## **Preface**

The idea for this book surfaced during the International Technology Management Seminar of the Chair of Technology Management at the Friedrich-Alexander-University Erlangen-Nuremberg (FAU), Germany. Every study term, this interdisciplinary and intercultural seminar is focused on scientific methods of data collection and analyses based on different topics of contemporary societal relevance and impact. In the summer term 2018, the seminar concentrated on one of the most pressing topics on contemporary research: The "gendered innovation" gap. Financially supported by the program "Förderung der Chancengleichheit für Frauen in Forschung und Lehre" (promotion of equal opportunities for women in research and teaching) of the Office of Gender and Diversity at the FAU, it enabled setting-up the seminar different to standard seminars: The course was organized as a three-part interdisciplinary project entitled "Technology Management in Practice – Gender Differences in Innovation", involving eleven students from the School of Business, Economics, and Society, as well as the Faculty of Engineering. The three interrelated elements of the project consisted of (1) a scientific part, (2) an empirical-practical part, and (3) a knowledge-transfer part to the general public.

In the scientific part, students reviewed gender relevant literature and identified theories to derive hypotheses on gender differences in various areas of innovation and technology management. Subsequently, a suitable methodology to empirically test the derived hypotheses was developed. The clear grouping of the sample according to the closely matched key variable gender and the prime goal to examine gender-based human behavior and interaction with technologies led to the choice of an experimental design as research method (Gray, 2018). Local technology-oriented firms sponsored technical equipment and innovative products, which were used in the different tasks throughout the experiments. Some firms also had questions of interest concerning gender-specific alignment of their products, which some experiments took upon additionally.

The empirical-practical part formed as data collection event basis. On April 26th, 2018, at the International Girls' and Boys' Day, the experiments were carried out with pupils from a local vocational school, aged between 16 and 20 years. The decision to schedule the data collection on this date was due to the day's special purpose to highlight diversity, equal opportunities, and future employment paths for boys and girls independent of their sex. This message fitted the overall aim of our project extraordinarily well. To switch the standard classroom setting with an innovative and creative work-environment, the experiments took place outside university at a special location: the Zollhof Tech Incubator, a home for tech startups and digital innovators in the metropolitan area of Nuremberg, Germany.

Eventually, the transfer of the experimental results and the derivation of implications for practice and further research was ensured at several levels: First, the students had to prepare scientific papers and present their findings as part of a conference to which representatives from research, politics, and industry were invited. In this way, the findings could be disseminated not only internally, but also create knowledge outside the university's boundaries. The Heizhaus ("heating house") of Nuremberg's former flagship company Quelle, which had been repurposed as coworking space for all kinds of activities, like traditional craftmanship and artisanal business models, served as a venue for this conference. A jury composed of members active in gender-related topics evaluated the student projects' relevance, innovativeness, methodological procedure, and rigor, also accounting for the results' potential of promoting gender equality. Based on these criteria, the best three presentations were awarded. Second, the knowledge transfer into practice took place through a poster presentation of the most intriguing findings in front of the pupils that previously participated as test and control groups of the experiments. The students gave their presentations in a pupil-friendly way to draw attention to particularities in the results concerning male and female participation. This way it was possible to raise awareness for typical stereotypes, which could be disproved and opportunities for both female and male gender, which are not sufficiently exploited yet. Third, and utmost, the ultimate knowledge transfer in order to make the research results available to a broad audience is fostered through this edited book. Hence, this book comprises of a hand-picked selection of research papers resulting from this International Technology Management Seminar. We hope that you, the reader, enjoy the chapters and results as much as we had fun in bringing this project to life, running the seminar, working with our students, and, ultimately, editing and finalizing this book.

Finally, we would like to thank all those who have contributed to make this book possible. A special thank-you goes to Dr. Imke Leicht and Dr. Magda Luthay from FAU's Office of Gender and Diversity, who granted the financial resources from the program "Promotion of Equal Opportunities for Women in Research and Teaching" that enabled this project and awarded the project's results and contribution to the topic of gender equality at the FAU with the Renate-Wittern-Sterzel Price 2018 (the yearly FAU-Award for Gender Equality). The Zollhof Tech Incubator Nuremberg as well as the co-working community Quelle "Heizhaus" hosted the two events that took place during the project. We would like to thank the staff of the two venues who helped to organize and run the events. Many thanks also go to Aya Jaff, Dr. Magda Luthay, Prof. Dr. Brigitte Schels, Corinne Schindlbeck, and Prof. Dr. Silke Tegtmeier for serving as jury members at the conference and evaluating the research projects. We further thank Réka Müller and Theresa Wöllner for their valuable proof-reading and revision of the final chapters. Last but not least, we would like to thank all contributors of this project, as well as the responsible people at

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Overall, we hope to stimulate further research on this important topic, and to motivate other researchers to try new formats of teaching with their students.

Alexander Brem, Peter Bican and Christine Wimschneider