Barbara Flügge
Editor

Smart Mobility in Practice: Good Car, Bad Car, No Car — Is this the End of Nurturing Our Mobility DNA?

EBOOK INSIDE

Springer

Smart Mobility in Practice: Good Car, Bad Car, No Car – Is this the End of Nurturing Our Mobility DNA?

Barbara Flügge
Editor

Smart Mobility in Practice: Good Car, Bad Car, No Car – Is this the End of Nurturing Our Mobility DNA?

Springer

Editor
Barbara Flügge
digital value creators (DVC)
Bottighofen, Switzerland

ISBN 978-3-658-43170-9 ISBN 978-3-658-43171-6 (eBook)
https://doi.org/10.1007/978-3-658-43171-6

This book is a translation of the original German edition "Smart Mobility in der Praxis: Das Auto – unverzichtbar für den intermodalen Verkehr?" by Barbara Flügge, published by Springer Fachmedien Wiesbaden GmbH in 2018. The translation was done with the help of an artificial intelligence machine translation tool. A subsequent human revision was done primarily in terms of content, so that the book will read stylistically differently from a conventional translation. Springer Nature works continuously to further the development of tools for the production of books and on the related technologies to support the authors.
Translation from the null language edition: "null" by Barbara Flügge, © null null. Published by null. All Rights Reserved.

This Springer imprint is published by the registered company Springer Fachmedien Wiesbaden GmbH, part of Springer Nature.
The registered company address is: Abraham-Lincoln-Str. 46, 65189 Wiesbaden, Germany

Preface

Smart Mobility——Nurturing the Societal Mobility DNA

From my first baby steps onwards, mobility was and is in my heart. Anything in our lives, in our businesses, desires, and dreams to come true are dependent on mobility. My first book on Smart Mobility ever focuses on the most diverse currents around the topic of making mobility accessible and how intelligent mobility can thrive in cities and regions, so that it serves all of the constituents.

In the modern world, mobility drives everything—from our personal lives and dreams, to our businesses and modes of transport. In order to grow and connect as a society, we must nurture our societal mobility DNA. This means understanding modes of mobility, how we utilise mobility individually and in groups, and the needs of different cross-sections of society, including families, the elderly, and those who live in isolated country regions. Mobility has the power to change and improve our lives, and we will become even more dependent on it in the future—morphing into living spaces, business spaces, storage spaces, and travel spaces. Intelligent mobility can, and will, thrive in our cities and country regions, and holds the power to uniquely serve the needs of all constituents. This book expands on the research presented in my first book on Smart Mobility, to demonstrate how innovation in mobility can shape our lives and futures, as intelligent mobility becomes a lasting part of our societal mobility DNA.

Since *Smart Mobility—Connecting Everyone* was published, it has gained international attention. We are proud to welcome you to join our more than 400.000 and counting readers. Our readers learn about and discuss key questions such as:

- "How can we afford to travel from A to B to C?"
- "Who decides on the offers presented to us?"
- "Who provides safe transport means and sustainable infrastructures?"
- "How can struggling municipalities with tight budgets servitise their consumers by ideating new and innovative business models?"
- "What on-board resources are needed to successfully implement mobility concepts?"

- "How do you as a company in a distinct industry become a transformation mobility provider and therefore part of the smart mobility ecosystem?"

Why are these questions so crucial? An essential criterion for the success of any mobility offer is the useful, manageable, and successful project planning of this very offer for the benefit of the ecosystem.

Another essential criterion is to realise that Smart Mobility is a compound, cross-disciplinary endeavour—that has passed for quite some time the purely physical layer and invited in the digital (including cyber!) and the mental elements. That is why we call Smart Mobility a three-tier mobility: physical, digital, and mental mobility.

Our DoktorB team coordinated by Sarah (Tyrer) and DoktorB, we encountered two major findings in our trajectory of consulting projects and audits: there is a need for uniting individuals, businesses, and public administrations. Consequently, there is a need to resolve the lack of understanding in order to effectively utilise the corporate mobility assets and retail outlets to co-create a mutual offering of intermodal mobility to serve constituents locally and survive.

