

## Foreword

It is a great privilege for me to write a foreword for this edited volume on advanced data communication and networking technologies geared toward digital disruption of organizations. When Debashis approached me – in my capacity as the current EiC of IJBDCN – to write the foreword, I didn't think twice, not because of our association with IJBDCN for a long time, but because I consider him one of the best persons to edit the volume on such a contemporary topic. I have been working myself in this domain for about 25 years now, and I know how important it is today to illustrate the role data communication and networking is playing in transforming the businesses worldwide digitally. This book amply helps to capture the essence of disruptive technological advancements being visible across that domain.

For businesses today, digital transformation is the new norm. Whether they like it or not, it is imperative for them in the disrupted environment they do business in. The writing on the wall is very prominent for them – if they do not change, digitally savvy customers will leave them behind. So they are compelled to offer mobile apps, adopt cloud, adapt to 5G technologies, deploy sensor networks, embrace IoT, and so on. But they shouldn't do these changes under compulsion – as it they are forced to do so. They need to realize the potential benefits that can be derived out of the appropriate usage of these digital artifacts. In fact, digitalization can open up a whole new world of possibilities for the businesses. Imagine, for a moment, a wooden toy manufacturing company producing beautiful dolls from wood using “basic” hand tools such as a hammer, saw, tape measure, and block plane. Its employees, as experienced craftsman they are, can do a fine job with these tools and produce beautiful, quality products. Now, imagine giving those same workers tools like CAD, electric saw, router, and drill. They will not only accomplish the work much faster, but they can do it with more precision and with greater variety, much to the delight of the customers. More importantly, even a relatively inexperienced craftsman can produce quality work using this kind of equipment. In a similar fashion, the advent of digital technology has provided new power tools like internet, cloud, mobile, and IoT to the businesses. Even startups can use these tools to produce amazing results. In addition, if an enterprise is already experienced at doing something, imagine what

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a new set of “digital tools” could do for it, provided it understands how to use the tools. These just might open the door to new levels of efficiency and productivity. The aim of this volume is to move the field of data communication and networking by stimulating and exploring new ideas and research practices in this field in relations to new themes, methods, paradigmatic stances and contexts.

This book provides a valuable compilation on technology enablers for digital transformation of enterprise and covers at least three important data communication related components viz. 4G/5G wireless networking, cloud computing, and sensor networks. We are already into 4G mobile services, and ITU expects 5G to appear in the horizon circa 2020. The millennial users on social media are digital netizens who carry mobile phone that are more powerful than desktops; cell phones today have 8 GB RAM, 256 GB ROM and practically infinite HDD in the form of cloud. Wireless sensor networks (WSNs) form the edge of IoT – these WSNs are manifold powerful than mobile ad hoc networks were envisioned to be.

A lot of effort has gone into the design of this volume to make it a useful and efficient reference. Although the major emphasis of this work is on data communication and networking, it also contains material that will be of interest to IT leaders and managers, and indeed to anyone with a fascination with the world of IT. The editor has selected nine prominent topics as the key subjects of the chapters contained herein. Although these represent only a small sample of the world of business-driven IT, they amply illustrate the importance of the field of data communication and networking to the modern businesses and the way in which it is evolving rapidly.

There are several interesting challenges in this topical domain, and researchers are working enthusiastically on them to come up with new solutions that might go a long way to enrich the extant literature. The academicians, practitioners, and managers should keep themselves abreast with those happenings so that they remain aware of the state-of-the art knowledge on the frontiers in business data communication and networking in this new age of digital nexus. This book is a timely step toward that direction. I am pretty sure that the readers will also gain a broader perspective of the recent advancements made in the domain of communication and networking in general, as a result of the stupendous efforts laid out by the contributors of this book.

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