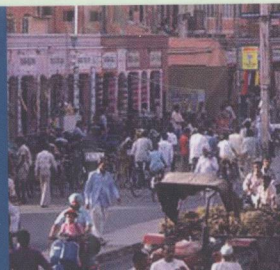




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Business Models for Sustainable Telecoms Growth in Developing Economies

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'Business Models for Sustainable Telecoms Growth in Developing Economies is a remarkable and timely book providing appropriate solutions for the challenges in emerging markets.'

Dr Mohan Kaul, Director General, Commonwealth Business Council

'Today we see large potential to contribute to the growth of developing countries, by providing affordable and sustainable communication solutions for people. For example, farmers in remote areas can now determine fair local market prices for their products by using mobile phones, when historically they were completely cut off from communication. This book gives great insight about how the telecom industry can help generate positive economical change in developing countries and should be read globally by all decision-makers.'

Hans Vestberg, Executive Vice President and CFO, Ericsson Group

Business Models for Sustainable Telecoms Growth in Developing Economies

This book is dedicated to all those who despite all the advances in communication technologies still do not have access or cannot afford any form of telecommunications.

Foreword

The contribution of communications networks to the development of nations can be likened to that of other key infrastructures such as roads, ports and railways. All stimulate trade, create jobs and generate wealth. Metcalf's law states that each new connection has an exponential impact. A 10% increase in mobile penetration, for example, can boost GDP by 1.2% in a typical emerging market and the effect on social capital is equally significant as families and friends connect more closely.

Mobile communication is not just about the voice. Some 7 billion text messages are sent every day, delivering a rich suite of services such as market pricing, health and security solutions. For the many millions of people that have previously been ineligible, financial services will increasingly be accessed via mobile phones.

Twenty years ago, the foundations of the mobile revolution were laid when 15 operators in 13 countries signed the Global System for Mobile Communications (GSM) Memorandum of Understanding (MOU). The MOU ensured that mobile phones would work across borders and that spectrum use would be harmonised within ITU guidelines. This combination has driven massive economies of scale. In 2007, more than 718 operators in 220 countries are signatories of the MOU and more than 1 billion phones will be sold, many for as little as US\$25. With very low prepay top-up denominations, along with shared access solutions, mobile services are now affordable for bottom-of-the-pyramid consumers. Of today's 3 billion mobile subscribers, more than 65% are in emerging markets and this percentage will grow as we approach the 4 billion subscriber milestone in 2010.

The mobile revolution continues at an astounding pace. Since 2002, more than US\$230 billion has been invested by GSM operators, extending the mobile footprint to more than 80% of the world's population. Access will increase to well over 95% of the population by 2012 as investment

ramps up and countries continue to liberalise their markets. Operators in sub-Saharan Africa, for example, invested US\$35 billion between 1994 and 2006 but plan to invest US\$50 billion between 2007 and 2012, an annualised average increase of 330%. Future investment will not only extend network coverage and capacity but also roll out mobile Internet and broadband data services using GPRS, EDGE and 3G HSPA technologies.

This book sets out to demonstrate how the private sector will meet the public sector's goals and connect the world in a sustainable way. The biggest threat to the mobile revolution is if governments over-regulate the industry and over-tax consumers. Some 20 countries still impose specific taxes on mobile communications that hike the price of calls.

It is fitting that the authors bring considerable experience from their work with Ericsson and the World Bank. Both the organizations have played an enormous role in the industry's success to date. Ericsson has been a pioneer in emerging markets, setting up shop many generations ago. The World Bank, through its IFC arm, financed and nurtured many nascent emerging market operators into leading global players. Emerging markets are driving innovation and industry growth. This book explains the business models that will sustain the mobile revolution and deliver universal access to voice and data services.

