# Preface

*"It was a dark and stormy night."*

Those of us who have followed Snoopy's struggle to finish his book — the next great American novel — know how painful the process of writing a book can be. Sometimes you feel, like Snoopy, that "this book just has to be written." And then, after hours of despair and hunger, you start thinking, like Snoopy, that "maybe not."

Not all of us are such literary aces as Snoopy who knows that it takes a dog to write a book, not to mention that being a dog is a full-time job. So for the rest of us, finishing a book easily means even wilder emotional roller-coaster ride than to Snoopy. At least it was to me.

When I started to write this book, I had a vision of a new and exciting way of combining interesting — and perhaps a little bit older — theories from academic research with a journalistic way of writing about things that are happening right now around us, especially in the exciting world of mobile services. Adding my own observations and experiences from my various consulting projects in this field would then give the finishing touch to the "next great business novel." However, during the process of writing this book I found myself struggling between two very different ways of writing about things: combining academic writing with journalistic and management literature way of writing turned out to be an even bigger challenge than I ever imagined. Nevertheless, the book is finished and you, dear reader, will be the judge of how well — or poorly — I have managed to fulfill the high expectations. My sincerest hope is that the numerous interesting and exciting theories and models that are briefly reviewed in this book, will get lots of new readers — because in my work as researcher I constantly run into theories and models that

help me to understand, as a journalist and a consultant, things that are currently happening around us in this exciting world of ICT business.

# Introduction

The mobile phone industry is going through turbulent times. Motorola teams up with Microsoft, which is working hard to increase its share of the mobile phone market. Vodafone Group, one of the largest cellular operators in the world, announces that in the future it plans to purchase an increasing share of the mobile phones it resells from other suppliers than Nokia, in order to have a bigger say in the design of the handsets and their user interfaces and also to reduce the dominance of Nokia in the mobile communications industry in Europe. At the same time, Nokia goes through "the biggest reshuffle of senior management for five years" ("Nokia chases growth", 2003), in order to face the challenges of the new multimedia-driven mobile services industry, where the focus will be on imaging, gaming, and entertainment services. NTT DoCoMo's decision to start to use Symbian operating system in its 3G handsets is big news in the industry, whereas in the past nobody knew — or even cared — which operating system cellular operators and handset makers were using in their mobile phones. Consumer needs are also changing: instead of the simple voice calls of the past, "consumers now want network access in order to support diversified contents, applications and the so-called three A's: Anywhere, Anytime, Anything communications" (Cho, 2003, p. 2). Mobile business is shifting from voice-based services towards a media-like consumption of content. The mobile industry, and especially the emerging mobile services market, is currently experiencing a transition period that resembles the revolution in the computer industry twenty years ago — when several big players in the industry collapsed. Investors and analysts are desperately trying to figure out whether Nokia's warning of lower-than-expected unit volumes for its handsets was just a temporary misstep (*BusinessWeek*, April 9, 2004) — or is it yet another sign that one era in the history of mobile communications is coming to an end. Another indication of the process of transformation Nokia is going through in the attempt of winning back market share "after missing key trends in the handset markets" ("Resignations ring the changes at Nokia", December 6, 2004, p. 30), was the announced resignation of three top executives of the company. According to Nokia's CEO Jorma Ollila, Nokia is in the "middle of transformation" (p. 30). Although one should not draw too

dramatic conclusions based on the results of only one company — especially as Nokia's four toughest competitors Motorola, Samsung, Siemens, and Sony-Ericsson, are currently demonstrating strong performance ("No-growth Nokia", 2004) — it is evident that big changes will take place during the next few years: we are witnessing a major transformation of business models and product architectures. Once the dust settles, the mobile world will not be the same.

So how did this all happen? How did we end up in this situation, where Europe has lost its leading position in mobile services to Asia — not the mention that the United States is catching up with Europe very quickly, and not least due to competitive pricing of the new packet-based mobile services? In the 1990s, thanks to the successful deployment of the digital mobile telephony standard, GSM, the European industry enjoyed stronger growth than the United States. As a result of this development, European customers enjoyed more and better services, and European manufacturers and operators became the leaders of the industry. But these were "times when the word 'crisis' was out of the telecom's vocabulary" (Blanco, 2003).

In the midst of the turmoil in the mobile industry, mobile services — or mobile Internet, as these new services are also called — have been a major disappointment in Europe, in particular if the phenomenal growth of text messaging is excluded. In this book, we have adopted the Finnish Ministry of Transport and Communications' (2004) definition for mobile services, which divides nonvoice mobile services into three broad categories: person-to-person messaging, content services, and data services. The issues related to the classification of mobile services will be discussed in detail in the following chapter.

