

Lecture 23- Pre-lecture reading

The CEO's dilemma- dealing with slow growth

The owners of local businesses are primarily involved in the day-to-day operation of those businesses. They have (or will develop) a deep understanding of their businesses, and work to make a living from it. They may have great loyalty to their employees and pride in what they have accomplished. They know who their customers are, often by name. Growth is a new customer and profit is their income.

Shareholders, on the other hand, have invested for one purpose—to make a profit. Some may prefer a reliable quarterly dividend but many are reinvesting their dividends and only care about the total return on their income. They don't appreciate the effort that goes into creating and running the business, and they have little sympathy when problems arise. Top management has the difficult job of running the business well and keeping the investors happy (which may not imply the same decisions).

The example of Apple

Most shareholder businesses are focused on growth because a growing business will tend to produce the greatest increase in value (revenues increase and operations get more efficient). Some, like Apple, are able to find a series of growth opportunities (I-Pods > I-Pads > I-Phones) that create significant growth over decades, but most growth companies (even Apple) eventually stop growing. Through the I-Pod > I-Pad > I-Phone period, Apple showed a steady increase in profits, and its shareholders got rich. An investment of \$1000 in Apple in 1981 would now be worth \$2,000,000 (a gain of over 20% per year). If we could earn 20% on our investments for 40 years, we could create a carefree retirement by saving \$50/month!

Sadly, there is only one Apple. We noted in the previous lecture that the entire stock market earned almost 20% per year for 10 years a number of times, but 10 years is not 40 years (that same stock market has earned about 0% in other 10-year periods). We learn from this that a return of 10% is average for the stock market, but 20% is a universe of 1. Until 2012, Apple paid a tiny dividend, since most of its profit was going into growth. In the final phase of its growth (the I-Phone), from 2005 to 2012, its profits increased 1600%, but that was when cellular growth abruptly ended (everyone had one) and Apple had no new "I-Something" to create new growth. They could sell replacement I-Phones (which was still a good business), but their long period of dramatic growth had ended. Since 2012 its profits have increased 50% (compared to 1600%, that's a big change). Apple saw this coming in 2012 and started to pay a significant dividend. They instantly and publicly went from being a legendary growth company to being a still-loved dividend company. Their customers and shareholders have remained pretty loyal and their share price has increased 400% since 2012, even though their profits have only increased about 50%.

The example of the cellular providers

The cellular providers have a service business. Customers loved their smartphones and were loyal to Apple, but they were less loyal to their service providers. They were willing to change service providers for a small saving in monthly charge, for example, or for more "data" per month. For anyone who knows the business, this is kind of surprising and sad.

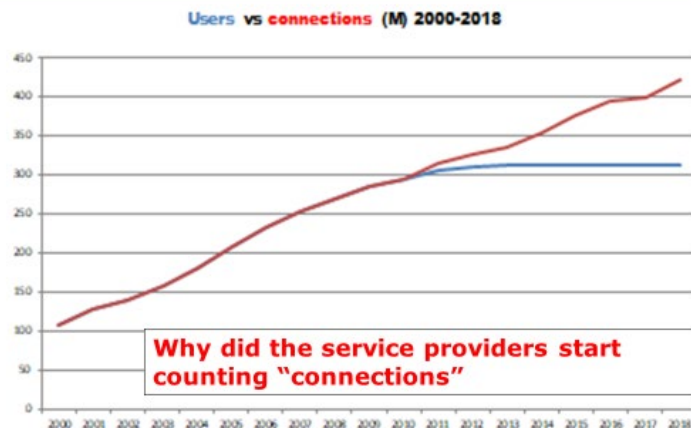
The huge investment and amazing technology that increased capacity 100x wasn't understood or appreciated by smartphone users (they expected that from the Internet). The I-Phone was well conceived, but it was a less impressive accomplishment than the cellular networks. On the other hand, it was a personal device that users appreciated and that captured their loyalty. Most had little awareness of the complex and expensive systems that actually provided their service and they have had little loyalty to the service providers. They might pay a \$100 premium for an I-Phone but change service providers to save a few dollars a month. Quality of service did matter, but it was hard to demonstrate and to charge extra for service quality. Since growth ended in 2012, Verizon's share price has increased about 12%, while Apple's share price has increased almost 500%. It's easy to guess whose shareholders (and management) are happier.

