Preface

This book examines the relationships between high-tech entrepreneurship and innovation in an important new technology – mobile payments – in Korea and China, the world leaders of this technology in development and diffusion.

Mobile payment technologies result from the convergence of the mobile communications and financial payment industries. Their development is a complex and lengthy process, which on the one hand relies on familiar and well-defined infrastructure (mobile communications and payment networks); and on the other is driven by emerging but sophisticated applications that require consumers to change their behaviour in the way they pay for goods and services. This process requires continuous modification or re-innovation involving high order technological capabilities and business skills. The book shows how the development and diffusion of mobile payments is a social process requiring extensive collaborative efforts conducted within specific national institutional structures and cultures.

The role of high-tech entrepreneurial start-ups in the development of an emerging technology is commonly considered to be that of a technological ‘challenger’ or an ‘agent’ for technology transfer rather than a direct engine of economic growth. While systematized innovative activities carried out by large corporations are widely recognized and well studied, the role of start-ups, often as the initiator of a new technological innovation (especially if the technology is successful but the start-up fails), has not been given sufficient consideration in the literature dealing with technological development and diffusion, leaving an important research gap.

Using a process-oriented case inquiry, this book aims to fill this gap by examining in detail the critical role played by high-tech entrepreneurial start-ups in the development of mobile payment applications. It examines high-tech entrepreneurship in an Asian context. Asian nations are increasingly contributing to the development of world-leading technology and encouraging the creation of high-tech start-up firms, but there is little detailed research into the role of these firms in developing technology in Asia, another research gap. The book investigates the processes of

technological development and diffusion of mobile payments in China and Korea: the former a country with the world's largest mobile communications market, and the latter a country that has the most advanced mobile networks in the world. We show how a multiplicity of factors explain how entrepreneurial start-ups can be instrumental in introducing new technological innovations and how their efforts can potentially lead to the creation of a pool of distinctive competencies by integrating new technological innovations and existing business capabilities. However, many factors (such as a lack of resources and legitimacy in society) often constrain effective innovation strategies in start-up firms. We show the importance of cultural factors and the institutional structures and public regulatory frameworks in Korea and China for shaping these strategies and in the development of emerging technologies. It is essential for the study of high-tech entrepreneurship to be located firmly within the specific technological and national environment in which it emerges.

Chapter 1 offers an introduction to the main issues and themes in the book. It discusses the background to the research behind the book, and the research questions addressed in the study. It offers an intellectual map and analytical framework for the issues considered and definitions and methods used.

Chapter 2 introduces the mobile payment industry, addressing the history of technical developments, the importance of international technological standard-setting activities, the formation and development of the industry's value chain, and its current market status in different countries.

Chapter 3 reviews and evaluates the extensive literature on innovation management and technology diffusion relevant for the study of high-tech entrepreneurship. It develops a set of specific research issues which are used as a set of analytical lenses by which to examine the case studies. The technical characteristics of various types of innovations, the standards and standard-setting activities around different technological systems, different diffusion curves, and different corporate strategies in managing the development of an emerging technology are all discussed.

Chapter 4 reviews and evaluates the literature on entrepreneurship, especially high-tech entrepreneurship. This chapter also develops a set of specific research issues which guide the case studies by addressing the strategic choices as well as their consequences confronting high-tech entrepreneurial start-ups. These choices include founder-CEO replacement in a firm's strategic reorientation, the use and structure of venture capital

investment, plans for early international expansion, and the ways in which social networks and alliance partners are managed.

Chapter 5 outlines the research methodology and data collection methods. Conducting research in high-tech entrepreneurship, especially in 'high context' countries such as Korea and China, requires significant attention to research methods. This section details the specific research strategy and research protocols which were followed in the course of the research. Both the justifications for, and limitations of, the methodology are also discussed. The approach adopted is argued to provide a model for future research in this area.

Chapter 6 presents a detailed case analysis of the emergence and development of the mobile payment industry in Korea. A high-tech entrepreneurial start-up, Avaro InfoTech,¹ is examined at several levels of analysis, including: the individual level (entrepreneurs, venture capitalists, professional managers); the organizational level (decision-making, social networks, a cross-border R&D team, strategic choices); the industry level (industry standards, competition, cross-industry alliances); and the institutional level (government policies, social and cultural influences, national business system).

Chapter 7 analyses the emergence and development of the mobile payment industry in China in the broader context of the phenomenally rapid development of the Chinese telecommunications industry. This case shows how the Chinese government plays a central role in shaping the development and diffusion of an emerging technology, such as mobile payments. Several sub-case studies are undertaken in this chapter, which provide insights into how high-tech entrepreneurial start-ups are encouraged to find niche markets in their interactions with industry incumbents and government-sponsored new firms.

Chapter 8 examines how technology, firm and international circumstances create the context for the analysis of high-tech entrepreneurship. Based on the analytical lenses developed in Chapters 3 and 4, and the case analysis of the technology, nations and firms in Chapters 2, 6 and 7, the convergence of the theoretical frameworks and the constructs from the empirical case studies provides the basis for the generation of a number of propositions about the role and potential of high-tech entrepreneurship and innovation. It argues that the study of high-tech entrepreneurship is by necessity a highly complex issue involving complicated interactions between individuals, innovation opportunities, institutional structures and national cultures. This chapter discusses the implications of these propositions for entrepreneurs (managers) and public policy makers, as well as suggestions for future research.

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NOTES

1. Avaro InfoTech is a fictitious name used for the purpose of confidentiality.