PREFACE

Marketplaces have a unique role in matching supply and demand, creating value for goods—both physical and virtual. Digitization capabilities opened a vast opportunity to record, store, transmit, and trade cognitive assets such as data, models, ads, images, and media products. We call such assets Knowledge Intensive Assets (or KIAs). The novel feature of such assets is that they either are products of creativity or help produce other creative assets. The digital formats of KIAs make them more accessible and valuable commodities that can be traded, often surpassing the value of precious metals, oil, or minerals.

Traditionally, knowledge-based products are offered as a service—e.g., news, books, educational material, and photography. However, the ability to digitally deliver these products led to an explosion of KIA products. The potential market size for KIA products dwarfs any other product suites being commercialized today. At the same time, the monetization of KIA products is accompanied by legal, ethical, and security-centric issues and concerns.

The objective of this book is to compile, analyze, and describe the potential opportunities and associated challenges in the trade of KIA products on digital marketplaces. We have attempted to draw parallels with traditional marketplaces and explain how the functions and capabilities are different in digital marketplaces, especially those that deal with KIA products.

The motivation of writing this book evolved from a series of investigative studies that we conducted on topics such as open marketplaces for data, monetization of Internet of Things (IoT) data, and AI marketplaces under the auspices of the IBM Academy of Technology (AoT). We came across a broad set of emerging platforms that offered trading of various types of KIA products. We also observed the challenges in scaling such platforms and making them commercially successful ventures. We had

the opportunity to talk to many stakeholders and subject matter experts (SMEs) who are working in this area. Moreover, we also have our past professional experience in driving the technologies in different marketplace functions, such as optimal selling, personalizing, making recommendations, searching, marketing, and pricing. We noticed that a comprehensive story of digital marketplaces for monetization and the exchange of knowledge intensive entities is not well documented in a book form. We hope this book fills that gap.

We target this book at readers from many professional walks, such as business students and faculty who study and research the science of commerce, producers and owners who want to monetize their KIAs, enterprise companies that want to do business in this field, economists and financial professionals who watch the new patterns of commerce, and the innovative entrepreneurs who bring new ideas to market.

The book has 10 chapters. Among these, we allocated more space to chapters 4 and 5. Chapter 4 focuses on describing the different types of KIAs, their significance, and some emerging players who are already monetizing the KIA products on their digital platforms. The functions and capabilities needed for any digital marketplace are described in chapter 5. A large set of products to trade from a diverse set of producers and a loyal and demanding group of buyers are the key elements of any marketplace. Success and profitability are strongly linked to the volume and ease of transactions happening on the marketplace platforms. Chapter 6 is dedicated to the scaling and automation aspects of digital marketplaces. We have tried to bring in contemporary examples from the industry; however, the field is so turbulent that keeping up with the current state is challenging. We have also attempted to paint what the future may look like and what the burning issues are that need to be addressed by both business processes and technological advancements.

We acknowledge that the topics in some of the chapters need further elaboration—some of them may be worth a book in themselves. We have tried to balance coverage and details and regret any shortcomings. As Keats wrote, "Heard melodies are sweet, but those unheard are sweeter." We leave some of those additional aspects to be penned at a later time.