studies* (JIBS) (De la Torre & Moxon, 2001; Lynch & Beck, 2001; Oxley & Yeung, 2001; Singh & Kundu, 2002), to be followed by a new batch of studies that were triggered by the entry of Chinese e-commerce companies (Shen & Kim, 2016). In the early twenty-first century, some studies also appeared on the role of Information and communications technology (ICT) on the international organization of companies – for instance in innovation (Santangelo, 2001). In IB studies, algorithms have primarily functioned as a methodology, rather than as a topic of research. Linking the influence of major Internet companies like Facebook and Google to their use of algorithms has hardly reached mainstream IB research (cf., Allen & Aldred, 2013). The same applies to the topic of artificial intelligence, which is primarily used as an analytical technique (e.g., neural network analysis, see Veiga, Lubatkin, Calori, Very, & Tung, 2000), rather than studied as a new tool to organize business.

2. *The regulatory dimension:* More generic and governance-related concepts like “cyberspace” (Ching & Ellis, 2006; Kobrin, 2001) or “industry 4.0” (Strange & Zucchella, 2017) have been haphazardly covered by IB scholars. The most popular concept has been that of “platform,” which has traditionally been used in the context of “export platforms,” but has recently been linked to the Internet revolution, either from the perspective of companies (Ojala, Evers, & Rialp, 2018) or from the perspective of activists who organize themselves digitally against MNEs (Benmamoun, Kalliny, & Cropf, 2012; Fiorito, 2005; Lewis, 2005). More controversial governance concepts, such as “net neutrality,” have not received any attention in the IB discourse yet. Although research on intellectual property rights and competition policies has been prolific – with a few exceptions (Brander, Cui, & Vertinsky, 2017; Ivus, Park, & Saggi, 2017; Peng, Ahlstrom, Carraher, & Shi, 2017) – largely unrelated to the companies that lead the Internet revolution and that are criticized for protecting their dominant position through sheltering their source codes and intellectual property.
3. *The case study/corporate dimension:* Conducting case studies represent a valuable approach for the analysis of new empirical phenomena. Specific information and digital era MNEs are coming of age – in particular, MNEs from the United States and China. Since 2011, IB scholars have been looking at the American companies at a modest scale and mostly adopting a critical perspective (Roberts & Dörrenbächer, 2016). Half of the papers that have been published since 2010 on companies such as Facebook, Google, Uber, and Airbnb (and to a lesser extent, Microsoft) have appeared in issues of *Critical Perspectives on International Business*. The coverage of Chinese information and digital MNEs has been more limited, and primarily focused on Alibaba and Tencent (Brander et al., 2017; Shen & Kim, 2016; Strange & Zucchella, 2017).

Part of the problem of adequately taking stock of present IB research on the information and digital age is related to the delineation of a relevant research field: where to start; where to draw the boundary. Sizable empirical gaps must be covered, but the pervasive character of the information and digital age raises many questions on how to study MNE strategies: what actually defines the “ICT sector”; how relevant are countries (home or host) in this digital age; and how to look at traditional value chains. Studying MNEs in the digital age requires new types of benchmarking as to what constitutes a successful strategy and corporate social responsibility, and this may also influence the foundations of mainstream IB theory.

3. TOPICS FOR THE PRESENT IB DISCOURSE

For the IB discipline, the information and digital age presents a new research agenda of themes that has empirical as well as theoretical repercussions. As regards empirics, it is important to understand the rise of new MNE types. In terms of theory, the role of new information and digital management tools, and the linkages with regulations affecting IB, will undoubtedly affect mainstream theorizing on the MNE. The following themes would appear to be particularly relevant:

- Information and communication technologies have given rise to both a *new type of firms* offering a platform for users to interact with each other and generate value through user co-creation of content, and to *new business models*. What defines the success of these business models from an international and comparative perspective?
- *The international fragmentation of production systems and the geographic dispersion* of the value chain have opened up *novel* opportunities and related growth scenarios for new actors. How has the relative importance of location factors and geographical hierarchies changed? How are emerging market countries capturing these opportunities to catch up and shift their role in global supply/value chains? How have recent processes of back-sourcing and back-shoring been affected (and possibly facilitated) by the information and digital age?
- Increasing *de-verticalization* and *modularity* of products and processes foster complex and dispersed network organizations. How do firms manage multi-faceted portfolios, including various forms of corporate partnering, external collaboration, and non-equity forms across borders? What governance structures have been adopted to manage cross-country inter-organizational networks? What creative value chain orchestration and governance approaches are needed in this landscape?
- How do changes in the international economic, technological, and social *environments* create new *opportunities* and *roles for small and medium-sized enterprises (SMEs), international new ventures, international entrepreneurship, and global start-ups*? Conversely, what is the evolution in the role of large, global companies when they metamorphose from being primary producers and distributors to becoming aggregators? Have they successfully developed a new capacity to act as knowledge and capability coordinators or integrators?
- Technological revolutions and the *transformation* of industrial structures: How do information and communication, as well as *new digital technologies, change sectoral boundaries* (e.g., between manufacturing and non-manufacturing industries), deconstruct traditional industries, and stimulate the emergence of new sectors and/or *cross-industry convergence*? Are reallocation and recombination of innovative efforts among international intra-firm and external actors facilitated by these new, general-purpose technologies? How do changes in sectoral boundaries impact corporate diversification and stimulate new organizational forms to manage geographic dispersion?
- Organizations evolve and adapt to their technological and institutional environments, and these changes are not unidirectional. What are the conditions enabling the (harmonious) co-evolution of MNE international networks with their institutional environment and policy context? What is the *role of country-specific institutional systems*? Do changes in the relationship between the public and private spheres, such as public-private partnerships, play different roles in different industries and countries?
- How, and to what extent, does the *emergence of new manufacturing technologies, the Internet of Things, 3D printing (Additive Manufacturing), and Industry*

4.0 lead to the international reorganization of production networks? How, and to what extent, do information technologies and increasing flexibility impact upon labor market and employment practices?

- *Are new forms of national or regional regulation necessary? How to take into account the different regulatory environments from which some of the leading companies are developing their network and internationalization strategies? In particular, the difference between the leading United States and Chinese companies has received attention. But, at present, the European Union is providing the most advanced regulatory environment in dealing with privacy considerations. What will happen if the principle of “net neutrality” was treated differently around the world?*
- *Can the global, hybrid regulatory regime be sustained? The regulatory “void” that enabled hybrid forms of regulation (through ICANN, in particular) to mature will probably not be sustained due to increasing tensions between lead companies that represent different regulatory systems. What will be the implications for other regulatory agencies, that is, in the context of intellectual property (the World Intellectual Property Organization) or new digital forms of payment (like crypto-currencies that have an impact on, for instance, the effectiveness of Basel III banking regulations).*
- *Can the same network effects be created after some companies lose their dominant position? What will happen in case hybrid regulations lose their legitimacy?*

4. THIS VOLUME: EXPLORING NEW AREAS FOR IB RESEARCH

This PIBR Volume #13 provides a first effort to address some of the aforementioned themes. It is dedicated to exploring the new opportunities and challenges that the information and digital age have created for established MNEs, small and medium sized MNEs, international new ventures, and global start-ups, as well as for developing and developed countries. Some MNEs actively shape this era, while some are heavily influenced by the coming-of age of the information and digital age. This volume focuses, in particular, on the interaction between MNE strategies and the shape of the information and digital age along four tracks: Part I takes stock of trends and explores new concepts and theoretical approaches, needed to fully cover the role played by MNEs in the information and digital age. Part II looks at present trends from an “entrepreneurial” perspective: what strategies are employed in what areas and why? Part III zooms in on a number of functional areas of management that are particularly susceptible to influences of the information and digital age: employees, services, and value chains. Part IV takes a step back and includes a number of chapters that take a more macro-economic, theoretical, and regulatory point of view: what does “industry 4.0” look like, whether from a comparative perspective or at different levels of regulation and organization?