During the past few years, the players of the European mobile business have mainly been blaming themselves and others for all the mistakes made during the launch of WAP services — not to mention the financial problems that resulted from the infamous 3G license auctions that caused a total freeze in telecom investments for years.

However, at the same time in Japan, the majority of mobile phone users subscribe also to the mobile Internet services. Almost 20% of a typical user's average monthly bill is coming from mobile data access fees, while the minutes of use (MoU) are higher also in the voice services. Mobile content and services are good business in Japan, at least for the mobile operators. Japan and Korea are a living proof that with the right business models, it is possible to make money with nonvoice mobile services. Japan is fast moving towards a new data-centric paradigm of mobile business. Sekioka (2004) predicts that the next generation of phones may have functions with little to do with tele-

phony, as Japan's leading cellphone service operators, NTT DoCoMo, KDDI, and Vodafone K.K. are "pushing makers to find new ways to fuse high-speed Internet services and other features for the $74 billion service market."

European and Asian operators alike are forced to look for innovative new ways of doing business, because their traditional voice revenue is going down. High penetration rates lead to a situation where additional customers, in fact, lower the average revenue because less active users are getting on board. For instance, at the end of 2003 there were 4.7 million mobile phone subscriptions in Finland, which is 300,000 subscriptions more than the previous year. However, the number of active mobile phone users did not increase during the same period of time (Ministry of Transport and Communications Finland, 2004). The reason for this pattern is that customers subscribe to several operators' services in order to take advantage of various kinds of special offers with free airtime and other benefits.

As the basic mobile phone service has lost all of its glory, and the mobile subscription has become a commodity, the competition is increasingly focusing on price. According to the CEO of DNA Finland, the third largest mobile operator in Finland, the prices of mobile phone calls in Finland — which were already the lowest in Europe at the beginning of 2004 — have fallen yet another 20%. CEO Tolonen pointed out that although the current development puts a smile on consumers' faces, it would inevitably drive some of the players out of the business this year (Kauppalehti, 2004). No wonder operators are so eager to build new revenue based on content and other new types of mobile services, but with little success so far, at least in Europe.

One way out of the current situation for mobile operators is to take advantage of the business potential of mobile content and applications. According to ARC Group's recent report "Mobile Content and Applications 2003" (Jesty, 2004), mobile services will be worth US$126b worldwide by 2008, and will account for almost 20% of total mobile operator revenues. This means that mobile services revenues would more than double from their 2003 level. However, in order to achieve this kind of growth, the mobile industry would have to be very successful in transforming the current voice-centric business paradigm into a new kind of mobile multimedia era. Albeit the five year period from 2003 to 2008 sounds like a long time in the context of the prevailing "quarter capitalism," five years is, in fact, a reasonably short time when we are dealing with changes in consumer behavior and diffusion of new technologies. As an MIT professor, J.C.R. Licklider already pointed out in 1965, "People tend to overestimate what can be done in one year and underestimate what can be done in five or 10 years" (Odlyzko, 2001, p. 2).

Some people have interpreted the blues in the industry during the past few years as a sign of that "the hype around telecommunications industry has vanished" (Pursiainen & Leppävuori, 2002). Young and inexperienced managers of Internet and mobile start-ups made serious mistakes, so now it is time for more experienced managers to clean up the mess and make things right again. Researchers and analysts are jumping into hasty conclusions, such as that in the following statement on the analysis of the Finnish mobile services cluster: "It is therefore dangerous to assume that there would ever be any major business opportunities in the field of chargeable end-user services targeted for private customers [in Finland]" (Pursiainen & Leppävuori, 2002). What makes this statement particularly interesting is that one of the writers is the general manager of the Finnish Ministry of Communication, the national regulatory authority (NRA) of Finland.

Fortunately there are still people who believe that mobile multimedia services have a future, and perhaps even a bright one. According to Mr. Tachikawa (2003), the CEO of NTT DoCoMo, mobile business is moving from telecom lines to multimedia, as the industry is building the society of the future. NTT DoCoMo estimates that there will be 570 million "mobile users" by 2010 in Japan — not bad for a country with 120 million people (Tachikawa, 2003). The explanation for this bold vision is that as we move towards a ubiquitous world of mobility, the very definition of whom or what is a mobile user needs to be redefined. In NTT DoCoMo's vision, every cat, dog, toaster, refrigerator, and child will be equipped with a mobile connection. The old saying that "on the Internet nobody knows you're a dog" gets a whole new meaning in the pervasive mobile world of the mobility: "On the mobile Internet you will always know where your dog is" — because you can track it with a GPS system (a service that actually exists already in Japan for parents to track their children).