Gabriel Solomon
Senior Vice President
GSMA

Preface

So, why have we written this book? Today, a little more than 3 billion people have a mobile phone. Of the remaining 4 billion, some 48% live close to the poverty line, earning less than US\$5 per day. These are the very people that have been starved of information because they lack basic access to communications. This book is written around understanding how telecommunications operators, service providers, telecoms regulators, governments and others can reach out to this so-called mass market. At the same time we try to answer the question of how communications providers can reach out to these markets and still continue to grow while maintaining profitability. We also attempt to show the important role that governments and regulators alike should play to promote communications access in mass markets within developing economies.

This book is targeted at communications industry leaders and c-level executives, regulators, governments, international organisations, advocacy groups, telecoms business analysts, donor organisations, educational institutions and other non-profit organisations, as well as the various community leaders in developing markets. The rationale for this is that leaders have a responsibility to ensure that no one is left out of the information society.

Some of the benefits of reading this book are to be found amongst the following:

- Obtaining a clear understanding of the current state of the telecommunications sector and identifying the inherent drivers and barriers to the global adoption of mobile services
- First-hand understanding directly from CEOs – presentation of results of multiple interviews and one-on-one discussions held with top-level players and most influential persons leading the telecommunications industries helping to bridge the digital divide

- An exposé of state-of-the-art frameworks that aim to evolve current business models to new ones that will provide sustainable growth for telecommunications in developing markets.

The final aims of this book are to stimulate the strategic thinking process amongst key stakeholders and the communities within which they operate in the telecoms industry and those working towards a fairer, more balanced society, and to provide concrete tools that can be used to ensure that growth in telecommunications becomes sustainable and can be taken to the 'real' mass market: the 4 billion people who do not have the means or access to mobile telecoms.

AIM, IMPORTANCE AND PURPOSE OF THIS BOOK

The central aim and purpose of this book is to determine the opportunities that exist in mass markets in developing economies and to provide insight into the new business models that exist for creating sustainable growth in these markets. This book is important to anyone that has an interest in establishing how communications can be taken to the mass market in developing countries. It is especially beneficial to people working in the telecommunications sector, students studying telecommunications engineering, donor governments, business, regulatory bodies, communications suppliers and non-government organisations (NGOs). The purpose of this book is to stimulate debate around key issues in telecommunications and to explore some sustainable business models that can be used to increase telecommunications penetration and promote economic growth in developing countries.

STRUCTURE FOR THE REST OF THE BOOK

Chapter 1: The Impact of Communications on Developing Markets

In this first chapter, we strive to set the stage for what follows in the rest of this book. We review mobile infrastructure growth on the development of the lower-waged sector and how the effect of it has influenced people's quality of life. We also look at the lower-waged constituent of the mass markets and discuss the importance for growth in telecoms in developing economies. A number of important topics are discussed which include a brief review of poverty and income statistics for different regions of the world and a look at telecommunications penetration of fixed and mobile telephony and Internet in developing countries. Other dimensions that

are addressed in this chapter are the correlation between telecommunication infrastructure access and economic growth. We also show the importance of access to basic communications for the mass market and developing countries and show how the communications needs of end users in mass markets are evolving. We then evaluate the cost of communications services and attempt to determine if it is higher in developing countries. An important theme throughout this book is the digital divide between developed and developing countries and how communications can bridge this divide; therefore the term 'digital divide' is briefly defined and explained. Finally, we round off this chapter by presenting evidence on the link between mobile communications and GDP and go on to present some pragmatic examples of mobile applications in emerging markets. The structure for the rest of this book is discussed in the following sections.

Chapter 2: Mobile Telephony – A Great Success Story? Can Mobile Growth be Sustained?

Chapter 2 looks at comparing the reach of fixed and mobile services in various developing markets. It also looks briefly at the prepaid revolution and discusses the unexpected development of the mass market. Further reflections are made on some key issues such as the tendency for operators to focus on high value end users and their lack of understanding of who these end users are. The important role of regulators is also touched on and the inability of regulators to bring down the cost of mobile telephony and create affordable communications for all is critically analysed. The failure of telecoms players to move beyond voice and SMS and their lack of understanding of how to satisfy end users are debated.