5. PART I: TRENDS, CONCEPTUALIZATIONS, AND THEORETICAL DEVELOPMENTS

Chapter 2 provides a conceptual framework for most of the other chapters. In 2017, United Nations Conference on Trade and Development (UNCTAD) produced a timely “World Investment Report” on the digital economy. Bolwijn, Casella, and Zhan use the classifications that were developed in that report to further channel their research efforts, understand trends, and define the challenges for policy areas such as taxation and investment policies. They argue that a deep re-think of the MNE internationalization theory is needed to explain the transformations at work in international production as a result of digitization. They show that digital MNEs represent by far the most dynamic and pervasive players among the world’s largest multinationals. It has become imperative to follow these firms’ strategies and understand their impacts on the global economy.

Chapters 3 and 4 build upon these ambitions: on the basis of a systematic literature reviews to (a) identify relevant research that has considered the use by MNEs of new information and communication technologies (Hazlehurst & Brouthers, Chapter 3), and (b) identify fundamental external uncertainties for MNEs related to the information age that require particular strategies (Mullner & Filatochev, Chapter 4). Both chapters employ different search approaches, which make their conclusions largely complementary. Hazlehurst and Brouthers conclude that the study of ICT as a management tool in internationalization processes has not really kept pace with their actual implementation. The chapter, therefore, focuses primarily on identifying relevant research areas for IB and strategy researchers; in particular, in such areas as location choice, internationalization processes, and entry mode decisions. The authors’ implicit message, however, is that IB scholars can learn a lot from other research disciplines such as marketing and information systems research. Mullner and Filatochev develop a more integrated approach to the various functional areas of management that are influenced by new stakeholder relations, and by the various degrees of uncertainty. They use recent developments in the information age as a relevant context for identifying six relevant IB themes: peer-to-peer communication, crowd-based organizations, changed industry dynamics (favoring small innovative firms), collaborative (networking) strategies, connectivity, artificial intelligence, and blockchain.

Chapter 5 by Cantwell and Salmon provides a largely theoretical account of the new complexities that MNEs face in the information age. They focus, in particular, on the way in which knowledge re-combinations can be influenced by two dimensions of distance: disparate knowledge fields and distinct geographic locations. They argue that little research has been done on this in the innovation strategy literature. The information age creates new potential for creating informal networks. One challenge for MNEs is to organize these informal, relational networks over longer distances – thereby linking formal governance structure and informal networks.

6. PART II: ENTREPRENEURIAL STRATEGIES

The four chapters in this part consider the more dynamic and entrepreneurial aspects of the information age. Laplume (Chapter 6) takes a look at the phenomenon of

“initial coin offerings” (ICOs). The phenomenon of bitcoins is related to the use of blockchain technology. In this chapter, he links ICOs to the well-known topic in IB research of “born global” start-ups. The entrepreneurial challenge for blockchain start-ups is that they need to solve the problem of network effects – that is, how to create critical mass for a product or service that is not regulated by banks or other authorities. This not only presents particular challenges, but also opportunities to the internationalization of the business model.

Eduardsen (Chapter 7) focuses on the effect of e-commerce on internationalization processes. He uses the Uppsala process model of internationalization and his chapter is one of the few in this volume that actually tries to link a study of corporate strategies in the information and digital age to mainstream IB theory. The Uppsala model is largely one of entrepreneurial decisions, in this case, around the use of the Internet as a means to provide information about the firm. This chapter uses a rich and extensive database, and reaches conclusions supported by statistically significant results. An interesting conclusion is for instance that – for SMEs – using the Internet facilitates international transactions and diversification. But, e-commerce does not automatically results in higher degrees of internationalization.

