Preface

Things have clearly developed positively since the first volume of this series was published. This holds certainly for Europe, where these days even commissioners and national secretaries of state highlight the economic relevance of standards and recognise the importance of research in the field. Of course, it remains to be seen whether or not these grandiose statements translate into increased research funding. However, things certainly look promising.

Practically relevant research is still needed. For example, while I am writing this, a discussion is still continuing on an e-mail list on whether companies fare better with or without basing their products or services on (open) standards. Indeed, research does not yet have a conclusive answer to this question. In fact, a claim from this discussion, that “the academic economy does not try to provide ‘practical knowledge’—but rather contribute to the ‘theory’,” is not really that far fetched. It certainly resonates with my own limited experience: At many universities, tenure, promotion, and funding largely depend on your publication record. And, unfortunately, practical relevance is not exactly terribly high on the priority list of most journals.

The International Journal of IT Standards and Standardisation Research has not yet reached ‘A-level’ status; it does value ‘significance to practice.’ Thus, this book brings you a selection of papers that among themselves not only represent a fairly good cross section of today’s standards research, but many of them should also be of interest to practitioners (or so I hope).

The book is divided into five sections, each of which comprises two to four chapters.

The first section, entitled “Setting Standards,” is also the largest one. In Chapter I, “Challenges for Formal Standardization: The Institutional Reforms of 2008-2010 Reconsidered,” Ulrich Blum enjoys the benefit of hindsight when considering the hypothetical developments in both formal and consortium standardisation over the last 20 years. He shows that the radical reform of the overall system in 2008 will be beneficial for all stakeholders.

Chapter II, “IT Standardization: The Billion Dollar Strategy,” by John Hurd and Jim Isaak, argues that standards have the potential to shape, expand, and create markets. Against this background, the chapter identifies the key incentives for stakeholders to participate, and argues that it would be beneficial for all stakeholders if they participated in the standards-setting process.

Moving away from international to corporate standardisation, Henk H. de Vries’ chapter entitled “Best Practice in Company Standardization” (Chapter III) describes a best-practice model for corporate standardisation. Best practices are developed based on a literature review and six case studies of multinational companies. Using insights from IT, quality, and knowledge management, the new findings are benchmarked.

The chapters of Section II, “Specifics of Standards and Standards Setting,” provide closer insights into some general characteristics of standards and the underlying standards-setting process. Chapter IV, “Open Standards Requirements,” by Ken Krechmer, notes that open standards are one element of an
open society. It therefore discusses the various (desirable) characteristics of the much-discussed term open standard.

At the end of the day, standards are not developed by companies, but by people. Accordingly, their exact role in the process should be of considerable interest. Jim Isaak has a closer look in “The Role of Individuals and Social Capital in POSIX Standardization” (Chapter V). Using the IEEE POSIX set of standards as an example, and drawing upon more than 15 years of personal experience, Isaak demonstrates that the importance of the individual in standards setting must not be underestimated. In particular, he shows that they do not necessarily represent the goals of their respective employers.

Chapter VI is devoted to a slightly more arcane topic. Hans Teichmann, Henk H. de Vries, and Albert Feilzer look at the “Linguistic Qualities of International Standards.” As standards are written documents, these qualities are essential for their proper understanding. Based on a case study about the linguistic qualities of the International Electrotechnical Commission’s standards, the authors analyse standards use, translation practices, and user satisfaction. It turns out that the current practice of publishing bilingual versions of the standards is largely satisfactory, and the chapter suggests some improvements.

The next section is devoted to the step that follows standards setting and implementation, and is entitled “Diffusion and Adoption of Standards.” Chapter VII, coauthored by Michael Schwind, Tim Stockheim, and Kilian Weiss, is entitled “A Diffusion Model for Communication Standards in Supply Networks.” It presents a simulation framework that analyses the diffusion of communication standards in different supply networks. Using real-world scenarios from the automotive and paper and publishing industries, the chapter shows that increases in the dynamics of the relation between entities and of process connectivity lead to a decrease in competition between standards.

