Foreword

This is a handbook, a unique collection of practical experiences, expert opinion, and future visions of what has become known as e-Business. In it, one will find timely, challenging, and often conflicting views with as a common thread, the passion and expertise of the authors in what is a critically important subject. E-Business covers the exchange of data for the purpose of conducting business. This includes the collection, storage, and exchange of data for essentially all economic activity. It includes research and discovery as well as documenting the actual exchange of goods or services through to the development of the models that predict business trends. It is a vast subject that is undergoing rapid change. This handbook is designed to serve as a guide to ongoing research and to provide a reference to support researchers’ work.

It took only a single generation to get from the Wright brothers’ first flight in 1903 to the first commercial flight of the supersonic Concord in 1976, an amazingly short 73 years. The evolution from essentially verbal agreements and hand written business records developed and refined over hundreds of years, to the creation, storage, and exchange of electronic documents has occurred even faster. In only a few decades, fully automated trading systems and information storage systems have been developed where the records differentiating the richest from the poorest are no more than invisible binary code.

When email first emerged in the late 80s, it occurred to this author that if humans could communicate by exchanging email why couldn’t computers? This led to a grant of a British patent in 1992 on the use of store and forward networks, later to become known as email servers, to maintain distributed databases. The process allowed software applications to use email to “talk” to each other. I always wondered what would happen if software applications started building their own connections and automating trade to the point where I could let my computer find the product I was looking for, buy it, and arrange for it to be delivered, all without my help. This can easily be done today on a global scale in any language. I also wondered when computers would start to exchange jokes about their masters, and perhaps that is the next step.

The first commercial computers arrived on the scene in the late 50s with IBM entering its golden years in the 60s with its visionary leadership in business computing. By 1969 IBM was defending a law suit claiming that it was attempting to monopolize business computers. In the mid 70s, islands of computing started to reach out to each other with the development of EDI and the Value Added Networks (VANs). The first Apple appeared on April Fool’s Day in 1976, and the first IBM PC less than four years later. Ten years later, the Internet made its debut, and almost immediately we saw the first Web server. As the saying goes, time flies when you are having fun.

Change is never easy, and as the speed of change increases, so does the turbulence. It is hard to predict the true direction e-Business will take us, but as this handbook clearly shows, we can detect trends that are driving towards greatly improved transparency. This will be based on better quality data traceable to
its authoritative source or provenance. We can also expect to see the principles developed for e-Business applied to eGovernment as we move towards portable data, data that is independent of the application used to capture, store, or manipulate it, and data that preserves its meaning over time. These principles are at the heart of ISO 8000, the new international standard for data quality.

Data is the water that flows and connects, and without data, our computers and our software would have no purpose. As this work illustrates, there are clearly road bumps and toll gates ahead, but luckily, the ever-present drive to create monopolies is balanced by a community, focused on sharing knowledge through open standards.

I recommend this work to you in the hope that it may provide you with inspiration for your own research as well as a guide to practical solutions you can apply in your own business, be it large or small.

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Peter Richard Benson is the Founding and Executive Director of the Electronic Commerce Code Management Association (ECCMA). Peter is also the General Manager of PiLog USA Inc., a member of an international group of companies providing data quality solutions. Peter has enjoyed a long career in structured data, starting with early work on debugging the first version of dBase II, a ground-breaking database application development language designed for the personal computer market. Peter used dBase to develop business applications covering payroll, accounting, as well as crop and livestock production, all based on the principle of the separation of the applications used to capture and manage the data, from the applications used to report on the data. Peter went on to design WordStar Messenger, one of the first commercial electronic mail software applications, which included automated high to low bit conversion to allow eight bit word-processing formatting codes to pass through the early seven bit UNIX email systems. Peter developed a method for securely updating distributed encrypted databases with usage monitoring using simple email exchange. This was successfully applied to the public relations industry, and Peter subsequently received a British patent in 1992 covering the use of automated email to update distributed databases. From 1994 to 1998 Peter chaired the ANSI committee responsible for the development of EDI standards for product data (ANSI ASC X12E), and Peter was responsible for the design, development, and global promotion of the UNSPSC as an international commodity classification for spend analysis and procurement. Most recently, in pursuit of a faster, better, and lower cost method for obtaining and validating master data, Peter designed and oversaw the development of the eOTD (ECCMA Open Technical Dictionary), eDRR (ECCMA Data Requirements Registry), and eGOR (ECCMA Global Organization Registry) as open registries of terminology, data requirements, and organizations mirrored on the NATO codification system. Peter is the project leader for ISO 8000 (data quality) and ISO 22745 (open technical dictionaries); he is recognized as an expert on the capture, maintenance, and distribution of master data, as well as the automatic rendering of high quality multilingual descriptions from master data that are at the heart of today’s ERP applications and the high speed and high relevance search engines. Peter works to focus international attention on the importance of open metadata and data provenance at the data element level. On the one hand, open metadata protects an organization’s rights to their own data and plays a key role in long term data retention, while on the other, data provenance is critical to being able to trace the origin of data and therefore its accuracy and reliability.