searchers used a probabilistic model of failure patterns extracted from existing data, which allowed generating of a decision-theoretic policy that is used to guide and optimize the testing of ICs. This is another great interdisciplinary chapter for a reader interested in an actual physical example of an AI system, but this chapter would require some AI knowledge.

The book does achieve its aim of being a starting point for someone interested in the state of some areas of AI research at the beginning of the new millennium. The book’s most irritating feature is the different writing styles of the authors. The book is organized as a collection of papers similar to a typical graduate survey course packet, and as a result the book does not possess a narrative flow. Also the book contains a number of other major weaknesses such as a lack of an introductory or concluding chapter. The book could greatly benefit from an introductory chapter that would introduce readers to the areas of AI, explain why such a book is needed, and explain why each author’s research is important. The manner in which the book currently handles these issues is a preface that talks about some of the above issues in a superficial manner. Also such an introductory chapter could be used to expound on what level of AI mathematical and statistical knowledge is expected from readers in order to gain maximum benefit from this book. A concluding chapter would be useful to readers interested in the other areas of AI not covered by the book, as well as open issues common to all of the research presented.

In addition, most of the contributors come exclusively from the computer science field, which heavily slants the work toward the computer science community. A great deal of the research presented is being used by a number of research communities outside of computer science, such as biotechnology and information technology. A wider audience for this book could have been achieved by including a more diverse range of authors showing the interdisciplinary nature of many of these fields. Also the book’s editors state, “The reader is expected to have basic knowledge of AI at the level of an introductory course to the field” (p vii), which is not the case for this book. Readers need at least a strong familiarity with many of the core concepts within AI, because a number of the chapters are shallow and terse in their historical overviews.

Overall, this book would be a useful tool for a professor putting together a survey course on AI research. Most importantly the book would be useful for eager graduate students in need of a starting point for their research for their thesis. This book is best suited as a reference guide to be used by individuals with a strong familiarity with AI.

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DOI: 10.1002/asi.10365


The book is based on a doctoral thesis titled “Global opportunity and national political economy: The development of Internet ventures in Germany,” which was supervised by Raazem Sally and accepted at the International Relations Department of the London School of Economics & Political Science, UK, in 2002. Its primary audience, although it is certainly of interest to policy makers, trade press journalists, and industry practitioners, is the academic community, and, in particular, (international) policy, business, business history, information technology, and information science scholars.

The book’s self-stated purpose is to explain “why Europe, despite initiating a tremendous amount of change… failed to produce independent Internet ventures of note” (p 1) in contrast to the United States, where Internet start-ups such as Amazon.com, eBay, ETrade, and Yahoo managed to survive the notorious dot.com shakeout of 2001-2002. A few pages down, the objective is restated as “to explore the hypothesis of a global opportunity for technology innovation delivered via the Internet and to explain Europe’s entrepreneurial response” (p 4). As a proxy case for Europe, the study provides a broad account of the changing legal and socioeconomic setting during the phase of early Internet adoption and development in Germany throughout the 1990s. The author highlights and details various facets of the entrepreneurial opportunity and compares the German case in some detail to corresponding developments in Sweden. Waesche concludes that starting an Internet business in Germany during that particular period of time was a “wrong country, wrong time” (p 186) proposition.

With both context and topic richly introduced, Waesche presents his research in two parts, the first of which outlines what he calls the Global Opportunity while the second details the National Political Economy. In the first part, the rapid global diffusion of the Internet is discussed with a special emphasis on the role of the U.S. government, which significantly fostered the fast pace of growth. Designed as the unifying network of networks, the Internet addressed the specific need of interconnectivity regardless of existing network topology, architecture, speed, or vendor provenience, which was in high demand by the military, the educational, and the commercial sectors in the United States. The U.S. government-sponsored Internet architecture managed to supplant the rivaling European OSI/ISO network standardization attempts both domestically and globally due to a number of compelling technical, cost, and performance advantages. In the United States, those advantages were systematically leveraged further through the timely commercialization of the Internet, also backed by an earlier, well-crafted policy of telecommunications deregulation followed by deliberate tax exempts for Internet sales. While U.S. policy makers heavily relied on unleashing the forces of the market economy and on industry self-regulation for securing the success of the Internet, European policy makers were still entrenched in a tradition of regulating and standardizing before the nascent technology could have even demonstrated its full potential and impacts on both the economy and society at large.

As a result, Internet-related infrastructures and services thrived rapidly in the United States, while they lagged behind in Europe and other parts of the world. However, as Waesche demonstrates, beyond those differing principles in policy making, when European legislators finally embarked on widespread deregulation of telecommunications, the impact of those policy changes came too late in order to establish a flourishing European Internet startup sector which could match its US competitors in agility, size, and global reach.

In the second part of his book, Waesche discusses the German case in further detail. As he outlines, in this country, due to a tradition of “corporatist” and consensual decision making, entrepreneurial activity typically relies on proactive governmental policy making for setting detailed rules of the road. When in the course of the European Union’s integration process national, government-controlled or -owned Post, Telephone, & Telegraph (PTT) monopolies were ordered to be dismantled and deregulated, the German federal government, as the owner of the largest PTT on the continent, opted in favor of a relatively slow and phased approach to privatization and dissection that spun over the major
part of the 1990s, coinciding with the global rise of the Internet. Since the PTT managed to maintain its full control over the last mile into the new millennium, it was in a position to stifle the proliferation of the Internet via drastically increased fees for metered local calls. At that time, flat rates for Internet access were not available. To make the prospects for rapid growth even worse, the PTT, as the owner of German cable TV networks, decided to bar those networks from Internet access too. Other providers of physical network infrastructures appeared late on the scene, and play a minor role even today. Hence, accessing the Internet as a consumer or as a small-to-medium business was confined to phone lines with slow connection speeds at a prohibitively high price. As a result, the Internet had a very slow start in Germany.

