Foreword

The emergence of Cloud services and mobile technologies have expanded the range of enterprises that have IT operations at the core of their operational and innovation processes. Large and small business in every domain rely on IT technology to operate internal production and support processes, while enabling external interactions with customers and the business ecosystem.

Delivered either in-house, outsourced, or mixed, IT operations must to be highly efficient in supporting the business needs with resiliency, security, and responsiveness. IT service management best practices help businesses and IT operation providers formalize their needs into quality and productivity indicators that are used to govern IT operations. While IT service management tools with extensive capabilities for automation and integration are increasingly available, there is still significant human participation / decision making involved throughout IT service operations. This is attributable to challenges in formalizing/automating complex business and IT processes coupled with software and hardware integrations across heterogeneous environments. To make effective forward progress in the environment, as in many areas of business, we are increasingly reliant on analytics to provide the insight on how to optimize operations and overall business performance.

This book provides valuable examples of Service Analytics from several areas of IT service management. The cases covered include examples of application of analytics to achieve the twin goals of higher quality and productivity, with tangible business outcomes involving Service Level Agreement (SLA) attainment, customer satisfaction, and cost. For instance, analytics tools such as optimization models, queuing theory, and predictive analytics open the opportunity for dynamic management of human resources, with decisions about schedules, skills, organization and training. Predictive analytics for workload classification enable more efficient Incident and Problem management with outage prevention, automated resolution, and solution reuse. Optimization models in areas such as change scheduling, service management tool configuration help prevent SLA failures. Modeling complex IT service processes paves the path to effective process optimization and execution.

Research initiatives in academia and industry are focused on making complex IT operations more efficient and Service Analytics is a key enabler for this pursuit. The drivers of complexity in IT operations are manifold, ranging from infrastructure scale, geographic distribution, SLA models, process interactions, workload dynamics, to new types of interdependencies emerging from the increasingly popular as-a-service models. This book provides representative examples on how analytics can be used to represent some of these drivers, and consequently maximizing management performance and quality of IT service delivery.
Maheswaran Surendra
IBM T. J. Watson Research Center, USA

Maheswaran Surendra is Director of Service Management at IBM T. J. Watson Research Center, where he has worldwide responsibility for research and innovation initiatives in IT Services Management and Delivery. He has been with IBM Research since 1991, and been involved in a wide range of technology domains, including semiconductor manufacturing, IT systems management software and most recently, services management. Prior to joining IBM, he received his PhD from UC Berkeley and completed Master's and Bachelor's degrees at MIT.