Jia, Kenney, and Zysman (Chapter 8) attempt to understand and document the (entrepreneurial) motives of Chinese digital platforms to internationalize. Their strategies cannot be separated from the impact of the home market and related government influence. Their chapter provides an important contribution to the discussion on new business models in the information age. Platform competition presents different managerial logics as compared to traditional markets, whereby success is characterized by strong network effects, winner-take-all dynamics, increasing returns, and lock-in outcomes. These elements are highlighted in the context of Chinese platform companies. Effects can be noted on their general strategies, but perhaps even more so on their internationalization strategies. The chapter primarily covers three Chinese platform firms: Tencent, Alibaba, and Baidu. But, it also considers the extent to which these examples can be generalized to other Chinese platform firms, and what this implies for the study of internationalization processes of Chinese firms in general. The conclusions on platform and networking effects are generalizable beyond Chinese information companies.

In Chapter 9, Costa e Silva and Elo present a condensed and exploratory case study, in the business-to-business area. The entrepreneurial element in this chapter is highlighted, *inter alia*, by the search for managerial capabilities in the realm of new ventures and digital relationship management. The authors present a case study that illustrates how a firm can progress in relationship management, for instance, through building up trust through a particular social media strategy. They conclude that neither national context, nor small size, necessarily need to be impediments to internationalization, provided that companies can develop a sophisticated combination of “digital layers” of business relationships.

7. PART III: FUNCTIONAL STRATEGIES

The information age also has repercussions for functional areas of management. A first, concrete example can be found in the creation of online marketplaces for talent.

Chapter 10 by Caspin-Wagener, Massini, and Lewin looks at this issue from different levels of analysis, and assesses the new ways in which work in general, and innovation-related work in particular, is being organized. The authors identified more than one hundred online platforms in the Science, Technology, Engineering, and Math arena that operate as brokers or intermediaries between employers and freelancers. Little is known on the actual operation and effects of these online platforms, and the authors, therefore, explored the key dynamics and events driving the development of these online marketplaces, the types of innovation-related work brokered by these platforms, as well as the geographic dispersion of users and earnings. The chapter uses an extensive database (with over 23 million registered users), as well as extensive research on other platforms. The chapter provides a rich analysis of the present use of these platforms for innovation and human resource management processes, for instance, by describing how external knowledge is engaged in internal innovation processes, and the related incentive and reward system needed to make such engagement work.

A second concrete application of information technologies can be found in the integration of “smartservices” in a business-to-business context. Kamp (Chapter 11) uses an exploratory multiple-case method to find out whether companies in the machine tool industry can get a firmer grip on their installed base through the application of “Industry 4.0” practices and whether this allows them to get a firmer grip on their international (service) business. The results are positive, but do depend on the ability to capitalize on these advanced services – for instance, the positive effects are moderated by the willingness of buyers to pay for the extra service. The author concludes that the expectation described in the existing literature of advanced services becoming subject to market pull, may be elusive. The motivation to add smart services based on Industry 4.0 practices should therefore come primarily from the supplier, rather than the buyer.

A final and very concrete application of the information age can be found in new production techniques, such as “additive manufacturing” (AM). This is also known as 3D printing: joining materials in a layer-upon-layer manufacturing process. The authors of this chapter make clear that their approach is broader because it refers to any professional production technique based on layered processes that are clearly distinct from conventional manufacturing methods based on subtractive processes. In Chapter 12, Buonfede, Felice, Lampertia, and Piscitello present evidence on the influence of AM on a country’s position in global value chains. The main predicted impact of AM is that it may reduce incentives for firms to offshore phases of the production process. AM technologies reduce the potential of exploiting scale economies and achieving labor cost reductions by moving abroad. The statistical analysis in this chapter indeed suggests a negative and statistically significant relationship between AM adoption and global value chain participation. Future research, especially building upon case-based evidence, should help specify the conditions under which this expectation is likely to materialize.