The fundamental question though concerns how decision-makers are able to move transformation projects onto the right track and accelerate. Transformation could take place through outsourcing the execution gap to standardised and expensive consulting concept providers. Or you as decision-makers take charge and involve your clients and community members.

Herein, you will be inviting them as participants and co-creating test users to shape the ideal offering. This could include benefits, adaptability, and even shortcomings.

Our readers reported the exercise of the Smart Mobility Ecosystem design as useful. We are running Smart Mobility Ecosystem training courses online and onsite. Take for example the New Mobility mission of the Lower Saxony constituents where we designed a service mobility concept. Other inquiries that reached us were aimed at establishing the networking strategy of a company in a series of workshops.

With regard to successful transformation, we concluded: start-ups and voluntary organisations are more open to benefit from speed coupled with innovative power, turning this into a unique selling proposition for themselves. They see an opportunity to test out and sharpen their own position in terms of the Smart Mobility ecosystem and to offer their products and services in a more targeted way. Start-ups and volunteers are more audacious than existing service providers and suppliers in known and new markets. Established companies and their strategy and research departments are certainly better skilled, better versed, and more economically viable to secure a market for themselves. Nevertheless, they need help to become unstuck already in the pilot and test phases to then proceed seamlessly. Or as we say from DoktorB's point of view: hurdles are there to be taken, not to be tolerated.

One word about autonomous driving. The discussions also revealed that public administrations and organisations are increasingly questioning their own role. Regardless of whether we are talking about providers of singular mobility, such as trains or buses, or suppliers of consumer

goods, the role of regional participants is increasingly influenced by the arrival of digital assistants and developments in the field of autonomous driving. Assistants provide continuous access to new products and citizen services, for example. The accessibility of existing and new groups of buyers requires a revision of market and sales strategies.

Smart Mobility
Mobility is smart as soon as projects meet the following criteria: (1) beneficial for all involved and affected stakeholders, (2) manageable for public and private infrastructures, and (3) for the benefit of the entire ecosystem. It is not without reason that the successful implementation of intelligent mobility concepts by those that are responsible for Smart City, Smart Nation, and regional projects (Smart Regions) is one of the most important success factors to regional and urban prosperity.

In the Starting Blocks

Since the initiation of the Smart Mobility book series, we have coined the importance of ecosystems, networking, and role models. The relevance of interlinked ecosystems and smart habitats are increasingly present in articles and studies, as well as in inquiries for lectures and panel discussions. Companies such as public administrations seek cooperation to succeed in smart city and smart region projects. Sustainability, networking, and mobility were identified as key transformation triggers here. One start-up for example reached out to us to expand their business reach and serve Smart Mobility with their API in manufacturing. Smart Mobility has arrived in the application space, not just as a trend, but maturing into an orchestrator's role to help urban living spaces to survive.

Throughout this book, you will be utilising a foundation that makes intelligent mobility explainable and describable. Mobility is on everyone's lips, and the diversity of ecosystem participants opens up not only innovation potential but also questions. The review of the term Smart Mobility and intelligent mobility did not only include trends and concepts from the point of view of previous mobility providers, but rather the discourse on the fundamental change that assumes mobility supported by digitalisation.

We expanded fast. We hereby would like to thank Tim Jones, the founder of the Future Agenda. Tim, you have been such a vital sparring partner. Over time, we added more and more use cases that guided the strategic moves in cities, start-ups, the automotive industry, the manufacturing, the logistics, and other sectors.

To date, there has been no other elaboration for the German, international, and English-speaking market that has devoted itself to the topic of mobility in urban and rural living spaces in such a comprehensive way as ours.

Paying Tribute to the Diversity of Perception

Good car, bad car, no car: our committed view on the role of cars is subject to this publication. Cars have dominated for quite some time the entire evolution of technological progress, the evolution of luxury on the road, the evolution of the human being. The plethora of evolution has started with the chassis and merged into powerful electronically managed functions, e.g. braking systems, over infotainment, safety avatars towards the humanisation of the car that joins the family as a family member.

Could the car become a sustainability driver, or will it fade away by becoming the enemy of climate protection? Could the car become a new home, or will it emerge into a luxury good as OEMs like Mercedes-Benz have bet on luxury cars, abandoning their small and midsize vehicle fleets?

