

# Preface

In the globalized economy, the service sector is expanding rapidly and becoming more and more important. Many researchers have conducted research on services from various points of view and offered insights to business owners. Recognized as one of the most important challenges in research on services among practitioners and researchers is how to improve service productivity and efficiently ensure customer satisfaction with limited natural and human resources. Due to their nature, services used to be difficult to research using a scientific approach, but the innovation of digital devices has led to the accumulation of a variety of data, which is gradually enabling researchers to analyze services scientifically.

Data mining is one of the most important steps to scientific analysis of service processes. It is a series of processes which include collecting and accumulating data, modeling phenomena, and discovering new information. Numerous technical papers and studies on data mining have been published in computer science. Using calculation speed and prediction accuracy as the evaluation criteria, many of these studies have contributed to the efficient processing of a large amount of data. However, when it comes to applying data mining to analyzing services, calculation speed and prediction accuracy do not suffice; instead, algorithms and techniques that are appropriate for a particular service must be adopted or developed. Therefore, expertise in the service domain is crucial in applying data mining in services. This book reveals how data mining can be applied to the service sector within a variety of service-related examples. Understanding the compatible relation between the expertise in services and data mining techniques will provide insights on the extended use of data mining in other service domains.

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Education, Culture, Sports, Science and Technology (MEXT), 2009–2013. Finally, I hope this book will stimulate interest in the relation between data mining technology and its application to other fields and provide important insights for many researchers and practitioners involved in the service sector.

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