Shareholders were attracted to cellular service companies when they were new and exciting. They were impressed by the dramatic growth of the 2G era, and by the new data services offered, but when the newness of cellular services ended, and when growth and profits stalled, they had no particular reason to hold onto their shares. We have seen that increased selling drives share prices down, and that falling share prices reduce bonuses and cost jobs. Many shareholders were growth oriented, so the service providers needed to maintain an image of growth. When the reality of growth was gone, they turned to deception and exaggeration.

The cellular growth deception

In 2011, when growth was obviously stopping, the data that the service providers gave to the CTIA started reporting "connections" instead of "users". The data using "connections" is compared to "users" in CTIA DATA-1985-2018 (with connections). They even corrected the old data (back to the beginning). The changes were insignificant before 2011 but made a big difference after 2011 (see Slide 4, below). The effect was to make it appear that the cellular providers were still growing. The claim of 422M "connections" in a country with 330M people (counting babies) might raise some eyebrows, but if you looked at the connections in one company's 10K report it would have looked good.

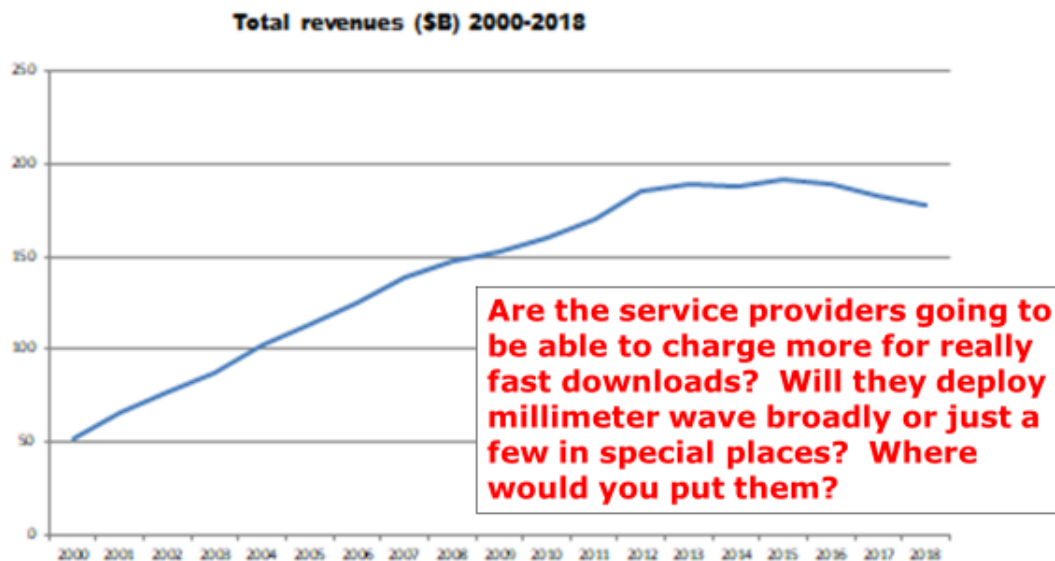
Millions of "users" vs Millions of "connections" 2000-2018



An article on the web entitled “2015: The year there will be more cellular connections than people” [<https://gigaom.com/2014/06/03/2015-the-year-there-will-be-more-cellular-connections-than-people/>] gives us a clue as to the nature of those “connections”. It states that “there is a lot of duplication from individuals sporting connected tablets and laptops as well as mobile phones. There’s also a small but growing number of objects in the “Internet of Things” that are connected to the cellular networks (Ericsson estimates about 200 million worldwide), from cars to shipping containers to dog collars.”