Another strong believer in the future of mobile services is, of course, Nokia. According to Nokia's CEO Jorma Ollila (2003), one key driver of the "New Mobile World" is the growth of consumer mobile multimedia. Likewise, Andy Bird, the former CEO of Turner International, stated in his presentation at 3GSM World Conference in Cannes that "the real growth of mobile multimedia is yet to come. You can only imagine what kind of business opportunity lies ahead" (Bird, 2003). Also the world's largest mobile operator Vodafone believes in the possibilities of mobile multimedia; according to Mr. Zingarelli, Director of Global IT and Technology at Vodafone, "Mobile data services play an important role in satisfying the needs of customers and further enhancing our position in the wireless market" (Zingarelli, 2003).

Despite the huge potential of mobile services — based on opportunities created by such factors as technological evolution, deregulation, and the large user base of mobile phones — there are, of course, several pitfalls to be avoided. Mobile operators and vendors alike have expressed their concern that although new technologies enable the development and marketing of exciting new mobile services, there is still a major risk that the industry would destroy the emerging market. However, the key players of the mobile industry are determined to learn from the disastrous WAP experience. The main reason for the European WAP failure has been considered to be the "lack of clear operator guidance" (Conway, 2003). This statement by Rob Conway, the former chairman of the GSM Association, in his keynote address at the 3GSM World Conference in Cannes in February 2003, clearly demonstrates that the problems in launching mobile services in Europe were primarily related to the way of doing business — and not so much about the quality of individual services or products (although there is obviously a lot of room for improvement in the usability of mobile services). Interestingly, for instance, WAP has been used successfully in Japan for several years, and even in Europe WAP plays an important role in the mobile service offerings, but this time the industry is keeping a low profile about it. Luckily for Europe, as the analysis of the mobile industry in the United Kingdom (in Chapter IX of this book) demonstrates, European operators have learned a lot from their Japanese counterparts.

The key message of this book — as the title indicates — is that the future of mobile services depends heavily on the capability of the various players in the market to work closely together in order to provide superior services and user experiences for the end users. In the closely integrated mobile data business environment, it is essential that all four elements of the services offering work seamlessly together — the networks, handsets, content, and services. This goal can only be achieved through cooperation, even with competitors when necessary. As the CEO of UK-based mobile operator O2, Peter Erskine, pointed out in his presentation at the 3GSM World Congress 2003, "the cooperation between various parties involved becomes even more important as we move towards the mobile data market." A representative of the media industry emphasized the same issue in the congress: "If we are going to create successful media services, there needs to be even more cooperation between manufacturers, operators, and standards organizations" (Bird, 2003). In order to succeed with this trend towards a closer cooperation, the industry also needs to developed new ways of doing business. Research company ARC Group noted in their recent report that the trend towards a greater reliance on partnering will also mean that new business and revenue models will be needed in order to respond to the requirements of a more complex marketplace (Jesty,

2004). Media companies have already pointed out that the current business models are not applicable to the new world of mobile services, as the following statement clearly demonstrates: "We don't believe that a business model, where a mobile operator takes a large proportion of our subscription revenue, is going to be a viable long-term option" (Bird, 2003).

The transformation of the mobile industry and the redefinition of firm boundaries in the new networked world of mobile services are not going to be a painless process. In his presentation at the ITU Telecom World 2003, Vinzenzo Novari, CEO of mobile operator 3 Italy, described the magnitude of the current change by noting, "mobile phones are changing their DNA." He pointed out that GSM was created 20 years ago for voice communication, but now is the time for the industry to come up with something totally new in order to increase the value of the mobile business — the market needs richer contents and more interactivity.

At the same time as the mobile industry is trying to figure out what the future services will look like, global competition and technological evolution are transforming the traditional structure of industries and individual companies. The focus of strategy has moved from vertical integration to virtual integration. Industry boundaries are getting blurred as the digital convergence brings information technology, telecommunications, and media content closer together. CEOs of leading IT companies such as Bill Gates and Carly Fiorina are frequently seen as keynote speakers at telecommunications, mobile, media, and consumer electronics shows and conferences.

Even the focus of competition is changing. Marketing outcomes increasingly are decided by competition between networks of firms rather than by competition among firms (Achrol & Kotler, 1999) or between business models (Hamel, 2000). However, as the cases presented in this book demonstrate, in a tightly regulated industry such as mobile communications, the players cannot freely choose an optimal business model. So even though the mobile industry appears to have understood the reasons behind the problems they have encountered during the past few years, things do not change overnight. This book will demonstrate how the leading network operators in Europe are working hard to change the current structure and dynamics of the mobile industry, in order to develop easier-to-use and more customer-oriented services. However, sometimes the regulatory environment prevents progress in this field, as the case of mobile services in Finland will demonstrate later in this book.

