

Progress in IS

More information about this series at <http://www.springer.com/series/10440>

Kai Riemer · Stefan Schellhammer
Michaela Meinert
Editors

Collaboration in the Digital Age

How Technology Enables Individuals,
Teams and Businesses

 Springer

Editors

Kai Riemer
Business Information Systems
University of Sydney
Sydney, NSW, Australia

Michaela Meinert
Department of Information Systems
University of Münster
Münster, Germany

Stefan Schellhammer
Department of Information Systems
University of Münster
Münster, Germany

ISSN 2196-8705

ISSN 2196-8713 (electronic)

Progress in IS

ISBN 978-3-319-94486-9

ISBN 978-3-319-94487-6 (eBook)

<https://doi.org/10.1007/978-3-319-94487-6>

Library of Congress Control Number: 2018946675

© Springer International Publishing AG, part of Springer Nature 2019

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by the registered company Springer International Publishing AG part of Springer Nature

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

The proliferation of digital technologies has brought the world closer together but also created new barriers and divides. It is now possible to connect almost instantly and seamlessly with family, friends and co-workers across the globe. As a result, new forms of collaboration between individuals, teams and businesses have not only become possible, but a necessity to stay competitive in fast-changing markets.

At the same time, the emerging Digital Age brings with it new requirements and challenges for all involved:

- *Individuals* have to learn new skills for collaborating at a distance and find themselves in rapidly changing work environments;
- *Teams* need to develop new practices and engage in much, often hidden, ‘collaboration work’ to enable effective work across boundaries;
- *Executives and managers* face the challenge of having to lead teams and people that are dispersed across space and time zones;
- *Organisations* see new opportunities for transforming work using digital and social collaboration tools, but face new and unique challenges of introducing and adopting such ‘social’ technologies;
- *Businesses* are able to access resources in new collaborative inter-organisational networks, at the expense of new managerial complexity of engaging in multi-stakeholder arrangements;
- *New markets* proliferate with the advent of digital commerce, yet engaging with consumers in multiple channels requires new capabilities that challenge many traditional retailers.

This book brings together expert scholars to address these challenges. Across 14 chapters, our authors share their insights into new forms of work, team collaboration, enterprise social networking, management in a digital world, digital commerce, as well as various new inter-organisational forms of doing business such as in digital cooperatives, large project businesses and living labs.

We are confident that professionals and academics alike will regard this book a valuable resource for understanding the diverse power of collaboration in the Digital Age. The book is organised into three main parts that represent different levels at which such phenomena play out:

- (1) The first part engages with *collaboration between people and in teams, on a work practice level*. It contains chapters that investigate co-working spaces, enterprise collaboration systems, virtual teams and management practices for the Digital Age.
- (2) The second part widens the gaze and covers matters of *inter-organisational collaboration in business networks*, supply chains or entire industries. Chapters in this section introduce new forms of citizen cooperation in the health sector, the sharing economy, cooperation in large projects, supply chain innovation and ‘living’ infrastructures.
- (3) The third part covers *digital commerce*, new forms of digital interactions between businesses and their customers, with a focus on online search and digital technology adoption among traditional ‘high street’ retailers.

Festschrift for Stefan Klein

This book is a Festschrift in honour of Stefan Klein, on the occasion of his 60th birthday.

Stefan Klein is Professor for Interorganizational Systems and a Director of the European Research Center for Informations Systems (ERCIS) at the Department of Information Systems, University of Münster. Stefan received his Ph.D. from the University of Cologne, Germany and his Habilitation from the University of St. Gallen in Switzerland. He also held positions with the German National Research Center for Computer Science (GMD); Harvard University; University of Koblenz-Landau, Germany; University of Linz, Austria; and University College Dublin, Ireland, where he was John Sharkey Chair in The Centre for Innovation, Technology & Organisation. Stefan has published widely in the discipline of Information Systems and held editorial positions with many of the top journals in the field.

Importantly, Stefan has been a positive role model for many colleagues, junior and senior alike, ourselves included. Many of those colleagues have keenly accepted our invitation,¹ and taken time out of their busy schedules to contribute their latest work and insights to this book. As a result, this book is as much a reflection of the quality of Stefan's network of collaborators, as it is of his own research interests and his approach to academic work and life more generally. If asked to describe Stefan with one word, many colleagues would provide as an answer 'collaboration' (or various derivatives thereof). This term describes at once Stefan's research interests, and his fundamentally open and cooperative attitude towards others.

The theme of the book 'Collaboration in the Digital Age' captures, in today's language, Stefan's long-standing research agenda which revolves around the impact of emerging new technologies, such as information infrastructures, inter-organisational systems, digital devices and communication technologies, on social phenomena of collaboration among businesses, teams, workers or even consumers. More specifically, the three parts of this book are a direct reflection of the three major research streams that characterise Stefan's academic career to date. He has made important contributions to each.