Unfortunately, users pay the bills (not connections) and those impressive numbers of connected devices don’t seem to be accompanied by revenues. As shown below, total revenues of the service providers went flat in 2012, and more recently have begun to fall, and that’s a legally reported number that companies can’t reinvent. (Slide 5, below)

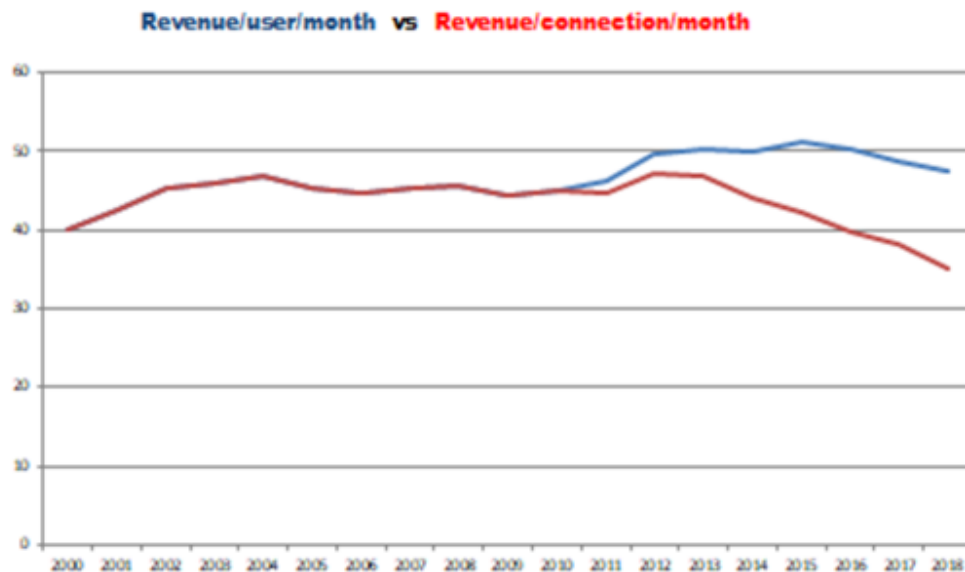
Unfortunately, total revenues (\$B)
were flattening and would even fall



5

Increasing numbers of connections and falling revenues created a new problem. The fall in revenues after 2015 was “only” 6%, but revenue per “connection” showed a frightening plunge of 25% (to about \$35 per connection per month (Slide 6, below). Inventing new metrics that result in frightening drops in revenue “per connection” seems like a poor way to impress investors, so why did they do it?

Revenue/user/month showed a modest decline after 2012, but revenue/connection/month showed a frightening 25% drop



6

It might be that the providers didn't expect this frightening result when they switched metrics in 2011, or it may still have been a reasonable strategy. Growth in the number of "users" was a source of pride for cellular providers for 30 years. It was undoubtedly the best-known cellular metric and it was the way to tell which provider was winning (or losing) the competitive war. The new metric allowed the providers to publish numbers that showed that the number of "connections" (which sounds like "users") was still rising strongly. In fact, the numbers we find on the web often confuse the terms "connections" and "users". Revenues and users may have been flat, but something user-ish was still increasing. The cellular service business is still growth-ish. [Recent 10-K reports are showing multiple measures (users and connections)]

Visions of 5G

Since the number of users is not really growing and competition is keeping the revenue/user/month below \$50, the service providers must look for other ways to achieve that "next wave of growth." One possibility is to find a new group of customers (like other companies) that need a new service that a cellular system could address (perhaps something "unforeseen" as AT&T suggested when discussing 5G—perhaps something to do with sensors, or factories, or medicine, or the Internet of Things).

Futuristic ideas are often fuzzy and risky. They may require significant new investments in technology and take years to realize (predictions of when we would see the impact of 5G on revenues have been rather optimistic). They may require management to understand new businesses that are quite different from their basic expertise. Without a specific service offering to a specific new customer that has shown a specific interest and a willingness to pay a specific price that allows a profit, it all becomes pretty vague. Many of these vague visions will not be realized in any concrete way, and they may involve significant spending, but they could make growth-seeking shareholders believe that the future is promising and thus help keep the share price high (at least for now). That would go a long way toward explaining some of the public statements about 5G being made by the cellular providers that are a bit short on details.

Investment advisors were also eager to tout “fantastic new opportunities” that they can whisper in your ear (for a fee). This reinforced the public perception that something important was happening. Note that the combined value (market cap) of AT&T + Verizon + Google is about \$1.4 Trillion after decades of growth, so the \$17 Trillion predicted below (from lecture 14) seemed a bit optimistic. Those “unforeseen innovations” that AT&T was predicting would have to be pretty amazing, but for the moment they offered a vision of growth that helped the service providers keep their shareholders hopeful. Even the “previous president” was involved, with worries about the Chinese selling us 5G systems that will spy on us and steal our technology.

