Preface

The constituting chapters of the book before you have in common that they exemplify the delicate stage of telematics applications actually swiveling traditional- into future work practices nowadays. In order to describe this process it might be good to articulate the three widely-recognized stages of acceptance: emulation, transformation, and finally supplantation.

1. **Emulation:** The first stage is still dominant in applications of virtual reality where the designer attempts to mimic real perceptual experiences with virtual ones: the visual, the acoustic and the haptic experiences allows the user to observe and recognize tactile sensations and finally to transmit fragrance as well.

2. **Transformation:** The second stage embraces ICT applications to transform professional approaches from traditional ones into new ones. For instance, the migration from line-based drawings for architectural design into volume-based object transformations in order to get closer to finite-element computations and help engineers to anticipate to the actual construction and even the actual usage of a building. In case of medical applications it is the step to make doctors and nurse practitioners to accept their prime role as care-giver and increase the patient’s satisfaction and regaining existential perspectives rather than only performing medical interventions.

3. **Supplantation:** This implies that after a transformation stage has been accepted and elaborated, the new ICT-based method might even compete with the vague memory of the traditional practices. Example is that those who visited their grandparents in hospitals in the late 60ties might nowadays not even remember how doctor-patient relations were at that time. The same is for those who were in school classes with “frozen” windows; they might not even remember that the majority of the learning process was one of “learning by heart”; it let students recite long lists of words like singing together for large parts of the day.

Not only, the memory of “forgotten” and “supplanted” professional practices delivers rich moments of nostalgia; it is needed to prevent next generations to find out that also they cannot escape from “overlooking” aspects of medical, educational and engineering tasks, as ICT has become the main entry to access and improve human expertise.

The goal of this book is to:

- Allow you to estimate your zone of “Proximate ICT Transformation” in the next three to five years: what subtle symptoms of next technologies can you discern at your horizon so that you can choose future directions better and more efficiently?
• Allow you and your colleagues to stimulate reflection upon the recent decade: what essential transformations based upon ICT was made? What elements did you experience in an explicit way? Which ones passed unnoticed? Especially the second one is important to register: Unconscious transformations complicate a smooth and lucid acceptance of innovation in the next era.

• Allow you to contact pioneers who mention their state-of-the-art in the coming chapters; It allows you to extrapolate the speed of recent innovative trends into to-morrows reality.

The next accents and directions in the chapters of this book can be announced:

SECTION 1: USERS AND TECHNOLOGIES IN THE INFORMATION SOCIETY

Chapter 1: “E-Society and Children’s Participation: Risk, Opportunities, and Barriers” by Brian O’Neill. The author contributes his ideas on E-society and children’s participation: risk, opportunities, and barriers. His chapter starts from the premise that children are crucial actors in policies of the information society, particularly in the context of digital learning opportunities and e-inclusion. He also claims that their participation causes policy makers to worry as well. In the trend of ever-earlier adoption of new internet technologies by children, as the author raises the awareness to the delicate balancing act that is required to manage risks while promoting a better participation in e-society.

Chapter 2: “Old Age, the Internet and Advancing Technology” by John Murnane. John understands the benefits of the old and the very old of mental stimulation and the close connections with family life. His chapter describes a research project on internet penetration in a retirement complex in Melbourne, Australia and researched the existing computer skills of residents, their learning and how they conceptually integrated in full life. Murnane describes how the novices reduce problems with applications and hardware, and the potential advantages of up-to-date technology such as Tablet computers and ‘Smart’ Television.

Chapter 3: “A Guide to Online Applications for User Involvement in ‘Living Lab’ Innovation” by Asbjørn Følstad and Amela Karahanovic. They assert that the use of Living Labs is getting more important by involving users in innovation and development and by serving users to actively participate in the development of the networked society. The purpose of this chapter is to classify on-line applications in relation to the context of the so-called “Living Lab” and present a set of guidelines for the usage of on-line applications. The framework and the guidelines are the results of a collaborative process involving seven Living Lab researchers from four Nordic Living Labs and are meant to guide Living Lab administrators who are considering whether or how to utilize on-line applications for user involvement. The framework and the guidelines might also be useful for the designers of on-line applications.

Chapter 4: “Interpretive Strategies for Analyzing Digital Texts” by Sheila Petty and Luigi Benidcenti. Authors address the new options for interpretative strategies in analyzing digital text. It bridges the disciplines of media studies and software systems engineering and focuses on the challenge of finding methodologies to measure, test and decode meaning in digital cultural objects. Examples are drawn from interactive online digital art projects, interactive, and impressive screen-based art installation, mediated art constellations, videogames and an interface for medical applications. The conclusion promotes an equal partnership (correlation) between artists and interactors.

Chapter 5: “Creating and Analysing a Social Network Built from Clips of Online News” by Álvaro Figueira, José Devezas, Luis-Francisco, and Nuno Cravino. Authors address online news and present
Little Tom Thumbs ‘breadcrumb’ metaphor to provide news readers with tools to collect online news, to create a personal digital library (PDL) of clips taken from news, and to navigate not only one’s own personal digital library (PDL) but also external PDLs that relate to the first one. In this chapter present and describe the system and its paradigm for accessing news and bridge this description with the results from several tests, which confirm the validity of their approach for clustering of news and for analyzing the gathered news. A salient Feature of this accretion mechanism is the social network that helps readers to feel confident that they do not miss the essentials as seen by others.

