MASS MARKET ENTRY OF WIRELESS TELECOMMUNICATIONS

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Abstract

Although cellular wireless telecommunication is now available worldwide, it still constitutes only a small percentage of overall telecommunications traffic. Even in advanced countries such as the US, in comparison to wireline, at year-end '96, wireless service still remained somewhat elitist with no more than 16 percent of the population having cellular phones and — more tellingly — less than three percent of the total call traffic volume being carried by these phones. As various national governments make new spectrum available for wireless PCS service, and existing cellular service transforms itself into PCS, the public is demanding ubiquitous, affordable, high-quality wireless service. PCS will be defined not only by its new digital technology or advanced service capabilities, but also by its universal affordability. This paper describes some of the strategies new PCS service-providers are adopting to meet this challenge.

While the penetration of wireless telecommunication in any market depends on such factors as terminal cost, per-capita income, quality of service, and cultural preferences, a major driver for achieving the goal of ubiquitous service is pricing. We analyze the trends in the US and Israel markets using principles of marketing science to illustrate this point. At year-end 1996, in the US, wireless cost 17 times more than wireline service. Using the theory of diffusion of consumer durables, we project that, at this price, the potential for wireless in US is only 93 million subscribers (34 percent penetration, 52 percent relative to wireline teledensity), around 90 minutes of use (MoU) (5 percent relative to wireline) and $49 revenue per subscriber per month. In contrast, in Israel, the new PCS operator Cellcom has introduced wireless service at only three times the cost of wireline. Our analysis of the Israel data indicates that, with this revolutionary pricing strategy, Israel can reach a wireless penetration of 100 percent relative to wireline teledensity, and an average subscriber usage of 60 percent relative to wireline. Based on the Israel experience, we infer that, in the US market, a similar pricing strategy will yield 180 million subscribers, 600 MoU and $54 revenue per subscriber per month.

While a lower price would help PCS realize the goal of ubiquitous service, it would also result in a highly competitive, low-revenue per-minute-of-use environment for the operator. So to succeed in such an environment, operators such as Cellcom are restructuring their businesses in fundamental ways. As revenue per-MoU falls, operators must make similar reductions in expenditure on marketing, network infrastructure and operations. In the rest of the paper, we discuss changes in traffic patterns, new marketing strategies, wireless digital technologies, advanced planning techniques, and innovative network management systems that are some of the key enablers of this transformation.

In 1997, several new PCS operators have entered the market in the US, causing a lowering of tariffs, but there is yet no indication of as dramatic a reduction as experienced in Israel. In this paper, we also describe the pricing strategies currently being employed by US PCS operators and the impact they have had on subscriber penetration thus far.