Critical Trends in Telecommunications

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INTRODUCTION

As in all industries, in order to win in a market, it is important to know as much as possible about that market and have at one's disposal tools that will provide insight and competitive advantage when properly, collectively, consistently, and timely applied. This article presents a series of powerful but easy-to-use and understand analytical and operational tools that deliver insight and competitive advantage to the wireless telecommunications professional. It should be stated, moreover, that as with all good tools, the tools and models as presented herein transition across industry lines and are not limited to the wireless telecommunications industry alone.

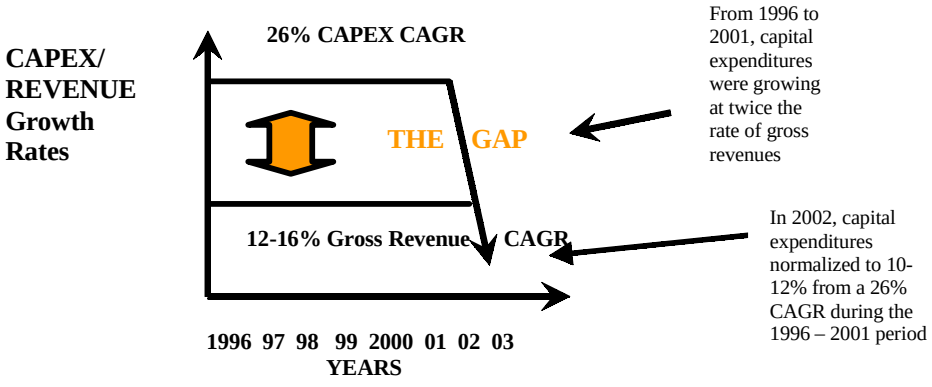
BACKGROUND: ANALYTICAL TOOLS AND MODELS

Because of the turmoil experienced in the telecommunications industry over the past several years, it is useful to view tools that can assist the telecommunications professional with understanding the market(s) and the trends at play. Looking at the telecommunications market from 1996 to 2003, it can be seen that the market exploded in the first half of this period with a 26% cumulative annual capital expenditure growth rate (CAPEX CAGR), and collapsed in the later part of this period (Lehman Brothers, 2000; Hilliard Consulting Group, Inc., 2003).

When capital expenditures so far outstrip gross revenue growth, one knows this situation cannot continue unabated. That is, a return to a more normal state must return. In order to discern approximately when a return to a more normal state will come about, one may examine the underlying market drivers (Nugent, 2001, 2003). Market drivers will often signal the size, breadth and depth of a market.

During the period noted (1996-2003), several large drivers were evident. The first was identified as the Y2K driver. Here, many firms determined it to be better, easier, and less costly and risky to replace versus remediate infrastructure equipment. But. here it was known this driver would be satiated by 2000. A second major driver was The Telecommunications Act of 1996 (www.fcc.gov). This act brought about the creation of many new telecom competitors that raised billions of dollars in the equity and debt markets that went on a spending spree. However, most of these firms had flawed business plans, and through competitive thrusts by the incumbents in the form of administrative delay, regulatory appeal, and litigation, these new entrants were literally bled dry via the consumption of cash in non-revenue producing activities such as regulatory appeals and litigation, and doomed to failure (Nugent, 2001, 2003). Understanding how significant incumbents fight and how they use the most strategic weapons of all – cash position and cash flow – the demise of these new incumbents could be foreseen. Another significant driver was the explosion in the number of

Figure 1. Revenue capital expenditure growth rate comparisons



Source: Hilliard Consulting Group, Inc., 2003

wireless customers brought about by the "Digital One Rate" plan initiated by AT&T. Here, wireless growth exploded from approximately 50 million subscribers to over 120 million in just several years. However, there are models that indicate this type of market satiates at approximately 50% of the overall population or 70% of the adult population (Nugent, 2003). In the U.S., this satiation point is approximately 145 million narrowband voice subscribers – approximately where we are today. So this spending spurt on narrowband voice wireless customer premise equipment (CPE), and infrastructure equipment could have also been estimated to end as the market approached satiation.