5G: A hyper opportunity or an opportunity for hype?

AT&T has a “vision” of the unforeseen

“Much like 4G introduced the world to the gig economy, we believe mobile 5G will jumpstart the next wave of unforeseen innovation. AT&T is the only U.S. carrier that has a standards-based, mobile 5G network live in parts of a dozen cities.”

What does this actually mean?

Trump pushes 5G (let’s beat China)

“The president's re-election team is backing a plan the wireless industry fears would impose a heavy government hand over America's communications future”

What does this actually mean?

Investment advisors see immense opportunity

“It’s on track to reach \$17 trillion by 2035...
... and we know which companies to buy”

What does this actually mean?

With the excitement established, the cellular providers all claimed to be “leading the way” (Slide 8, below). In recent years, there have been constant TV ads from all the cellular providers. Some have mentioned the ultra-fast downloads (from millimeter wave channels) which they increasingly claim are available “nationwide.” The 5G label is everywhere, but it is unclear how many users are actually using 5G, and some reporting suggests that the users who are using 5G aren’t impressed. What the service providers really need is revenue growth, which probably has to come from new kinds of customers (like remote medicine, or driverless cars, or the Internet of Things). As we have mentioned, big new businesses are hard to create, especially when the ideas are vague. 5G hype is creating a “vision of growth” and an explanation of the huge and continuing investment in “growth” that we discussed earlier. “We are investing huge amounts to create new 5G services” sounds better than “we are still investing huge amounts to meet ever-increasing smartphone demand that our users are unwilling to pay for.” The latter explanation seems to be correct, but might cause some shareholders to sell their shares, and we have discussed how that would play out.

Providers are full of claims (but claims are cheaper than systems)

- Explore Verizon 5G Ultra Wideband coverage
 - We're building the most powerful 5G experience for America - 5G Ultra Wideband with massive capacity, ultra-fast speeds and ultra-low latency. 5G Ultra Wideband is now live in parts of select cities across the country in locations where more people can experience ultra-fast speeds together.
- AT&T Begins Extending 5G Services Across the U.S.
- Sprint's True Mobile 5G is powering new experiences for our wireless customers
- T-Mobile has the first, largest, and only nationwide 5G network, covering more people and places than anyone else

Some other ways to grow: buying another company and stealing users

Another common reaction to slow growth is to **buy an entirely new business**. When the Department of Justice negotiated the break-up of the AT&T monopoly in 1982, they left AT&T with Bell Labs and the Western Electric factories. The assumption was that Bell Labs inventions would create “unforeseen” billion-dollar markets, but it turned out that AT&T management, and Bell Labs, and their factories, were mostly good at the telephone business. Life in a monopoly had created some behaviors that weren’t helpful in a competitive world. When big companies (like AT&T in the 1990s) are looking for fast, impressive profits they can’t grow new businesses—it takes too long—so (if they have a lot of money) they always end up buying large, existing businesses (recall AT&T’s purchase of McCaw cellular for \$16B, and many other companies (like cable TV operators and computer manufacturers) whose businesses they knew little about. The old AT&T took huge losses on its adventure into Cable TV and the new AT&T and Verizon seem to be repeating that mistake.

When you want to buy an existing business, you always pay a “premium.” You have to buy at least 51% of the shares to control the new business, and you often want to buy all the shares. If you consider the buy/sell stock market dynamic that we discussed in the last lecture, the arrival of a big buyer who must buy shares would have an obvious and significant upward effect on share price. To avoid chaos, buyers who want most or all of the shares must announce their intent to buy and must offer a fixed and attractive price to all shareholders simultaneously. The result is that they almost always pay much more than “the wisdom of the market” (the old share price) said the company was worth, so why would they expect to make a good return on your investment?

Business leaders tend to be optimistic and somewhat egotistic. They often believe they are smarter than the current management of the companies they are buying. Buyers (like AT&T in the 1990s) always give logical reasons why they will still make a wonderful profit after paying a high price for the other company. “Synergy” with their existing business or “efficiency of scale” are the most common arguments (and can be real), but the difficulties of merging two businesses are also real. The result is often a disaster, because they have paid too much, don’t understand the new business as well as the old owners, and have a lot of unhappy employees because of layoffs and new job assignments. It’s really hard to understand someone else’s business.