Since publication, the discussion about intelligent mobility and mobility for all has increased due to the question of the general availability of autonomous driving. Even the OEMs (Original Equipment Manufacturers), who are the classic automobile manufacturers, have meanwhile come to this question. Almost daily, even in relevant traditional media such as news broadcasts and print media, there are reports on the topic of the mobility of the future. A large part of the discussion is devoted to the future of the automotive industry, the classic and traditional sectors, and the combustion engine. Another discourse is on air and noise pollution and the dangers it poses to life and limb. For a long time, this discourse was overshadowed by the economic and political stability of a large number of representatives of the automotive industry. We continued to research and write about the financial feasibility of mobility to the extent that we want, need, and can afford it. In Smart Mobility Connecting Everyone, we evaluated the Mobility as a -Service concept and the go to market.

The representation of use cases and confrontation with different personae that are contributing to smart mobility have contributed to the applicability of the BIM, the Building Block for Intelligent Mobility, and their maturity assessment in mobility and transformation projects. The Procedure Model supports teams around the globe, and the overall publication has become a best seller.

This is a great endorsement for a young team and newcomer to the publishing business!

Smart Mobility in Practice. Knowing How!

Our reading community and your aspirations are as diverse as the Smart Mobility Ecosystem! In the end, successfully introduced, and above all long-term, mobility concepts should have something in common, right? For this reason, Springer Vieweg and I have decided to publish this study book, which is a practical guide. We were inspired by the case study booklets that are used in English-speaking countries for training and further education, in study projects, assessment centres, and MBA circles. This volume serves this purpose through an application-oriented, descriptive, and, above all, imitative guide.

Each accompanying use case gives the "How to know" even more space. The tools, which were developed and presented in our other books, are applied. For you, the reader, these are vividly played out through using real and fictitious case studies. Open questions and tasks are consciously discussed, even provoked: through this you will be able to determine where you stand with your own projects, what needs to be done, what might have got lost in day-to-day business discussions, and who should be your sparring partner to share and apply your knowledge that you have expanded with this book.

On behalf of the entire team, Sarah and I wish you exciting reading moments and successful implementations!

Best wishes, DoktorB

Bottighofen, Switzerland
2018 and 2024

DoktorB Barbara Flügge

Contents

List of Figures

List of Tables

About the Contributors

Horst Bishop studied computer science at the TU Vienna, where he received his diploma in 1990 and his doctorate in 1993. From 1991 to 2001 he worked at the TU Vienna, first as an assistant and then as an associate professor. Since 2001, Horst Bischof has been Professor of Computer Vision at the Institute for Machine Vision at Graz University of Technology. Currently he is also Vice Rector for Research at Graz University of Technology. Horst Bischof's research topics range from object recognition and statistical methods of machine learning to applications in the fields of surveillance, biometrics, robotics and medical image processing. In these areas, Horst Bischof has written more than 700 peer-reviewed papers. Many of the works were also awarded national and international prizes (a total of 19), including the Pattern Recognition award in 2002, the main prize of the Deutsche AG for pattern recognition DAGM in 2007 and 2012, and the British Machine Vision award 2007.

Barbara Flügge Barbara or simply DoktorB is the founder and managing director of digital value creators (DVC) Switzerland. DoktorB and her team design, evaluate, support and accelerate the transformation process of private sector organisations, Mittelstand, and the public sector.

Barbara has been helping clients increase their margins and at the same time transform into cutting-edge industries and geographies. As a thought leader, she guides the discourse on how digitisation and 360° resilience could streamline a workable transformation for urban, rural, and corporate stakeholders.

DoktorB's ABC Business Opportunity Design and OPCYBRES Cyber Resilience eLearnings are powerful transformation products. The latter, for example, helps diminish the transformational risk that companies and the public sector face. The ABC Business Opportunity Design help optimise your idea-to-market effort and speed up the launch to sell faster.

Clients are inspired by DoktorB's competences to grow and scale physically, digitally, and cognitively. As a keynote speaker and business coach, she offers her competences in the field of Digital Transformation, Smart Mobility, and Corporate Resiliency.