Stefan's core research area of *inter-organisational systems and network collaboration* is reflected in the second part of the book. His main contributions to this area include his Habilitationsschrift 'Interorganisationssysteme und Unternehmensnetzwerke' (Klein, 1996), as well as a number of high-profile journal papers on the configuration of inter-organisational relationships (Klein, 1996), the role of intermediaries in electronic markets (Giaglis, Klein, & O'Keefe, 2002), virtual organisations

¹The editors would like to say a big 'thank you' to all who considered our invitation, including those who were unable to contribute, and apologise to anyone that we might have forgotten to invite.

(Riemer & Klein, 2008), as well as the evolution of inter-organisational information systems (Reimers, Johnston, & Klein, 2013), among many others.

The third part of the book reflects another of Stefan's research areas, that of *digital commerce*, or e-commerce. Since the emergence of the Internet, Stefan has shown a keen interest in understanding its impact on organisations and the ways we do business, which is reflected in a number of highly cited papers on electronic auctions (Klein, 1998; Klein & O'Keefe, 1999), local and global issues in electronic commerce (Klein & Steinfield, 1999), multi-channel retail (Müller-Lankenau, Wehmeyer, & Klein, 2006), electronic pricing strategies (Klein & Loebbecke, 2003), and his 1999 book on information technology and tourism (Werthner & Klein, 1999).

More recently, Stefan has taken to investigating how *team collaboration and work* itself are changing with the emergence of digital technologies and devices, which is reflected in the first part of the book. His work in this field focuses on the complexities of communication systems (Riemer, Froessler, & Klein, 2007) and their organisational adoption (Vehring, Riemer, & Klein, 2011), information overload and technology-induced occupational stress (Schellhammer & Klein, 2016; Schellhammer, Klein, & Ebner, 2017), or interruptions of work in collaborative environments (Lansmann & Klein, 2018).

Importantly, the contributions that his collaborators have selected for this volume, beyond reflecting Stefan's own research interests, are also a reflection more generally of Stefan's approach to academic research and to working with others. Reading the chapters is thus learning about Stefan Klein himself. For example, Stefan is a skilful collaborator, acutely aware of and experienced in the hidden work that goes into carefully crafting successful relationships, both at the collegial and at the project level. A number of chapters are dedicated to such practices, be it in teams (Chaps. 5 and 6), organisations (Chap. 4) or business networks (Chap. 11). In addition, his approach to working with junior colleagues has always been one of coaching and genuine mentorship; an approach illustrated in Chap. 7.

Stefan's scholarship is inquisitive, innovative and driven by curiosity and enquiry for its own sake, often breaking with tradition and unafraid of venturing outside the box, as it is best reflected in the kind of work reported in Chap. 12 on 'living infrastructure'. Methodologically, Stefan is pragmatic and undogmatic, employing methods that will yield answers. Not surprisingly, the chapters in this volume reflect a broad spread of research designs from conceptual, analytical or survey-based studies, to case studies, ethnography or dedicated philosophical work, all of which are part of Stefan's repertoire.

Moreover, Stefan's work is in many ways about bridging and uniting; associating disciplines, joining technical understanding with social and organisational implications, as well as connecting academia and industry. His work has always been grounded in rigorous, engaged scholarship with a strong practical angle,

guided by the phenomenon at hand, never abstract or purely theoretical, but rich in thinking, reflection and theorising. Again, this is reflected in the research offered in this book, which balances theoretical insights with practical insights.

As a result, we are confident that you, Stefan, will find this book interesting and insightful, and so will our readers.

Happy Birthday, Stefan!

