Foreword

The economic success of enterprises increasingly depends on their ability to react to changes in their environment in a quick and flexible way. Examples for such changes include regulatory adaptations (e.g., to the introduction of Sarbanes-Oxley or Basel II), market evolution, changes in customer behavior, process improvement, and strategic shifts. Companies have thus identified business agility as a competitive advantage to address business trends like increasing product and service variability and faster time-to-market.

Business agility is often hindered by a lack of flexibility in the majority of contemporary enterprise information systems. It is not rare that companies—in accordance with the motto never change a running system—would rather abandon new business initiatives than attempt to make modifications to their enterprise applications.

Process-oriented software in the form of Process-Aware Information Systems (PAISs) can be increasingly found in practice. Unlike many traditional software systems, which are function-oriented in their nature, PAISs decouple the service layer from the orchestration layer, which provides the glue between the individual services and assembles them to a process-oriented software application. Maintainability and traceability are enhanced significantly by this extended architecture.

While an explicit representation of a company’s business processes is in the very core of any PAIS, the vast majority of information systems are still non-process-aware and business processes are only represented implicitly. Still, having an explicit knowledge of the business processes supported by respective software systems is essential for any reengineering effort that attempts to evolve the software to better align the real world business processes with the ones currently supported by the existing information systems.

Business process archeology is an emerging area of research that addresses this important challenge by providing methods and techniques to understand an organization’s business processes by analyzing existing software artifacts. By enabling an enhanced understanding of the business processes supported by non-process-aware software systems, business process archeology bears tremendous potential to improve the way software modernization processes are conducted.

This book is the first to provide a comprehensive overview of the existing state-of-the-art on the emerging area of business process archeology. As such, it is a valuable reference not only for researchers who are keen to learn more about this emerging field but also inspiration for software professionals who are faced with traditional (non-process-aware) software systems that need to be evolved.

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Barbara Weber is an associate professor in the Department of Computer Science at the University of Innsbruck (Austria), where she leads the research cluster on business processes and workflows. Barbara holds a Habilitation degree in Computer Science and a Ph.D. in Economics from the University of Innsbruck. Barbara has published more than 90 refereed papers in Data & Knowledge Engineering, Computers in Industry, Enterprise Information Systems, Science of Computer Programming, Software and System Modeling, and others, and serves as an editorial board member for the Information Systems Journal and the Computing Journal, and organizes the successful BPI workshop series. Moreover, she is co-author of the recently published book Enabling Flexibility in Process-Aware Information Systems by Springer. Barbara’s research interests include process model understandability, process of process modeling, integrated process life cycle support, change patterns, process flexibility, user support in flexible process-aware systems, and recommendations to optimize process execution.