We also look at some of the main reasons why customers show little appreciation for innovation and seek to answer why it is that the majority of customers would be happy to give up the use of advanced services in return for lower call costs. The evolving telecommunication value chain is then discussed and we look at the limits of success for telecommunications development and try to answer the question where will telecommunications go next? We also attempt to provide answers to the question of how growth can be sustained in the developing countries. Operator profitability in the mass market is then discussed in more detail and we attempt to find answers to some important operators' questions such as: can current operational set-ups be sustained by serving the mass market? We also ask: is low average revenue per user equivalent to low profitability? We then go on to discuss the importance of funding and look at the 'Gramen Banking Model' and try to determine if this model can be applied to telecoms using practical examples from Uganda. Finally, we

end this chapter by taking a look at operator consolidation in emerging markets and debate whether it is necessary and/or inevitable.

Chapter 3: Communications for All – Is it a Myth?

In chapter 3, the authors determine who the key stakeholders in telecommunications are. The role of government and regulators is evaluated and we try to find out if they represent the interests of the mass market. We then go on to find out if donor communities are really assisting to spread the growth of mobile telecommunications and establish if the poor are subsidising the rich. Thereafter, the role of operators is evaluated to establish if they are greedy or merely victims of their own success, and we argue that excessive profits from mobile telecommunications have trapped operators because shareholders expect them to maintain the same levels of profitability, using case studies from India and the Philippines. The role of mobile service providers is then questioned and we ask and answer the important question: are service providers acting responsibly? Finally, we conclude chapter 3 by looking at the responsibility of the different stakeholders to the cause, and examine the part played by the international donor community in creating affordable communications for all and provide answers to the question: what role should they be playing?

Chapter 4: Customers' Needs for Telecoms Services and Applications

In chapter 4, we evaluate whether consumers in developing countries use the phone in the same way as those in developed countries. Relying on evidence from Ericsson's Consumer Lab, the services that people in developing countries demand are presented. We also look briefly at the type of applications that may be exclusively relevant for developing markets. The provision of service is not without challenges and we take a look at some of the challenges associated with penetrating a market with advanced technology and services including access to handsets, maintaining charged batteries, the fear of technology among consumers and creating and maintaining a presence of local content providers.

Chapter 5: Mobilising Wireless Communications for Mass Markets

In this chapter, the author looks at the business case for investing in rural communications. The role of the donor community in bringing affordable

communications to the mass market is explored. Then, the different technology innovation concepts including micro base-stations, shared sites, refurbished equipment (reuse of old GSM equipment), going straight for 3G (more efficient), low-cost handsets, service innovations, airtime transfer, increasing customer loyalty, simplified pricing, loyalty programs and how these can be applied to the mass market are discussed. Also discussed in this chapter are some community innovations such as the rural village phone concept and the commercialisation of rural mobile communications. Finally, this chapter takes a look at the important role that Universal Service Area Licensees (USALs) have on rural telephony penetration.

Chapter 6: Defining Innovative Business Models for Sustainable Telecoms Growth

The liberalisation of communications has resulted in the entry of new communications operators and service providers. As a result, competition has become aggressive and has intensified in the mobile communications world. Operators are looking for new ways to remain profitable and create shareholder value. In this chapter we examine how competition is changing in this sector and look at how the monolithic operator are changing towards being lean and mean. A number of questions are raised here such as: Should service provider's focus on their core business? If so, what really is their core business? How will telco's sustain profitability in the future? What services and applications will enhance quality of life for all? Exploring different growth models to reach out to the poor and most deprived. We also look at the role of mobile communications in social upliftment and future economic growth.

Chapter 7: Straight from Top Executives – Trends and Approaches

In this chapter, we take a look at some of the key issues facing telecommunications CEOs and attempt to encourage debate about where they think the mobile industry is going. We also take a closer look at who should be responsible for promoting growth in mass markets and question whether telecoms will follow the same fate as the aviation industry. We then go on to question what role mobile technologies should play in ICT development. Other important questions that are addressed here are: are industries merging? Is convergence convenience? And is there a business case for mass market growth?

