Smart Finance: Artificial Intelligence, Regulatory Compliance, and Data Engineering in the Transformation of Global Banking

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DeepScience

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Published, marketed, and distributed by:

Deep Science Publishing
USA | UK | India | Turkey
Reg. No. MH-33-0523625
www.deepscienceresearch.com
editor@deepscienceresearch.com
WhatsApp: +91 7977171947

ISBN: 978-93-49910-14-0

E-ISBN: 978-93-49910-19-5

https://doi.org/10.70593/978-93-49910-19-5

Citation: Paleti, S. (2025). *Smart Finance: Artificial Intelligence, Regulatory Compliance, and Data Engineering in the Transformation of Global Banking*. Deep Science Publishing. https://doi.org/10.70593/978-93-49910-19-5

Preface

Global banking is in the midst of a profound digital transformation. Emerging technologies, changing customer expectations, and evolving regulatory frameworks are forcing financial institutions to rethink how they operate, compete, and deliver value. Smart Finance: AI, Regulatory Compliance, and Data Engineering in the Transformation of Global Banking examines the forces reshaping the financial services industry and presents a comprehensive roadmap for leveraging artificial intelligence, advanced data engineering, and regulatory technologies (RegTech) to build resilient, future-ready banking systems. Artificial intelligence has moved beyond experimentation into mainstream adoption in banking—from automating credit scoring and fraud detection to powering conversational banking and algorithmic trading. Meanwhile, the explosion of data and the need for secure, compliant, and real-time processing have made data engineering and governance foundational to any modern financial operation. As institutions navigate increasingly complex regulations and heightened scrutiny, the role of AI and automation in compliance management has become not only strategic but essential.

This book brings together the technological, regulatory, and operational dimensions of smart finance. It explores how AI-driven analytics and decision systems are unlocking new opportunities in risk management, customer personalization, and financial planning. It also highlights the critical importance of robust data pipelines, scalable architectures, and integrated compliance frameworks in ensuring trust, transparency, and efficiency in global banking operations. With real-world examples, case studies, and forward-looking insights, this book is designed for banking professionals, technology leaders, data scientists, and policymakers seeking to understand and harness the transformative potential of intelligent finance. It does not merely chronicle innovation—it provides actionable strategies for thriving in a digital-first, regulation-intensive landscape.

As the global banking industry stands at a pivotal crossroads, the convergence of AI, compliance, and data engineering offers a unique opportunity: to redefine finance as more intelligent, inclusive, and secure. This book is both a guide and a vision for that future.

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