Hence, the telecommunications market downturn should not have been a surprise to anyone, as an understanding of the principal market drivers would have permitted an estimate of the market's size, breadth and depth.

FUTURE TRENDS

At a high level, it is also important to understand where a market is today, and where it is going to be tomorrow. To help understand these conditions, a State, Gap, and Trend (SG&T) Analysis tool provides helpful insight (Hilliard Consulting Group, Inc., 2003; Wolford-Ulrich, 2004):

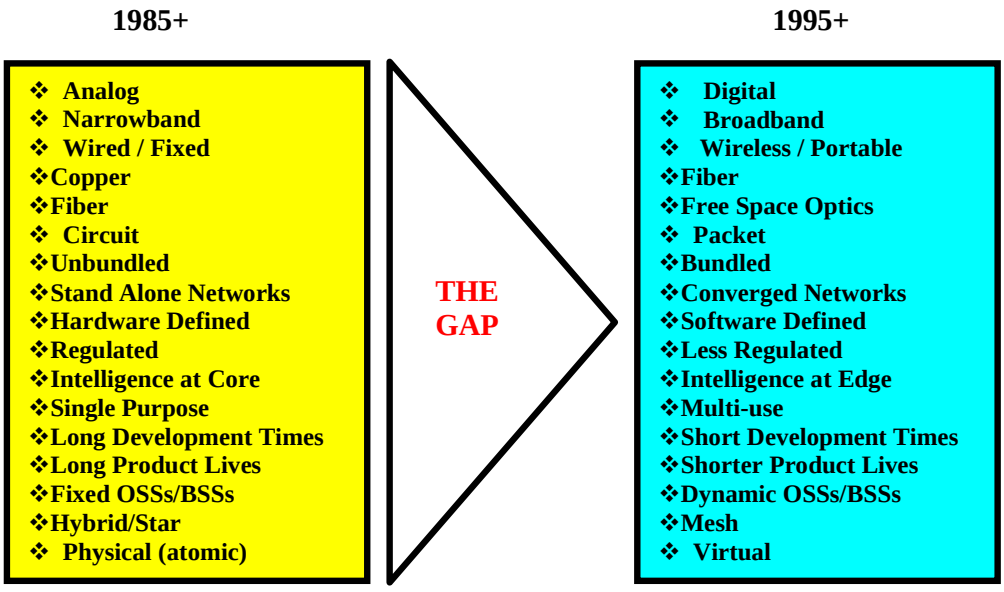
The development of a SG&T tool calls for a "one for one" transition (a "this to that" scenario over a period of time – there can be no ambiguities). Hence, a current and future state can be determined with some clarity.

An examination of this SG&T tool presented below indicates that the telecommunications world is moving from a fixed, tethered, narrowband, analog, circuit-based world, to one principally comprised of mobile, wireless, broadband, digital, packet-based communications. This transition portends significant issues for land-based carriers whose assets principally are in big physical plant (central offices, switching facilities, tethered trunks and circuits, etc.). This model further indicates that land-based carriers' assets are probably depreciating significantly faster than their balance sheets indicate. Supporting this premise is the decline in the number of residential landlines from approximately 168 million lines in 2001 to approximately 152 million landlines in 2003 (FCC/Solomon Smith Barney, 2002).

Moving from a macro model of market trends (SG&T) analysis previously, it can also be seen on a micro level (Product Curve) what attributes successive telecommunications products must follow to win in future markets (Hilliard Consulting Group, Inc., 2003). Here, a Product Curve model is most helpful.

The product curve demonstrates that devices (network and CPE) need to become smaller, consume less power, weigh less, give off less heat, cost less, be developed in faster and faster cycle times, and have less in sunk development costs, while at the same time do more: operate at faster speeds and higher capacities while performing more functions to win in future markets. The product curve also portends troubles for land-line carriers as it can be seen in not too many years, the central office

Figure 2. State gap and trend analysis: Technology transition



Source: Hillard Consulting Group (2003)