Chapter 8: Internet in Rural Areas – Emerging Business Models and Opportunities in Developing Countries

Chapter 8 looks at the Internet in rural areas and highlights some interesting and relevant Internet business models so critical for the provision of information, knowledge and Internet based services to rural communities. Fresh advances in the field of information and communication technologies (ICTs), mainly computers, electronic networks and Internet based applications along with traditional forms of communication media (such as radio, telephone, television, etc.) are the main means for empowering the poor, uplifting skills, enhancing productivity and enabling them to participate fully in the global economy. In this chapter we look at the current status of the Internet in rural areas and highlight the poor Internet penetration levels that exist in rural areas of the developed and developing countries. We go on to provide some examples using real life case studies to show how the Internet can be used to disseminate information on prices and opportunities, improve participatory decision-making processes, governance at all levels and to provide effective and efficient delivery of government services. Throughout this chapter we highlight the significance of Internet based services in providing both immense opportunities and challenges in meeting these increasing demands and in improving the lives of the rural poor. Finally we round off this chapter by focusing on the important role of the Internet in rural areas and present a few emerging business models and opportunities for developing countries.

Chapter 9: Making it Happen – Enabling Communication in Developing Economies

In this last chapter, the important role that telecoms play in global initiatives for development in trade, poverty elimination, aid programmes, etc., is discussed. The importance of using telecommunications as a tool to empower local communities is highlighted. Thereafter, the roles of other technologies like VOIP, MOIP etc., are pointed out and discussed. Finally, we look at what is needed to build the ‘all-communicating world.’

Acknowledgement

The process of writing a book on a unique subject is a highly stimulating and collaborative experience that involves the support, dedication, commitment, efforts and responses of many people. This book is the outcome of many years of work on an important theme that goes right to the heart of creating an all communicating world, made possible today through richer means for people in even the remotest corner of the world to communicate. This book sends out a strong message that mobile communications as an instrument of progress will improve the lives of ordinary people. It aims to show that the means exist and that now all that is needed to reach this goal is the commitment and will of all the people involved.

In our endeavour to promote communications for all, our indebtedness extends to the will and minds of the many people who have shaped our thinking and who contributed to our ability to write this book.

At the outset, we take this opportunity to thank Ericsson's executive management team and in particular Hans Westberg for placing their trust in us and being a great source of support and inspiration. We are also very grateful to Dr K. Dappa who has been a sharp trigger and stimulus to the thinking processes that eventually led to the realization of this research project.

Our initial analysis of the hard facts and figures was daunting and highlighted the fact that the poorest of the poor were paying the highest price per minute for mobile calls. These are the same end users who are not afforded the luxury of any subsidies to promote their inclusion in an all communicating world. We needed to plant the seed to show what could be done to draw the poorest of the poor into the wonderful world of communications. Relying on a number of pragmatic best-practice business models, our primary motivations were driven by the need to show how it was possible to bring communications access to all of humanity

and to bring to light the fine balance needed to ensure the sustainable growth of the communications industry. In this regard we acknowledge and extend our sincerest gratitude to Professor Das for clarifying a number of intriguing issues in the ever changing communications business model.

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This book would have been incomplete without the thought-provoking and down-to-earth examples of how mobile communication is impacting the lives of the poorest of the poor. Therefore, we would especially like to extend our gratitude to all our colleagues from Ericson ConsumerLab for sharing these examples with us. A special word of thanks goes to Eric Cruse who sacrificed precious time and effort to share his extensive research work in a number of developing countries. We also would like to thank Henrik Pålsson for reviewing the contents of the book and giving his valuable input.

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We also wish to acknowledge the efforts of the external and internal reviewers too numerous to name individually, who read earlier drafts of this book and suggested many insightful improvements. Special thanks are given to all those who provided invaluable help during the final editing, translation, layout and material production of this book.

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Disclaimer

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