All in all, mobile business is definitely a hot topic. With a huge installed based of mobile phones around the world (according to some estimates, there are three times as many mobile phones as PCs in the world!), there isn't a

businessperson in the telecom industry, media companies, financial sector, or consumer electronics who would not think once in a while about the gigantic business potential that lies in mobile telephony: what if our company could develop a new service, application, or piece of content that would be the next killer application in the mobile business? At least it is worth a try.

Keeping our previous discussion in mind, it is justified to claim that mobile services are crucial for the success of the whole telecom industry — and not only for the industry traditionally considered as the mobile industry but for a much broader range of interrelated and interdependent industries, as new business ecosystems are being created around the original, focal industry. What this book tries to do is to help us understand the structure and dynamics of this exciting industry, and to provide a toolkit that you may find useful in surviving in the new networked world of mobile business — whatever it will be like and whenever it may arrive. This book combines a large number of theories, frameworks, models and concepts — from more schools of thought and disciplines than is normally considered decent — that have turned out to be useful in understanding the continuous flow of new information related to the mobile industry. In the research world this approach is known as pluralism (Box 1).

## Box 1.  The Multidimensional World

*A diversity of research methods and paradigms within a research discipline is a positive source of strength (Robey, 1996). Diversity provides a wider range of knowledge traditions upon which to base research and theory — which is particularly important when dealing with real-world complexities. Combining several methods together in a single research provides a richer understanding of the topic. Adopting a particular paradigm is like viewing the world through a particular instrument such as a telescope, an X-ray machine, or an electron microscope. Each reveals certain aspects, but each is blind to others. Although they may be pointing at the same place, each instrument produces a different, and sometimes seemingly incompatible, representation.* (Mingers, 2001, p. 244)

In addition to using various paradigms, methods, theories, and models, the broad theme of this book allows another kind of "pluralism." As you will notice once you read further, this book studies the mobile communications industry in three countries on multiple levels: the mobile industry is analyzed on

a global level (i.e., how the global competition affects the structure and dynamics of the mobile communications industry), on an industry level, from the standpoint of an individual company, and from consumers' perspective. Further, the book will also discuss issues related to technology itself, innovation at various levels, and the role of regulation. The objective is to offer several complementary — not exclusive — approaches to the analysis of the structure and dynamics of the mobile services industry.

This book is about mobile services in a networked economy, so it will naturally discuss how business networks are built and managed, and what kind of challenges they typically face. We will apply some interesting research questions from previous network research in the context of mobile communications services, such as those presented by Achrol and Kotler below.

**Box 2. Single vs. Multiple Network Partners**

*As networks grow and multiply, many theoretical and managerial questions will arise. For example, are networks that consist of stable relationships among single-source partners [as often is the case in Japanese business networks] more flexible in adapting than networks of competing multiple partners [as often is the case in European business netwroks]? Are members more committed and less opportunistic in networks with strong "family values" [as in Japan]? Are more committed networks slower to adapt to discontinuous change? What is the trade-off between how flexible a network is and how cohesive its social norms are?* (Achrol & Kotler, 1999, p. 161)

These questions presented by Achrol and Kotler are exactly the kind of questions this book is trying to address. It will be you, dear reader, who will be the judge of whether this book actually sheds any light on this complicated issue, or are we all still confused, but on a higher level.

In addition to these profound questions about the inner life of various kinds of networks, this book tries to ponder over a bit more practical issues such as the following questions: What are the key differences in the structure of the Japanese and European mobile data services industries, and what kind of factors could explain these differences? What are the main differences in the product architectures between the two markets? How will mobile data services markets develop in the future?

In conclusion, it is fair to admit that the topic of this book and the approach chosen are both extremely challenging: we will review decades of the history of the telecom industry, the evolution of technical standards and technology itself, the changing roles of some of the most highly valued corporations, and travel across two continents. To fit such a broad scope of information and analysis into one book forces the author to leave out tens or hundreds of interesting topics and articles. In the Chapter I, we will discuss some of the key characteristics of the mobile data services industry. Chapter II takes us through key trends and concepts of a networked economy, and Chapter III reviews some of the basic theories on vertical integration and the dynamic boundaries of a firm. The following two chapters evaluate some widely used models and frameworks used in describing the various types of business networks, clusters and ecosystems. This concludes Section I of the book. In Section II, we learn about the mobile services industry in three different markets: in Chapter VI, our focus is on Japan, Chapter VII gives us a brief overview of the European mobile market. Chapter VIII will familiarize us with the mobile business in Finland, and Chapter IX, overviews the mobile communications industry in the United Kingdom. Chapter X consists of an analysis of the differences between the three mobile markets, and in the final chapter we draw conclusions from what the theories and three country cases have revealed to us and what these findings tell us about the future of the mobile services industry.

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