

Ineke Frederike Blumenthal

# The Future of Leadership in a Digital and Networked World – Implications for Leadership Education





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SCHOOL OF INTERNATIONAL  
BUSINESS AND ENTREPRENEURSHIP  
STEINBEIS UNIVERSITY

Ineke Frederike Blumenthal

The Future of Leadership in a Digital and Networked World – Implications for Leadership Education  
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Referent: Prof. Dr. Rudolf Tippelt

Korreferent: Prof. Dr. Thomas Eckert

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The Future of Leadership in a Digital and Networked World –  
Implications for Leadership Education

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# Foreword

Leadership is an immensely important topic – everywhere in the world. It is also discussed in many scientific disciplines. The examination of leadership is old. Ancient cultures and philosophers thoroughly explored it as part of discussions of political leadership. Research on leadership, however, first gained momentum following industrialization, and is barely over 100 years old.

We define leadership as leading oneself and the human communities with personality reasonable, responsible and ethical into an innovative and creative future. Today's times are rapidly – and radically – changing. They are also uncertain, complex, and shaped by digitalization. Linear thinking and business-as-usual no longer seem to make sense.

The core tasks of leadership are many: driving and accelerating innovations, handling crises such as the pandemic, the Russian war in Ukraine, the energy crisis, rising costs and inflation, overpopulation, and the climate catastrophe with its dramatic consequences, to name a few. These examples demonstrate the high relevance of leadership and its significance in the context of broad global developments and events.

A holistic, cross-disciplinary understanding of leadership that examines the impact of current developments and explores their implications for leadership education and its possible developments requires a comprehensive vision. This is the setting for Ineke Blumenthal's present work.

Ineke Blumenthal bases her analysis on state-of-the-art research to illuminate the essence of relevant phenomena. She starts by discussing leadership in two contexts. The first is the context of innovations inherent in and significant for leadership. The second is the context of digitalization, which simultaneously accelerates the speed of innovation, merges industry boundaries, and changes the demands on leadership.

In addition, Ms. Blumenthal introduces different perceptions of networks and learning. She then contextualizes the issues of leadership, innovation, digitalization, networks, and learning, and then builds a bridge to leadership education. Considering the transformations in these fields, the author asks how leadership

could operate in the future, who could be our next leaders, how could leadership tasks be shaped, and what potential development for leadership education can be derived from this analysis?

Ineke Blumenthal has empirically investigated these questions through qualitative research. She has successfully merged the social science research process with the generic foresight process. In a real-time Delphi-based scenario study, 113 experts from various stakeholder groups in 20 countries evaluated and discussed ten future projections.

The future projections represent a broad spectrum of discussions. These range, for example, from the concept of networks of freelancers, technology as a co-equal and autonomous network actor, to humanoid technologies that take on leadership tasks, to what it would take to empower network actors to self-organize in the cooperative development of innovations.

The author systematically analyzes her extensive quantitative and qualitative data. Subsequently, using multiple futures research methods, she combines her analysis and interpretation to sketch four possible scenarios for leadership in a digital and networked world, also as relates to leadership education. She also highlights the most probable and desirable futures.

Ineke Blumenthal explains how leadership and leadership education, understood as personality development in the Humboldtian sense (*Persönlichkeitsbildung*), may even be more relevant in the future due to the enormous transformation processes triggered by digitalization. Against this background, she has developed ideas for a future leadership education curriculum within the framework of the scenario transfer and by means of a backcasting process.

Considering today's immense changes and high demands on leaders, leadership education must be systematically scrutinized and improved – from the perspective of many stakeholder groups. Ineke Blumenthal's thesis initiates this discourse and makes excellent arguments for the next steps.

We are certain you will benefit from reading this thesis.

*Herrenberg, December 2022*  
*Stefanie Kisgen & Werner G. Faix*  
*(School of International Business and Entrepreneurship (SIBE))*

# Acknowledgements

Networks – they play a vital role in nearly all parts of life. This research would also hardly have been possible without them. Therefore, before introducing into network theory within this research, it is my great wish to thank all my promoters in the diverse networks.

First, I would like to thank my supervisor, Professor Dr. Rudolf Tippelt for the continuous exchange and valuable advice. I am equally grateful to Professor Dr. Thomas Eckert and Professor Dr. Dieter Frey as second reader and third examiner for their interest in my research project and their willingness to be my examiners.

