

# Chapter 11

## Why Mobile Wireless Carriers Share Networks and Services Provisioning

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### ABSTRACT

*This paper provides a theory that empirically examines why mobile wireless carriers share the costs of building networks and provisioning wireless services. Of the cost drivers of network operators, the most influential on the industry's dynamics are capital investments, which include network infrastructure investments. As the industry evolves, players strive to streamline their services, applications, revenue, and business models to revive this industry. In this regard, one model in particular is the network operators', which shares network investments and service provisioning expenses to reduce their total expenditures while strengthening their financial liquidity. In this paper, the authors integrate research results to provide a new theory on network sharing with concepts and viewpoints that have been developed based on extensive studies of network sharing adopted by network operators and service providers across the world during the past decade.*

### INTRODUCTION

The evolving mobile wireless industry is confronted with volatile market conditions, as illustrated by wireless carriers' returning licenses, operator's delaying Third Generation<sup>1</sup> (3G) network

rollouts, and service providers deferring next-generation services' offering (Maitland, Bauer, & Westerveld, 2002; Sabat, 2003a). To navigate the tide, the industry's players are restructuring (Sabat, 2003b; Ure, 2003). Restructuring strategies include adopting stringent performance targets, reducing stakes in non-strategic ventures,

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spinning off their ventures, liquidating their positions in forward-looking ventures, forming joint venture with an established company in the field, abandoning ventures, exiting the industry, focusing on core competencies, significantly delaying network roll-outs, and launching 3G applications with moderated functionalities (Sabat, 2007). In doing so, companies are primarily guided by the industry's cost drivers, as the industry is capital-intensive.<sup>2</sup> The impact of capital investments (or capital expenditure or capex) on a company's business viability is described in earlier papers (Sabat, 2002c). The notable cost drivers include network operators' capital investments, which is the most influential cost driver (Sabat, 2005a). Consequently, operators are vigorously seeking means to reduce their capital expenditure and return to profitability.

Sharing the costs of building networks and the expenses in provisioning wireless services (hereafter referred to as 'network sharing') is one such strategy that is increasingly being favored by wireless operators. In a network sharing arrangement, an operator essentially joins another operator to build and operate the network, and to provision wireless services. The European Union and several national governments have endorsed the concept of network sharing (European Commission, 2001; RegTP, 2001). Whalley (2004) identified competitive enhancing co-ordination strategies in six different areas that include wireless network sharing. Table 1 presents major network sharing agreements that were reported in earlier papers (Olla & Patel, 2002; Sabat, 2008a; Whalley, 2004).

Network sharing reduces network build-out and services provisioning costs incurred by the partnering operators, thereby reducing their capital expenditure. The extent of network capital expenditure savings depends on the operators' network sharing strategy, as the investments get divided among the operators.

The industry's newsbytes and literature describe network sharing developments as they

occur. Given the explosive growth of the industry, the evolution of the industry has outpaced the research in this field and these newsbytes and theory provide limited guidance. To fill this lacuna, this paper describes the factors that drive carriers to share networks and services provisioning. The drivers are described in the context of their architectural implications, economic value proposition, business stability and profitability, competitive concerns, and challenges arising out of network sharing. To the author's best knowledge, this paper is the first in the industry's literature that accomplishes these objectives.

The stakeholders who would benefit from this paper include researchers, managers, investors and regulators. As this research paper presents concepts and viewpoints from the author's experience as a business practitioner, this paper will enhance the stakeholders' understanding of the successful paradigms, implementation issues and best practices in growing next-generation wireless businesses. This would allow the industry's stakeholders to develop ways to reduce uncertainty that will lead to the emergence of a stable value chain.

## **WHY MOBILE WIRELESS CARRIERS SHARE NETWORKS AND SERVICES PROVISIONING**

### **An Overview of the Theory Development (Hypothesis), Methodology and Empirical Validation (Input Data Analysis)**

This study included research, analysis and synthesis of critical factors that influence a network operator's adoption of one or more network sharing strategies. The factors that this research analyzed include:

- Key drivers of capital investments;
- Cost benefit analysis of network sharing;
- Various network sharing business models;

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