Clients benefit from DoktorB's industry, management, and start-up experience. She's held industry positions at companies such as Grundig and Siemens, scaled the management consultancies PriceWaterhouse and Arthur Andersen, and grown Ariba Inc.'s and SAP®'s portfolio into new markets.

Barbara holds a degree in Business Informatics and a PhD from the School of Management and Economics at Tilburg University, the Netherlands. Barbara is a bestselling author and a keynote speaker with an outstanding global reputation.

Vinod Jadhav is Product Manager for SAP® S/4HANA Cloud and Co-Innovation at SAP® SE. He is responsible for the success, quality, and delivery of S/4HANA Cloud throughout the product life cycle as defined in the portfolio, including technology trends and customer requirements to identify growth opportunities and innovations for SAP® S/4HANA Cloud. He has more than 8 years of experience in consulting business processes in various industries in the area of SAP® Financials, including payment transactions and for the financial services industry with SAP® for Insurance. Vinod Jadhav holds a Master of Science degree in Business Informatics from the Technical University of Darmstadt.

Sascha Koberstaedt is the founder and managing director of EVUM Motors GmbH. He completed his mechanical engineering studies at the Karlsruhe Institute of Technology (KIT) and the University of California, San Diego (UCSD). After practical experience in the development of electrified vehicles at BMW, he is working on his doctorate at the Chair of Vehicle Technology at the Technical University of Munich, where he will test new vehicle concepts, especially for the target region Sub-Saharan Africa.

Hans Roth started his professional career in 1983 at Becker Autoradiowerk GmbH, which was taken over by Harman International Industries in 1995. After training as a telecommunications mechanic, he studied communications engineering at the Karlsruhe University of Applied Sciences. Hans Roth has been Head of Technology Marketing for the Connected Car Division (formerly Infotainment Division) since 2012. Previously, he was responsible for Business Development and OEM Marketing.

Martin Šoltés studied aerospace engineering in Stuttgart. Since 2013, he has been researching vehicle concepts and mobility in developing countries as the chair of Automotive Engineering at the Technical University of Munich. In 2017, he founded the company EVUM Motors, which will bring a robust, simple, and modular electric vehicle to the roads worldwide.

Sarah Tyrer is a core team member of DoktorB's digital value creators (DVC) corporation and focusing on the ABC Business Opportunity Design Programme since joining.

She has a First-Class BA and Master's Degree in English Literature and Culture, both from The University of Birmingham, UK.

Christof Walter holds a degree in mechanical engineering and an MBA with a focus on lean manufacturing consulting. After graduating, he has been a long-standing manager in vehicle development and a consultant/lecturer for lean development/lean management. In 2012, he joined SAP® SE as a lean expert, where he was responsible for lean transformation, improvement, and simplification in a business unit. Since 2016, he has been working as product manager mobility, dealing with multi-/intermodal mobility concepts, shared mobility, modern drive concepts, and their effects on intelligent and smart mobility.

Mark Zannoni is research director of smart cities and transportation at IDC. As a global thought leader in urban transport, Zannoni focuses on the major and emerging transport technologies and issues affecting cities worldwide. Zannoni brings 25 years of experience in global urban transport to his research, with perspectives and insights from the public and consultative sectors, from work in Africa, Asia, Europe, the Middle East, and the United States. Its transport expertise covers a wide range of modes and topics, from traditional ones—such as aviation and rail—to innovative ones—such as autonomous vehicles and ride hailing. Mr. Zannoni is a certified urban planner and holds a master's degree in urban planning from Columbia University and a bachelor's degree in history from Boston University.

Case Study Team AIM: Marco Linpinsel and Pascal Luder

Marco and Pascal worked in the case study group of DoktorB's Smart Mobility Strategies and Management, as part of the Master Studies at ZHAW Winterthur/Wädenswil, Switzerland.

Case Study Team FAMILYIO: Gioele Panina and Nina Poglic

Gioele and Nina worked in the case study group of DoktorB's Smart Mobility Strategies and Management, as part of the Master Studies at ZHAW Winterthur/Wädenswil, Switzerland.