This doctoral research is part of a joint research project of the Department of Educational Sciences at Ludwig-Maximilians-University (LMU) Munich, Germany and Steinbeis School of International Business and Entrepreneurship (SIBE), Germany. I am very grateful that Professor Dr. Dr. h. c. Werner Faix and Professor Dr. Stefanie Kisgen motivated me to start my research and always offered me support whenever I needed it.

My sincere thanks to all participants of the expert interviews, the real-time Delphi survey, and the diverse workshops. Only by their help a large number of data could be generated and structured which led to valuable impulses on future leadership and leadership education in a digital and networked world.

I also thank Professor Dr. Heiko von der Gracht, Dr. Alisa Hunt, Dr. Eva Feldbaum, Melissa Rayburn, Nick Lange, and Marlene Köhler for their advice.

Finally, I would like to extend my heartfelt thanks to my family, who always believes in me and always supports me: My parents, who have given me so much for my life; my sister, who is always there when I need her, and my husband Ioannis, because with him I can just be the way I am.

As networks build on reciprocity, I hope that with this research I can at least give something back.

*Stuttgart, January 2022*  
*Ineke Frederike Blumenthal*

# Abstract

Leaders are often considered to be responsible to lead through change and to shape sustainable developments with the help of innovations. Since innovations mostly build upon cooperative learning processes, networks also play an important role within this context.

Digitization goes along with overarching and lasting transformation. Consequently, as fruitful response to change, the need for innovations seems to increase. Furthermore, the question arises of what the result of digital transformation for leadership in the future could be, since not only the nature of innovation may change but also the networks and leaders themselves.

This question was further assessed with the help of an real-time Delphi-based scenario study. 10 projections (future theses), which were derived from new or opposing views on leadership in a digital and networked world, were discussed within this study by 113 experts from 20 countries and with diverse backgrounds (practice, science, politics, networks, associations, and communities). The written assessment of the 10 projections led not only to a quantitative assessment but also to more than 2,000 comments. Based on the large amount of quantitative and qualitative data, a broad variety of perspectives on potential future developments was offered and further evaluated with the help of multiple methods of futures research. Among other things, portfolio analysis and scenario technique helped to develop probable and desirable futures, as well as four different scenarios that can be understood as consistent, plausible, and challenging narrative descriptions of possible developments for future leadership in a digital and networked world.

Leadership education mainly pursues the goal of supporting individuals in life-long development of their personality, which becomes visible in society through its innovative actions. As such, the results of the Delphi study also needed to be considered in the context of leadership education. Scenarios indicate that leadership and as such also leadership education could become of bigger relevance in the future in the context of far-reaching transformations processes such as digitization. Thus, within the scenario transfer, possible development potentials for a future leadership education curriculum were derived based on a back-casting process.



Future research could further assess the curriculum in the context of specific institutions, at specific educational levels or in different regions, but also within other aspects in the educational process besides the curriculum. Additionally, a transfer of the scenarios into other fields (business, applied research institutions, politics, associations, networks, and communities, etc.) could be interesting.

The study not only offers specific impulses for the possible future development of leadership and leadership education in a digital and networked world, but it also gives a condensed overview of the essential interrelationships of leadership, innovation, networks, learning, and education.

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# Abbreviations

AACSB	Association to Advance Collegiate Schools of Business
BMBF	German Federal Ministry of Education and Research
BSI	German Federal Office for Information Security
D	Desirability of occurrence
DIPF	Leibniz Institute for Research and Information in Education
DTI	UK Department of Trade and Industry
EP	Expected probability of occurrence
EHEA	European Higher Education Area
ESD	Education for Sustainable Development
Exp	Experience
HE	Higher education
HRK	German Rectors' Conference
IPCC	Intergovernmental Panel on Climate Change
I	Impact on leadership
IBM	International Business Machines Corporation
IQR	Interquartile range
IT	Information technology
IWM	Leibniz Institute for Knowledge Media
KMK	Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany
MBA	Master of Business Administration
MIT	Massachusetts Institute of Technology
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PNAC	Politics, networks, associations, and communities
RAND Corporation	Research and Development Corporation
RQ	Research question
RT	Real-time
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNESCO-UNEVOC	UNESCO International Centre for Technical and Vocational Education and Training
USA	United States of America
VBW	Bavarian Action Council Education of the Bavarian Industry Association
VUCA	Volatility, uncertainty, complexity, ambiguity
WBGU	German Advisory Council on Global Change
WEF	World Economic Forum