8. PART IV: INDUSTRY 4.0

The four chapters in the final part of this volume concentrate largely on the regulatory context – or the Industry 4.0 “ecosystem” – and its impact on

internationalization strategies of individual companies, clusters, and networks of companies and science parks.

Chapter 13 by Wu and Gereffi builds upon the digital ecosystem concept as defined by UNCTAD staff (Chapter 3) to compare two different Internet governance systems – namely those of the United States and China – and its impact on the business model and internationalization strategies. It focuses on two exemplary and leading shapers of their home country digital economies – Amazon and Alibaba. The strategies of these companies encompass much more than e-commerce: they leverage more systemic aspects of the digital economy such as platforms. The authors identify interaction effects between national systems and corporate strategies, especially with regard to controversial areas of national Internet ecosystem governance. Important interactions can be found in the realm of: (1) cybersecurity and national autonomy (in China related to the Great Fire Wall); (2) privacy and real-name verification; and (3) the Chinese policy to have a “special management share” in Internet corporations. As a consequence, important national differences appear between the United States and China, which – through the international operations of lead corporations such as Amazon and Alibaba – will likely have major implications on the global digital ecosystem.

Chiavesio and Romanello (Chapter 14) consider comparable developments from the perspective of a European country, Italy. They look at the consequences of the introduction of Industry 4.0 technologies for the internationalization of 16 manufacturing exporting companies. They find a much less straightforward relationship between industry 4.0 and internationalization than might be expected from the extant literature. For most of the companies adopting 4.0 technologies, it was a logical next step, following a long tradition of investments in technology and innovation. It can be concluded from this research that for established European companies, Industry 4.0 technologies are used primarily to sustain their existing position, but not necessarily to improve their position in new areas.

Götz and Jankowska (Chapter 15) further explore the role of clusters in the fourth industrial revolution. In a largely theoretical chapter, they argue that clusters provide mechanisms and functionalities that are well aligned with features of Industry 4.0 manufacturing. Clusters and Industry 4.0 are compatible, not contradictory. SMEs can implement Industry 4.0 manufacturing principles (and the related use of the Internet) better if they are embedded in a cluster. The authors argue that this also has consequences for the spatial distribution of activities. Industry 4.0 clusters create platforms of collaboration and alliances, but stripped from their geographical attributes, much in contrast with Michael Porter’s outdated thinking. Industry 4.0 clusters need not be location-specific, nor geographically concentrated.

The final contribution in this fourth part (Chapter 16) considers another type of networking and ecosystem build-up, in support of Industry 4.0, namely the creation and internationalization of science parks. Tomelin, Amal, Zen, and Arrabito present an exploratory study of three science parks located in the south of Brazil. Science parks are an important component of national and regional innovation ecosystems. In particular, in developing countries, they are considered a distinct milieu, within which social and institutional processes emerge.

The authors apply (social) network theory, as well as an upgraded Uppsala internationalization approach, to take into account the relationships and synergy among the actors in the local ecosystem. They find that the internationalization of Brazilian science parks and their tenants has been based primarily on international partnerships with comparable ecosystems: other science parks, business incubators and international institutions and organizations that govern science parks around the world.

9. CONCLUSIONS: THE QUEST FOR AN UPGRADED IB DICTIONARY

The combined chapters of this volume – whether exploratory, conceptual, case-based, or data-based – demonstrate that we need to expand the “dictionary” of IB scholars. Some of the most pervasive and impactful trends related to the information and digital age require: (1) accounting for the novel international growth strategies of companies such as Amazon, Alibaba, and many still unnamed, start-up companies. These start-ups often utilize business models that provide the potential for becoming true “born globals” in the Internet age; (2) introducing new spheres of regulation and public policy, in general, not only to address the opportunities and challenges posed by bitcoins, blockchain technology, 3D printing, etc., but also to provide effective oversight in the realm of domain names and rights to security and privacy; (3) adopting new concepts in business model analysis, such as platforms, crowdsourcing, additive manufacturing; and (4) contributing to new, great societal debates; for instance, around intellectual property rights and privacy protection. The index of this volume provides some indication as to where the requisite, new dictionary is growing in substance. The volume also demonstrates that our journey into this new era – a new society, new business models, the need for new IB scholarship, has only just begun.