The diffusion of standards implies their adoption and deployment. In Chapter VIII, entitled “Scope and Timing of Deployment: Moderators of Organizational Adoption of the Linux Server Platform,” Joel West and Jason Dedrick present a qualitative study of how organisations adopt Linux as a new server platform standard. They show that the advantages enjoyed by incumbent standards can be neutralised, for example, through a low price. Reducing switching costs by starting small further reduces the newcomer’s disadvantage. In contrast, it is shown that internal standardisation increases the attractiveness of the incumbent standard.

The IS discipline is concerned with the development, use, application, and influence of information technology. There is, therefore, little surprise that many IS researchers are contributing to standards research. The section “IS Perspectives” comprises three chapters from different IS points of view.

Chapter IX, “Standards for Business Component Markets: An Analysis from Three Theoretical Perspectives” by Heiko Hahn and Klaus Turowski, presents an analysis of the conditions that have to be met for the successful realisation of large-scale component markets. It does so from the perspective of system theory, knowledge codification, and standardisation. It is argued that future technological developments and their outcome have a considerable impact here.

Subsequently, the question “Should Buyers Try to Shape IT Markets Through Nonmarket (Collective) Action?” is posed by Kai Reimers and Mingzhi Li in Chapter X. The answer is obtained by developing a new transaction-cost theoretic model of network effects. Application of the model suggests that novel forms of user organisations, providing information exchange and knowledge sharing, would improve users’ chances of replacing an established technology with a new, potentially superior one.

Chapter XI, by M. Lynne Markus and Ulric J. Gélinas, Jr., is titled “Comparing the Standards Lens with Other Perspectives on IS Innovations: The Case of CPFR.” Collaborative planning, forecasting, and replenishment (CPFR) has not only been labeled a standard, but also a business philosophy, a methodology, and a set of technologies. The authors find that combining the standards perspective with other conceptual lenses provides valuable insights.
The final section, “Cases and Projects” (using the former term loosely) looks at aspects relating to applications of standards in the market. This is a fairly wide field, ranging from standards applied in different engineering areas to those making inroads into national economies, to a project that aimed at a better integration of research and standardisation.

Chapter XII, “Market Response to ISO 9000 Certification of Software Engineering Processes” by G. Keith Fuller and Ilan Vertinsky, looks at the fate of a widely accepted certification standard, ISO 9000 (International Organization for Standardization), in an area where the cost effectiveness of such certification of processes is still debated. Yet, the authors’ findings suggest that certification would be beneficial for companies also in software engineering.

Next, “The Value of Web Design Standards for Mobile Computing” is discussed by Matt Germonprez, Michel Avital, and Nikhil Srinivasan in Chapter XIII. Specifically, the chapter investigates if and how Web standards like HTML (hypertext markup language) and CSS can support crucial characteristics of mobile computing: device independence and usability. The authors conclude that CSS especially can play an important role in the evolution and openness of mobile computing.

In Chapter XIV, entitled “Developing Country Perspectives on Software: Intellectual Property and Open Source. A Case Study of Microsoft and Linux in China,” Xiaobai Shen analyses the impact of a global IPR (intellectual property right) protection scheme on developing countries. Using the Windows and Linux case in China as an example, the chapter challenges current views of the implication of global IPR regimes, and of the benefits of open software. It also looks at associated policy implications for developing countries.

Finally, Bart Brusse presents findings from the project “COPRAS: Encouraging ICT Research Projects to Produce More Tangible Standardization Results” in Chapter XV. This project aimed to improve the interface between ICT research projects and standardisation. It turns out that cooperation and cross-fertilization between research and standardisation is increasingly perceived as important by projects, and that the level of research and development input into standards setting can be increased through adequate support mechanisms.

And now—happy reading!

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