SECTION 2: LEARNING IN THE INFORMATION SOCIETY

Chapter 6: “Academic Community in Transition: Critical Liberatory Praxis in the Network Society” by Petar Jandrić. The author develops in concordance with the notion of “Deschooling Society” (Ivan Illich), Esteva et al. 2005, a model of the role of academic community in the network society. The developed model consists of four steps: individual conscientization, building attitudes, interaction with people and broad approach which encompasses the whole society. These steps are constantly repeated in a never-ending circle, where every iteration provides deeper understanding of people’s current circumstances and background for active participation in the society. The model reflects the fact that the role of academic community in the network society is directly associated with the question what kind of world we would like to live in. The Author claims that active and social engagement gives optimistic predictions on academic synergy and progress.

Chapter 7: “An Innovative ‘Cybernetic’ Organization Improvement Plan through Participatory Action Research in Persistent “Open Source” Virtual Worlds” by Nikolaos Pellas. In this chapter, the author formulates the ‘cybernetic organizations’ and the needed steps to improve participation through participatory action research in persistent ‘open source’ virtual worlds. “Open Code Programming” in “Open Simulator Grids” is his central idea. In terms of social presence, he stresses the need to enhance the “dynamic presence” of users. Learning in this context is epitomized by “Cognitive Apprenticeship” that precludes to a continuous lifelong learning.

Chapter 8: “The Practice and Evaluation of Applying PBL to E-Learning via Screencasting: Implications for Computing Courses” by Ye Diana Wang. The author exposes the study on applying problem-based learning via screen-casting and its consequences for courses in computing. They question how to provide a learning experience that is effective for students to develop knowledge in a fully online environment. The results of the summative evaluation played a significant role in the high levels of students’ satisfaction and the success of the course. It offers implications for creating e-learning courses that can prepare students to develop lifelong problem-solving skills and become more motivated and responsible learners in today’s networked society.

Chapter 9: “Teaching Basic Software Engineering to Senior High School Students” by Barbara Köhler, Michaela Gluchow and Bernd Brügge. They claim that software engineering is an increasingly-important topic as software projects increase in size, budget and duration. They suggest to start teaching software engineering (SE) already to high-school students instead of waiting until their freshman year. This chapter shows the principles for creating such courses by the authors. First, they explain which software life cycle model they use, why we do so and how it needs to be tailored for students with slight changes in the development experience. Secondly, the educational models they applied to increase motivation and stop the inert knowledge problem often observed in lectures was discussed. The authors focus on
goal-based scenarios and scaffolding; two constructivist design methods. The chapter ends with a case study of a course with eleven high-school students between ages 16 and 18.

SECTION 3: E-BUSINESS AND E-COMMERCE

Chapter 10: “Continuous Improvement in E-Teams for Collaborative Marketing Planning” by Tania von der Heidt. The author claims that academicians are charged with successive and evidence-based curriculum improvement in a move towards a more learner-centred teaching and assessment, whereby information and communication technologies increasingly facilitate this call. This chapter looks at technology-enhanced teaching and learning in a university curriculum context. The author reminds us to the fact that a major collaborative marketing plan needs to be designed and evaluated in (virtual) e-teams in the compulsory first-year courses like the marketing unit within a Bachelor of Business course. The researcher found out that external students can successfully conceptualize new products and develop marketing plans in a fully online learning environment. The initial results suggest that teamwork is shifting from simply cooperative to genuinely collaborative.

Chapter 11: “What are the Characteristics of the Firms that are Most Prone to Mobile Selling?” By Sonia San-Martin. The chapter on Mobile Selling startles the reader with the question what characteristics are needed before enterprises can benefit from it? Already the mobile phone and social media have been discovered as channels for advertising. However, this chapter questions if and how the actual selling may be arranged?

SECTION 4: E-GOVERNANCE

Chapter 12: “An Investigation of the Critical Factors for Evaluating the Public Value of e-Government: A Thematic Analysis” by Kanishka Karunasena, Hepu Deng and Kushanthi Sajeewani Harasgama. The authors assess and investigate the Critical Factors for Evaluating the Public Value of e-Government especially in Sri Lanka. The authors deliver a comprehensive review of the relevant literature on the scope of e-government, the sources of public value creation, and the kind of public value is conducted for developing the theoretical framework of the study. They build upon qualitative data collected from Sri Lanka, and provide a thematic analysis that is performed for identifying the critical factors for evaluating the public value of e-government. The analysis reveals that the quality of public information online, functionalities of electronic services, provision of information and services through e-enabled counters, user orientation of public service delivery, improving organizational efficiency, openness and responsiveness, enhancing trust, ensuring confidentiality of citizens’ information, achieving social equity, and environmental sustainability are crucial for evaluating the public value of e-government.