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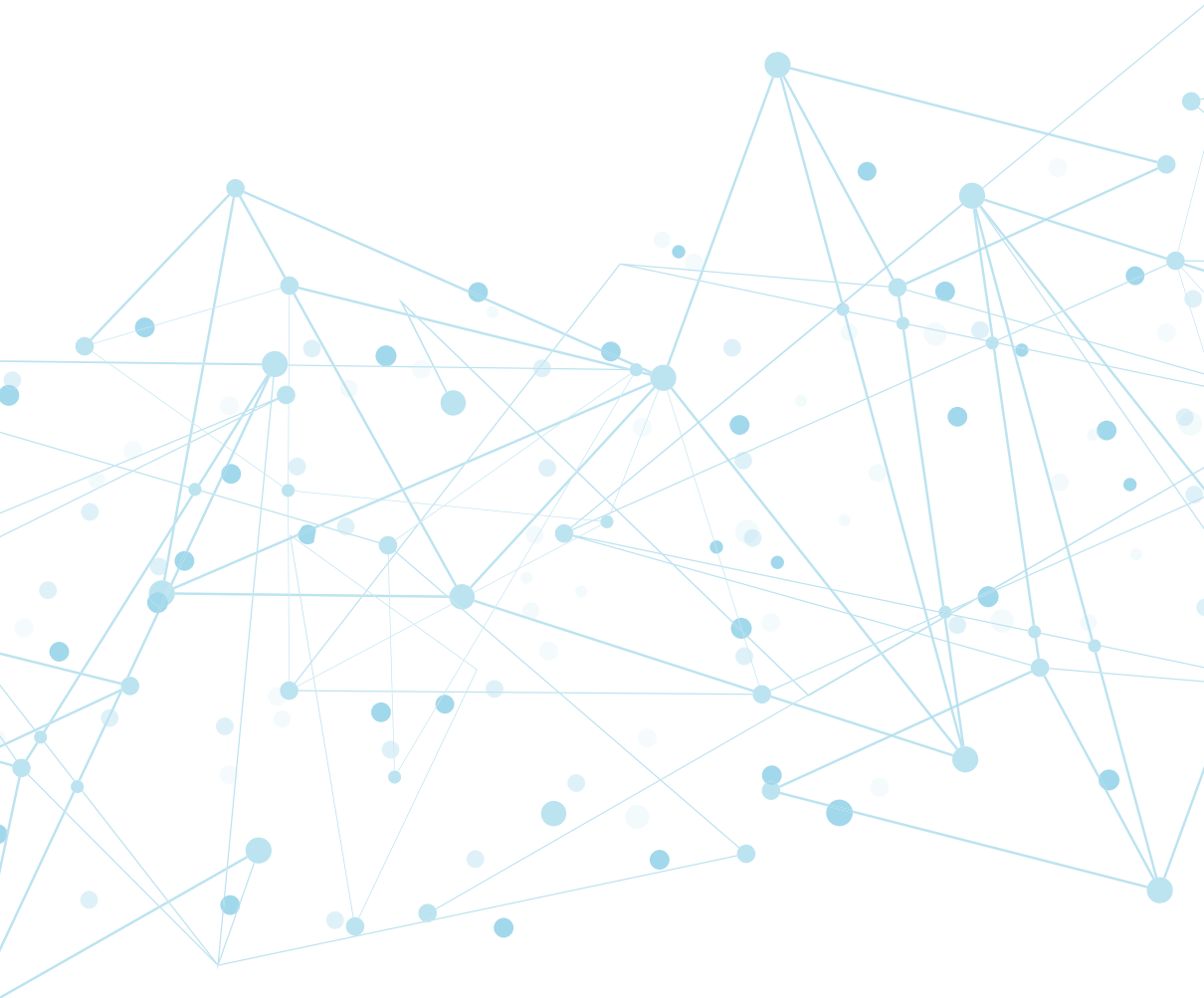
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# Part 1: Introduction



“Disruptive technologies, digitization, ever-faster innovation cycles, global environmental challenges and the ongoing COVID-19 pandemic showcase a world in transition” stated UNESCO-UNEVOC International Centre (n. d.), who went further to explain that it is good leadership that is required to successfully handle this change. In line with this perception, Claus Schwab, the chairman and founder of the World Economic Forum (WEF) stated in his 2020–2021 annual report:

A tiny virus has shown us how devastating it can be: COVID-19 grew to a pandemic with tragic consequences for many institutions and individuals. But this past year has also shown us how we can achieve a better future. We can do so by building our economy on new concepts, by intensifying cooperation between business and government and across nations, and by exercising systems leadership. (WEF, 2021)

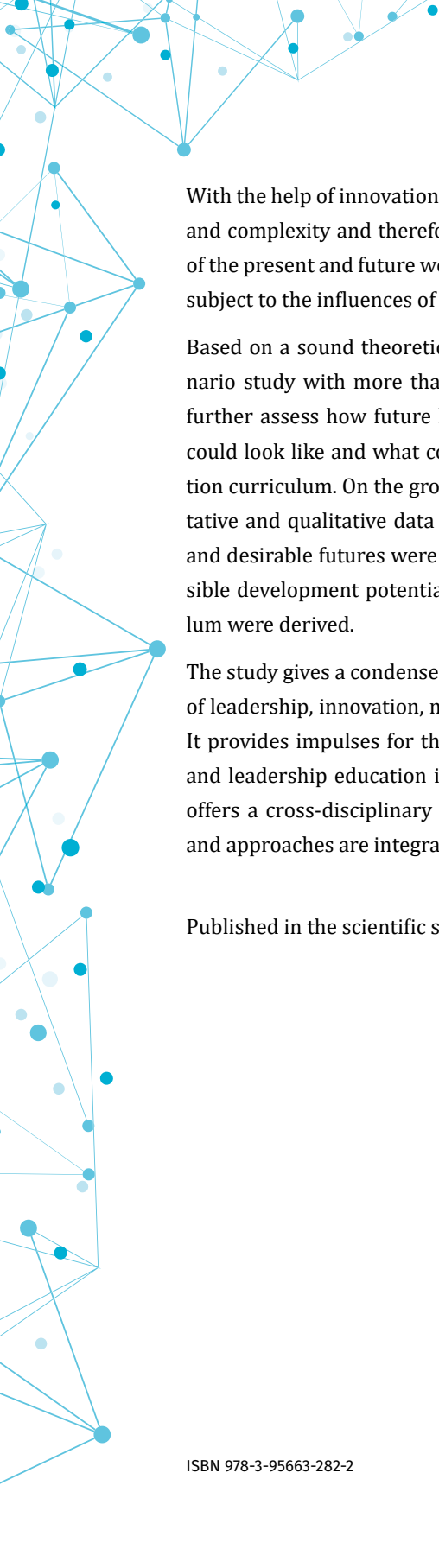
According to him, systems leadership is about equipping decision-makers with the most up-to-date knowledge and showing them how various topics are interconnected. He further asked for collaborative platforms, integrating the most relevant and knowledgeable people and organizations to respond to global, regional, and industry challenges.

These examples show that worldwide transformation processes require leaders to shape them. However, they seem to better succeed if they cooperate. The last is not a new insight, as the example of the German Advisory Council on Global Change (WBGU, 2008) shows: It was already realized in 1996 that there is too little international orientation and too strong of a focus on individual disciplines to deal with the complexity of the problems involved and the intricate interlinkages between them in the context of global change.

Since then, digitization has progressed further, leading to increasing complexity and connectivity, besides many other things.

Consequently, within this research the question of what could result from digital transformation for future leadership is further assessed. Furthermore, the question arises about what could follow from the exploration of possible future developments for leadership in a digital and networked world for leadership education.

Within part II of the study, the field of research is viewed in detail. It offers a closer look at leadership in the context of innovation and digitization, and introduces different perceptions on networks and learning. Furthermore, it also gives a condensed overview of the essential interrelationships of leadership, innovation, learning, and networks. Additionally, links to further related terms such as



With the help of innovations leadership promises to lead through change and complexity and therefore to meet the opportunities and challenges of the present and future world. At the same time, leadership may also be subject to the influences of a digital and networked world.

Based on a sound theoretical foundation, a real-time Delphi-based scenario study with more than 100 experts worldwide was conducted to further assess how future leadership in a digital and networked world could look like and what could follow from this for a leadership education curriculum. On the ground of the large amount of generated quantitative and qualitative data four different scenarios, as well as probable and desirable futures were developed. Within the scenario transfer possible development potentials for a future leadership education curriculum were derived.

The study gives a condensed overview of the essential interrelationships of leadership, innovation, networks, multi-level learning, and education. It provides impulses for the possible future development of leadership and leadership education in a digital and networked world. As such, it offers a cross-disciplinary perspective in which pedagogical intentions and approaches are integrated.

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