However, German Internet entrepreneurship was not only curtailed by weak demand, but also through insufficient capital supply. Unlike their U.S. counterparts, German Internet entrepreneurs had little or no access to a well-established and technology-savvy venture capitalist community for the most part of the 1990s. They instead had to resort to traditional instruments such as bank loans and self-financing, such that German Internet startups were undercapitalized and not geared for rapid growth. When the Neuer Markt (designed as a German NASDAQ equivalent) finally started providing capital to German Internet firms, it was rather late for helping German startups expand to a global reach.

While U.S. Internet startups enjoyed a deregulated as well as an innovation- and technology-friendly domestic environment that readily provided sufficient capital supply and fostered a rapidly growing demand base, German startups had to fight an uphill battle in many respects. The domestic demand base had been artificially curtailed, deregulation had not fully unfolded, capital supply was initially weak, and a widespread mentality of embracing technological and social change was mostly absent in the German society of the 1990s. Unsurprisingly, quite a few U.S. Internet startups managed to grow into a global presence, with the strongest surviving the inevitable shakeout, while global players from Germany are missing.

Assessing the book’s academic contribution presents a challenging task, which would have been easier to perform had the purpose been stated more precisely. To the business historian the study casts some light on a relatively short period of time (basically the years 1995 to 1998) of German technology-related policy making, its short-term effects, and the fate of a special breed of entrepreneurial activity during that period of time.

The study demonstrates that German start-ups could not help but miss a global opportunity should that opportunity have existed on a broad scale, at all (for example, why, globally speaking, are there only U.S. survivors of the first wave of “pure” Internet businesses? In other words, to what extent was the opportunity already a global one at that early stage?). The reviewer tends to be skeptical regarding that conjecture. Today, the New Economy euphoria has vanished in favor of a more realistic perspective that acknowledges the tremendous long-term potential of an increasingly global economy with the Internet as an important backbone of this development. In fact, meanwhile it has become undeniable that so-called Old Economy organizations (including governments) were relatively quick on their feet in embracing and even driving the new technological opportunities, therefore contributing to the global change and opportunity decisively more than all first and second-wave Internet startups taken together.

Rather than Old versus New Economy, the Internet has challenged almost every organization around the world to change the old way in favor of a new, Internet-related way of doing business. In that regard, the pure Internet entrepreneurial opportunity existed only for a short while when traditional businesses had difficulties to acknowledge the extent and immediacy of the opportunity/threat of a new business model. It is revealing, for example, that Amazon.com, in order to survive, had to divert from its original broker-type model to more traditional ways of retailing books, CDs, computer equipment, etc., with most of the backend logistics not far from those of traditional players. A 2002 dissertation and a 2003 book should, it is felt, be more critically reflective in that regard rather than stick to a 1998 perspective of an assumed immediate and revolutionary change from brick-and-mortar-based business to a “clicks and bricks” economy.

Waesche sparsely sketches out a theoretical framework for his study combining “network thinking,” which he claims to stand in the Schumpeterian research tradition, with classical institutional theory a la Max Weber. It is not clear, though, how this theory has guided his empirical research. No detailed hypotheses are presented, which would further clarify what was studied. Beyond the rudimentary framework, the author presents a concept of “refraction” denoting the “distorting effect national institutions have on a global innovation opportunity” (p. 17). Again, no hypotheses or measures for this concept are developed. No indication is given about which specific academic contribution was intended to be made and which particular gap of knowledge was attempted to be filled.

Waesche’s book would have greatly benefited from a more sharply posed and more detailed set of research questions. Instead we learn many details about the German situation in general and about the perceptions of individual players, particularly managerial personnel, in entrepreneurial Internet businesses in a specific situation within a relatively short period of time. While many of those details are interesting in their own right, the reader is left wondering what the study’s novelty is, what it specifically uncovered, what the frame of reference was, and what was finally learned. Contrary to its claim and unlike a Chandlerian treatment of business history, the study does not explain, it rather just describes a particular historical situation. Consequently, the author refrains from presenting any new theory or prescriptive framework in his concluding remarks, but rather briefly revisits and summarizes the preceding chapters.

The study’s empirical basis consists of two surveys with sample sizes of 123 and 30 as well as a total of 68 interviews. The surveys and interviews were mostly completed between July of 1997 and November of 1999. Although descriptive statistics and detailed demographic information is provided in the appendix, the questionnaires and interview protocols are not included, making it difficult to follow the research undertaking.

In summary, while undeniably a number of interesting and illustrative details regarding early Internet entrepreneurship in Germany are accounted for in Waesche’s book, it would have provided a much stronger academic contribution had it developed a sound theory upfront and then empirically tested that theory. Alternatively the author could have singled out certain gaps in existing theory, and then attempted to fill those gaps by providing empirical evidence. In either case, he would have almost inevitably arrived at new insights directing to further study.

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DOI: 10.1002/asi.10366