Chapter 13: “An Analysis of Effects of e-Government Readiness on Business Climate, Corruption Perception and the Rate of New Entrepreneurs by Deborah Moraes Zouain, Gustavo De Oliveira Almeida, and Emilia Moraes Zouain. The authors present their chapter on the effect of e-government on business aspects like readiness, the perception on corruption and the speed for starting new enterprises. The research aims to understand the relationship between e-government, business climate, corruption perception and its impact on the entrepreneurship activity. Data were collected using panel reports, instead of a cross-sectional design, including those from World Bank, the United Nations and those from the Global Entrepreneurship Monitor. Correlation analysis and panel data regressions were performed
to test the relationships between the variables. It indicates that when a country is more “e-gov” ready, it develops a more dynamic business sector and less corruption as well. The more subtle underpinning of these causes are discussed, including the suggestion of a more integrative approach to make it possible to less-developed countries diminish the gap of e-government sophistication.

Chapter 14: “Electronic and Mobile G2C Services: Municipalities Provision and Citizens’ Reaction” by Maria Exarchou, Paraskevi Karatzika, Theodora Zarmoupou, and Maro Vlachopoulou. The authors present the notion that electronic- and mobile government services gain a tremendous motivation to move forward in the 21st century with the potential to bring a higher quality and more cost effective services to enhance the relationship between citizens and government. In this chapter, the municipalities’ electronic services provided to citizens are examined based on the literature review and the assessment of their websites. As a result, a typology of electronic and mobile services is proposed. The users’ perspective is inquired to depict the awareness, usage and the attitude of citizens in relation to the electronic and mobile services provided by the municipalities in Northern Greece. Electronic services are used only by slight percentage of Greek citizens due to lack of awareness and trust in electronic government. Mobile services are regarded to be beneficial, while high cost and lack of network connection seem to be barriers for its usage.

SECTION 5: E-HEALTH

Chapter 15: “Creating Educational Resources for Medical Education in the Web2.0/Web3.0 Era” by Ştefănuţ Teodor, Eleni Kaldoudi, Dorian Gorgan, Nikolas Dovrolis and Stefan Dietze. Authors remind us to the finding that the accelerated development of the networked society throughout the last few years has had a strong impact on the teaching and learning activities from the medical related domains. These changes impose the creation of new and more complex interactive teaching resources, with high-quality standards, that fulfill the requirements of the new approach. They signal that the lack of specialized developmental tools requires the involvement of both medical and IT specialists in the resources’ creation process, consequently, generating higher production costs. This chapter describes the user evaluation activities performed over the Metamorphosis+ application and its obtained results.

Chapter 16: “Conducting Performance Evaluation of an e-Health Platform” by Owen Lo, Lu Fan, William Buchanan and Christoph Thuemmler. Authors open their chapter with the increased awareness on adoption of new health applications. They focus on performance evaluation of e-Health applications as well. They presented a metric for the evaluation of eHealth. Their results showed that 100 simulated patients’ data may interact with the e-Health platform under evaluation with a maximum round-trip time latency value of 6.6 seconds. By building upon the techniques, they used to conduct a performance evaluation of e-Health implementations, along with the design of methodologies to enable evaluation to take place for the two other perspectives like end-user and organizational perspectives.

Chapter 17: “Effects of a Home-Based Monitoring Device on Innovation in Healthcare Delivery: A Pilot Study” by Faustina Acheampong and Vivian Vimarlund. The authors explored the effects of collaborative innovation between caregivers and patients on health care delivery as an effect of ICT for patients with atrial fibrillation. Cardiologists and nurses were interviewed while patients were interviewed about their attitude towards home-based heart monitoring. Caregivers estimated the added value in terms of more adequate decision making, while the patients regarded the effect of getting involved with their
own health. The study revealed that this practice causes more overloads to the caregivers finally. The conclusion was that still more integration between old and new practice needs to be given.

Chapter 18: “Effective Use of Rfid in Medicine and General Healthcare” by Eisuke Hanada. RFID is not widespread in hospitals yet, even now they may benefit, both clinically and economically. In the first part of this chapter, she shows typical uses of RFID in hospitals, including the use of newly developed active RFID tags. Finally, possible future medical uses of RFID tags and tag systems are discussed.

**CONCLUSION**

Becoming sensitive to the characteristics of ICT innovative project pays off, as:

1. It proves to be vital that organisations are advised by specialists who have managed and led a variety of projects so that a good portion of intuition is present at all stages of decision’s processes.
2. ICT-based innovations touch a deeper layer of organizational and humanitarian values. Health care, education and government are good examples of sectors that do not allow to “make curves of 90 degrees.” ICT in these cases is just a catalytic tool for stimulating the stakeholders to change mentality. This is the reason that adoption and integration are not exactly relying on rationality and cost/benefit ratios.
3. It allows societies and organisations to evolve towards brand new life styles and copy with new realities like the multicultural communities. The fading away of layered- and religious connotations allow ICT infrastructures like social media to dynamic social networks into the essence of a “Network” society.
4. It enforces new media designers to address the real human threats and opportunities of tomorrow or the day after; ICT-systems are more pervasive for social reality than generally accepted.

**REFERENCES**