NOTE

1. The seven journals include: *Journal of International Business Studies*, *International Business Review (IBR)*, *Journal of World Business/Columbia Journal of World Business*, *Critical Perspectives on International Business*, *Management International Review*, *Multinational Business Review*, and *Transnational Corporations*.

REFERENCES

- Alcacer J., Cantwell, J. A., & Piscitello, L. (2016). Internationalization in the information age: A new era for places, firms, and international business networks? *Journal of International Business Studies*, 47(5), 499–512.
- Allen, M., & Aldred, M. (2013). Business regulation, inward foreign direct investment, and economic growth in the new European Union member states. *Critical Perspectives on International Business*, 9(3), 301–321.
- Baden-Fuller, C., & Haefliger, S. (2013). Business models and technological innovation. *Long Range Planning*, 46(6), 419–426.
- Baldwin C., & Clark, K. B. (2000). *Design rules: The power of modularity* (Vol. I). Cambridge, MA: MIT Press.

- Benmamoun, M., Kalliny, M., & Cropf, R. (2012). The Arab spring, MNEs, and virtual public spheres. *Multinational Business Review*, 20(1), 26–43.
- Brander, J., Cui, V., & Vertinsky, I. (2017). China and intellectual property rights: A challenge to the rule of law. *Journal of International Business Studies*, 48(7), 908–921.
- Brouthers, K. D., Geisser, K. D., & Rothlauf, F. (2016). Explaining the internationalization of ibusiness firms. *Journal of International Business Studies*, 47(5), 513–534
- Cantwell, J. A. (2009). Location and the multinational enterprise. *Journal of International Business Studies*, 40(1), 35–41.
- Chen, W., & Kamal, F. (2016). The impact of information and communication technology adoption on multinational firm boundary decisions. *Journal of International Business Studies*, 47(5), 563–576.
- Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Boston, MA: Harvard Business School Press.
- De la Torre, J., & Moxon, R. (2001). Introduction to the symposium e-Commerce and global business: The impact of the information and communication technology revolution on the conduct of international business. *Journal of International Business Studies*, 32(4), 617–639.
- Doh, J., Rodrigues, S., Saka-Helmhout, A., & Makhija, M. (2017). International business responses to institutional voids. *Journal of International Business Studies*, 48(3), 293–307.
- Fiorito, J., & Todd Royle, M. (2005). Information and communications technology use in British unions. *Critical perspectives on international business*, 1(2/3), 180–193.
- Foss, N. J., & Pedersen, T. (2004). Organizing knowledge processes in the multinational corporation: An introduction. *Journal of International Business Studies*, 35(5), 340–349.
- Freeman, C., & Louçã, F. (2001). *As time goes by: From the industrial revolutions to the information revolution*. Oxford: Oxford University Press.
- Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century*. New York, NY: Farrar, Straus and Giroux.
- Ghoshal, S., & Bartlett, C. (1990). The multinational corporation as an interorganizational network. *Academy of Management Review*, 15(4), 603–625.
- Ghoshal, S., & Bartlett, C. (1998). *The individualized corporation*. London: Heinemann.
- Ivus, O., Park, W., & Saggi, K. (2017). Patent protection and the composition of multinational activity: Evidence from US multinational firms. *Journal of International Business Studies*, 48(7), 808–836.
- Kenney, M., & Zysman, J. (2016). The rise of the platform economy. *Issues in Science and Technology*, XXXII(3), 61–69.
- Kobrin, S. (2001). Territoriality and the governance of cyberspace. *Journal of International Business Studies*, 32(4), 687–704.
- Langlois, R. N. (2003). The vanishing hand: The changing dynamics of industrial capitalism. *Industrial and Corporate Change*, 12(2), 351–385.
- Laplume, A. O., Petersen, B., & Pearce, J. M. (2016). Global value chains from a 3D printing perspective. *Journal of International Business Studies*, 47(5), 595–609.
- Lau Ching, H., & Ellis, P. (2006). Does relationship marketing exist in cyberspace?. *Management International Review*, 46(5), 557–572.
- Lewis, C. (2005). Unions and cyber-activism in South Africa. *Critical Perspectives on International Business*, 1(2–3), 194–208.
- Lynch, P., & Beck, J. (2001). Profiles of internet buyers in 20 countries: Evidence for region-specific strategies. *Journal of International Business Studies*, 32(4), 725–748.
- Martínez Lucio, M., & Walker, S. (2005). The networked union? The internet as a challenge to trade union identity and roles. *Critical Perspectives on International Business*, 1(2–3), 137–154.
- Moore, M., & Tambini, D. (Eds.). (2018). *Digital dominance: The power of Google, Amazon, Facebook and Apple*. Oxford: Oxford University Press.
- Mowery, D. C. (2009). *Plus ça change: Industrial R&D in the “third industrial revolution”*. *Industrial and Corporate Change*, 18(1), 1–50.
- Muldoon, J., Aviel, J., Reitano, R., & Sullivan, E. (Eds.). (2011). *The new dynamics of multilateralism. Diplomacy, international organizations and global governance*. Boulder: Westview Press.
- North, D. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