Sydney, Australia
Münster, Germany
Münster, Germany

Kai Riemer
Stefan Schellhammer
Michaela Meinert

References

- Giaglis, G. M., Klein, S., & O’Keefe, R. M. (2002). The role of intermediaries in electronic marketplaces: developing a contingency model. *Information Systems Journal*, 12(3), 231–246.
- Klein, S. (1996). *Interorganisationssysteme und Unternehmensnetzwerke Wechselwirkungen zwischen organisatorischer und informationstechnischer Entwicklung*. Wiesbaden: Deutscher Universitätsverlag.
- Klein, S. (1996). The configuration of inter-organizational relations. *European Journal of Information Systems*, 5(2), 92–102.
- Klein, S. (1998). The diffusion of auctions on the web. In C. T. Romm & F. Sudweeks (Eds.), *Doing business electronically* (pp. 47–63). London: Springer.
- Klein, S., & Loebbecke, C. (2003). Emerging pricing strategies on the web: Lessons from the airline industry. *Electronic Markets*, 13(1), 46–58.
- Klein, S., & O’Keefe, M. (1999). The Impact of the web on auctions: Some empirical evidence and theoretical considerations. *International Journal of Electronic Commerce*, 3(3), 7–20.
- Klein, S., & Steinfield, C. (1999). Special section: Local vs. global issues in electronic commerce. *Electronic Markets*, 9(1–2), 45–50.
- Müller-Lankenau, C., Wehmeyer, K., & Klein, S. (2006). Multi-channel strategies: Capturing and exploring diversity in the European retail grocery industry. *International Journal of Electronic Commerce*, 10(2), 85–122.
- Reimers, K., Johnston, R. B., & Klein, S. (2013). An empirical evaluation of existing IS change theories for the case of IOIS evolution. *European Journal of Information Systems*, (advance online publication), 1–27.
- Riemer, K., Froessler, F., & Klein, S. (2007). Real time communication—Modes of use in distributed teams. In *Proceedings of the 15th European Conference of Information Systems* (pp. 286–297). St. Gallen, CH. Retrieved June 07–09, 2007.
- Riemer, K. & Klein, S. (2008). Is the V-form the next generation organisation? An analysis of challenges, pitfalls and remedies of ICT-enabled virtual organisations based on social capital theory. *Journal of Information Technology*, 23(3), 147–162.
- Schellhammer, S., & Klein, S. (2016). Benefits and perils of virtual modes of organizing: a call for practical wisdom. In N. Dalal, A. Intezari, & M. H. Heitz (Eds.), *Practical wisdom in the age of technology: Insights, issues, and questions for a new millennium* (pp. 73–86). London: Routledge.

- Schellhammer, S., Klein, S., & Ebner, E. (2017). Primary prevention for employees in the information age organization. *Health Policy and Technology*, 6(1), 72–82.
- Vehring, N., Riemer, K., & Klein, S. (2011). “Don’t pressure me!” Exploring the anatomy of voluntariness in the organizational adoption of network technologies. In *Proceedings of the 32nd International Conference on Information Systems*. Shanghai, China.
- Werthner, H., & Klein, S. (1999). *Information technology and tourism: a challenging relationship*. Wien: Springer.

Contents

1	Collaboration in the Digital Age: Diverse, Relevant and Challenging	1
	Kai Riemer and Stefan Schellhammer	
Part I Digital Work and Team Collaboration		
2	Co-working Spaces, Collaborative Practices and Entrepreneurship	15
	Nathalie Mitev, Francois-Xavier de Vaujany, Pierre Laniray, Amélie Bohas and Julie Fabbri	
3	Joint Work and Information Sharing in the Modern Digital Workplace: How the Introduction of “Social” Features Shaped Enterprise Collaboration Systems	45
	Petra Schubert	
4	The Go-Betweens: Backstage Collaboration Among Community Managers in an Inter-organisational Enterprise Social Network	61
	Kai Riemer and Ella Hafermalz	
5	Social Motivation Consequences of Activity Awareness Practices in Virtual Teams: A Case Study and Experimental Confirmation	89
	Russell Haines, Nadine Vehring and Malte Kramer	
6	Discontinuities, Continuities, and Hidden Work in Virtual Collaboration	121
	Mary Beth Watson-Manheim	
7	A Coaching Style of Management and the Affective Structuration of Workplace Relations	133
	Camilla Noonan, Séamas Kelly and Geoff Pelham	

Part II Digital Networks and Inter-Organisational Collaboration

- 8 Citizens' Cooperation in the Reuse of Their Personal Data:
The Case of Data Cooperatives in Healthcare** 159
Joan Rodon Mòdol
- 9 Cooperatives in the Age of Sharing** 187
Theresia Theurl and Eric Meyer
- 10 How Collaboration and Digitization Transform Large
Project Business** 207
Klaus Backhaus and Ulf König
- 11 The First (Beer) Living Lab: Learning to Sustain Network
Collaboration for Digital Innovation** 227
Frank Frößler, Boriana Rukanova, Stefan Klein, Allen Higgins,
Yao-Hua Tan and Séamas Kelly
- 12 Living Infrastructure** 249
Kai Reimers and Robert B. Johnston

Part III Digital Commerce and Consumer Experience

- 13 Consumer Search Patterns: Empirical Evidence, Competing
Theories and Managerial Implications** 271
Christopher P. Holland
- 14 A Tale of Two Cities: How High Streets Can Prevail in the
Digital Age** 291
Jörg Becker, Jan H. Betzing, Moritz von Hoffen and Marco Niemann