We seem to be seeing that same behavior by the new AT&T, and by Verizon, probably triggered by the lack of cellular growth. AT&T bought DirecTV and Time Warner in an attempt to move into entertainment (much as the old AT&T had done in the 1990s). They spent more than \$150B, and since AT&T was only worth about \$180B this was a huge investment. After a major loss of customers, they have spun off both companies at a huge loss (and the CEO had to resign). Even in January 2023, DirecTV announced a layoff of 200 managers owing to their poor pay-TV business. Verizon’s “media plans” with AOL and Yahoo have resulted in a \$5B write-down (a less embarrassing name for a loss) and a \$10B cost-cutting program (a less embarrassing name for layoffs). This is becoming a sad and recurring lesson. It’s dangerous to “buy growth” in a business you don’t understand, but it seems to keep happening.

Finally, if new customers or new businesses can’t be found and companies want to achieve growth in a saturated market, the only thing left is to steal their competitors’ customers. AT&T tried to do that in 2G by offering nationwide calling packages at low rates. They were initially quite successful in attracting new customers (so much so that

they had problems meeting the demand for a while) but then the competition offered similar and even cheaper packages, so the advantage was lost. The same thing happened with the introduction of 3G. One optimistic service provider (perhaps believing that 3G had infinite capacity) offered “unlimited data” to attract users from the other providers. Unlimited data was very popular (it still is), so the other service providers had to offer unlimited data. In a 3G/4G/LTE world, where the demand really was unlimited, offering unlimited data was a very bad idea. Systems couldn’t handle the demand and some even crashed. Providers eventually solved the demand problem with “throttling” (reducing the download speed to individual users when the system was heavily loaded). Users may have been entitled to unlimited data, but there was a practical limit to how much they could actually download. More importantly, they have been stuck with a service offering they never should have offered.

The bottom line is that when growth stops and companies try to steal their competitors’ customers, it ultimately becomes a “zero-sum” game. Customers jump back and forth between companies looking for the best deal, with falling revenues for all the service providers. It’s expensive to steal your competitors’ customers.

The end of growth is a problem that companies struggle to address. An example of addressing this problem is the offerings of “Home Internet” services by the providers.

Below are excerpts from a stock market analysis of Verizon in 2019. The issues mentioned should now seem familiar to us. The analyst sees today’s Verizon and AT&T as dividend companies trying to return to growth.

A financial analyst’s comments on Verizon in 2019

Verizon stock often attracts income-oriented investors. If Verizon 5G wireless services reignite earnings and revenue growth, however, its shares might have much greater appeal. Verizon stock pays a 4.1% dividend. Even so, Verizon stock has consistently underperformed the S&P 500 and has yet to surpass the high it reached in 1999 — not the mark of a growth stock. Could that change? The Trump administration expects an economic boom from 5G wireless services. It’s making more spectrum available for 5G wireless.

Verizon is much more exposed to the U.S. wireless market than rival telecom firm AT&T. Verizon gets nearly 85% of adjusted earnings from its wireless business. Verizon’s foray into the media business through the AOL and Yahoo acquisitions misfired. In December, it took a \$4.6 billion write-down on its media business, called Oath. Meanwhile, Vestaburg (the CEO) has embarked on a four-year, \$10 billion cost-cutting effort through 2021.

Verizon’s problem is that the U.S. wireless market is saturated. Most consumers have unlimited data plans. That’s why Verizon 5G growth is key. Pundits expect 5G wireless to have a role in manufacturing automation, cloud gaming, autonomous vehicles, drones and remote health care services. But fundamental growth would remain an issue. Verizon has been testing 5G broadband service to homes in four cities — Houston, Indianapolis, Los Angeles, and Sacramento. However, Verizon does not expect meaningful revenue from 5G wireless broadband services to homes until 2021.

Verizon has told analysts that it expects 5G fixed broadband revenues to become significant in 2021, with 5G business services picking up in 2022. Still, emerging 5G wireless apps, such as drones or remotely controlled medical treatments, could take years to develop.

In summary, the end of growth can be a serious problem for a growth company. The answers require creative strategies that can include futuristic technology, major investment, data manipulation and imaginative press releases.