- Ojala, A., Evers, N., & Rialp, A. (2018). Extending the international new venture phenomenon to digital platform providers: A longitudinal case study. *Journal of World Business, 53*(5), 725–739.
- Oxley, J., & Yeung, B. (2001). E-commerce readiness: Institutional environment and international competitiveness. *Journal of International Business Studies, 32*(4), 705–723.
- Peng, M., Ahlstrom, D., Carraher, S., & Shi, W. (2017). An institution-based view of global IPR history. *Journal of International Business Studies, 48*(7), 893–907.
- Rao, P. (2001). The iCT revolution, internationalization of technological activity, and the emerging economies: Implications for global marketing. *International Business Review, 10*(5), 571–596.
- Rifkin, J. (2011). *The third industrial revolution: How lateral power is transforming energy, the economy, and the world*. New York, NY: St. Martin's Press.
- Roberts, J., & Dörrenbächer, C. (2016). Renewing the call for critical perspectives on international business. *Critical Perspectives on International Business, 12*(1), 2–21.
- Santangelo, G. (2001). The impact of the information and communications technology revolution on the internationalisation of corporate technology. *International Business Review, 10*(6), 701–726.
- Schwab, K. (2016). *The fourth industrial revolution*. Geneva: World Economic Forum.
- Shen, J., & Kim, M. (2016). A comparative research on the business strategies of Chinese e-commerce firms: Alibaba and Jingdong. *International Business Review, 20*(1), 263–263.
- Singh, N., & Kundu, S. (2002). Explaining the growth of e-commerce corporations (ECCs): An extension and application of the eclectic paradigm. *Journal of International Business Studies, 33*(4), 679–697.
- Strange, R., & Zucchella, A. (2017). Industry 4.0, global value chains and international business. *Multinational Business Review, 25*(3), 174–184.
- Veiga, J., Lubatkin, M., Calori, R., Very, P., & Tun,g Y. (2000). Using neural network analysis to uncover the trace effects of national culture. *Journal of International Business Studies, 31*(2), 223–234.
- Verbeke, A., & Ciravegna, L. (2018). International entrepreneurship research versus international business research: A false dichotomy? *Journal of International Business Studies, 49*(4), 387–394.
- Volberda, H. W. (1998). Building the flexibility: How to remain competitive.
- Zander, I. (2002). The formation of international innovation networks in the multinational corporation: an evolutionary perspective. *Industrial and Corporate Change, 11*(2), 327–353.