BIG DATA
BIG ANALYTICS

EMERGING BUSINESS INTELLIGENCE AND ANALYTIC TRENDS FOR TODAY'S BUSINESSES

Michael Minelli • Michele Chambers • Ambiga Dhiraj

BIG DATA,
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To my wife Jenny and our three incredible children, Jack, Madeline, and Max. Also to my parents, who have always been there for me.
—Mike

To my son Cole, who is the light of my life and the person who taught me empathy. Also to my adopted family and support system, Lisa Patrick, Pei Yee Cheng, and Patrick Thean. Finally, to my colleagues Bill Zannine, Brian Hess, Jon Niess, Matt Rollender, Kevin Kostuik, Krishnan Parasuraman, Mario Inchiosa, Thomas Baeck, Thomas Dinsmore, and Usama Fayyad, for their generous support.
—Michele

To Mu Sigmans all around the world for their passion toward building the decision sciences industry.
—Ambiga

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FOREWORD: BIG DATA AND CORPORATE EVOLUTION

When my friend Mike Minelli asked me to write this foreword I wasn't sure at first what I should put on paper. Forewords are often one part book summary and one part overview of the field. But when I read the draft Mike sent me I realized that this is a really good book, and it doesn't need either of those. Without any additional help from me it will give you plenty of insight into what is happening and why it's happening now, and it will help you see the possibilities for your industry in this transition to a data-centric age. Also, the book is just full of practical suggestions for what you can do about them. But perhaps there's an opportunity to establish a wider context. To explore what Big Data means across a broad arc of technological advancement. So rather than bore you with a summary of a book you're going to read anyway, I'll try to daub a bit of paint onto the big picture of what it all might mean.

This foreword is based on the thesis that Big Data isn't merely another technology. It isn't just another gift box en route to the world's systems integrators via the conveyor belt of Gartner hype cycles. I believe Big Data will follow digital computing and internetworking to take its place as the third epoch of the information age, and in doing so it will fundamentally alter the trajectory of corporate evolution. The corporation is about to undergo a change analogous to the rise of consciousness in humans.

So let's start at the beginning. The Industrial Age was an era of vast changes in society. We harnessed first steam and then electricity as prime movers to unleash astonishing increases in productivity. The result was the first sustained growth of wealth in human history.

Those early industrial concerns required vast pools of labor that gradually grew more specialized. To coordinate the efforts of all of those people, management developed systems of rules and hierarchy of authority. At massive scale the corporation was no longer the direct exercise of an owner's will, it was a kind of organism.

It was an organism whose systems of control were born out of the Napoleonic bureaucracy of the French State and its emphasis on specialized function, fixed rules, and rigid hierarchy. The "bureau" in bureaucracy literally means desk, and paper was both the storage mechanism in them and the signaling mechanism between them.