

# Understanding the basics of Transformation in Telecom Industry

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## Executive Summary

Lately telecom industry has been going through significant transformation due to - gigabit fever, storm of next generation technology availability or industry consolidation. If you are a senior executive who directs your team to spend ~20% of your revenue every year into your core assets, these transformational decisions can be very unnerving! Balancing the revenue opportunities, competing effectively and investing with future in mind – make this a crucial and very challenging task. Our goal in this white paper is to give you the basics behind transformation, provide a metric that can navigate you through the transformation jargon and assist you in engaging different partners to participate in a successful transformation.

## What is transformation anyway?

Merriam–Webster dictionary defines **Transformation** as “A complete or major change in someone’s or something’s appearance, form, etc.” Fundamental questions, when someone says Transformation in the Telecommunications industry, have to answer includes:

- ✓ Why are they changing completely?
- ✓ What are they changing? and
- ✓ How much is it going to cost?

Bottom line (intuitively) should be where is the money? How will this complete makeover help the company to increase their topline and profits? This article attempts to stitch major components of the Transformation story.

First let us clearly understand when a Telecom executive says Transformation – what is or which asset is changing? Yes, yes, yes – I agree with you, the **customer** is a Telecom company’s asset. Let us get off the hype for just a moment. To meet the ever-demanding company’s revenue generating customer needs, the company needs to feed the beast – **the**

What does Telecom Operator’s Transformation mean?

- ✓ The Capital Expenditure (CapEx) involved in reassessing and changing the investment in operator’s core asset – namely the network infrastructure – to meet the demands of their current and future customers.

What comes under network infrastructure?

- ✓ The network equipment such as routers, modems, CPE, set top boxes, transport equipment, outside plant construction equipment, fiber, Coax, tools etc.

Basics of Network Transformation: A transformation should -

- ✓ Address your basic problem – meeting your customer, competitive and product demands
- ✓ Minimize CapEx spend and maximize revenue through strategic long-term (~10 – 15 years) investment

**Telecommunications Network Infrastructure.** It may not sound sexy – but the bottom line in Telecom Transformation is significant changes to the operator’s network infrastructure. There may be other changes that will be triggered as part of this transformation – namely the operational improvements, process improvements etc. But in this white paper let us focus on the elephant in the room (I hate this phrase – but unfortunately this defines what I want to say) – namely the Capital Expenditure (CapEx) due to transformation. Refer to the insert for a crisp definition of transformation and what asset changes are we talking about under this transformation.

Before getting into some serious stuff – let us get a couple of things out of our way. Not every change can be called transformation. Unless you have some other motivation 😊 So what are the basics behind transformation? Three things to be aware of in transformation, namely it should

- ✓ be focused on the revenue uplift (if you are not talking about this – something is wrong),
- ✓ be a strategic investment – will spend enough time on what is strategic in this white paper, and
- ✓ extend the strategic horizon to 10 to 15 years to make a meaningful transformation

### Why is Transformation important?

Let us get to the transformation details.

A typical investment in Telecom industry is cyclical in nature. There is much literature out there that talks about why cyclical (best place would be to refer one of the Telecom giant’s 10Ks over the last 10 years) – so let us focus on the transformation aspects. This cyclical investment has three phases, as shown in Figure 1 Different phases of Telecom Transformation investment cycles, that -

- ✓ **Strategizes** the investment both for short term (more for tactical reasons) and long term (more for transformational reasons)
- ✓ **Invests** in the transformational core assets (network infrastructure) at appropriate rate, and
- ✓ **Optimizes** the CapEx investment and other aspects, such as operational spend, to reap the benefits of the investment

On an average, the CapEx investment will trend up in any growing Telecom company. This is the **Investment Trajectory**, as shown in the figure. Guess what will

happen if the Telecom Company’s investment trajectory is not trending up!

CapEx investment without talking about revenue does not make sense. Although not drawn to scale, the revenue trajectory should at a minimum be parallel with the investment trajectory for a healthy company. Unfortunately, there are many factors that impact the revenue growth – poor transformation investment that does not meet growing customer demands, competition from new entrants and incumbents, and of course the changing habits of the customers.

The obvious question would be, what is the relation between revenue and transformational investment? Obviously, this depends on the status of the telecom company. The incumbents get this to a stable ratio, while the new entrants are open to higher risk (that is the investment trajectory may be above the revenue trajectory). In this white paper, we are focused on the incumbents who have a stable investment and revenue cycles.

Before we get into the transformation details, let us get the intuition on the goals of Transformation from the investment and revenue cycles point of view.

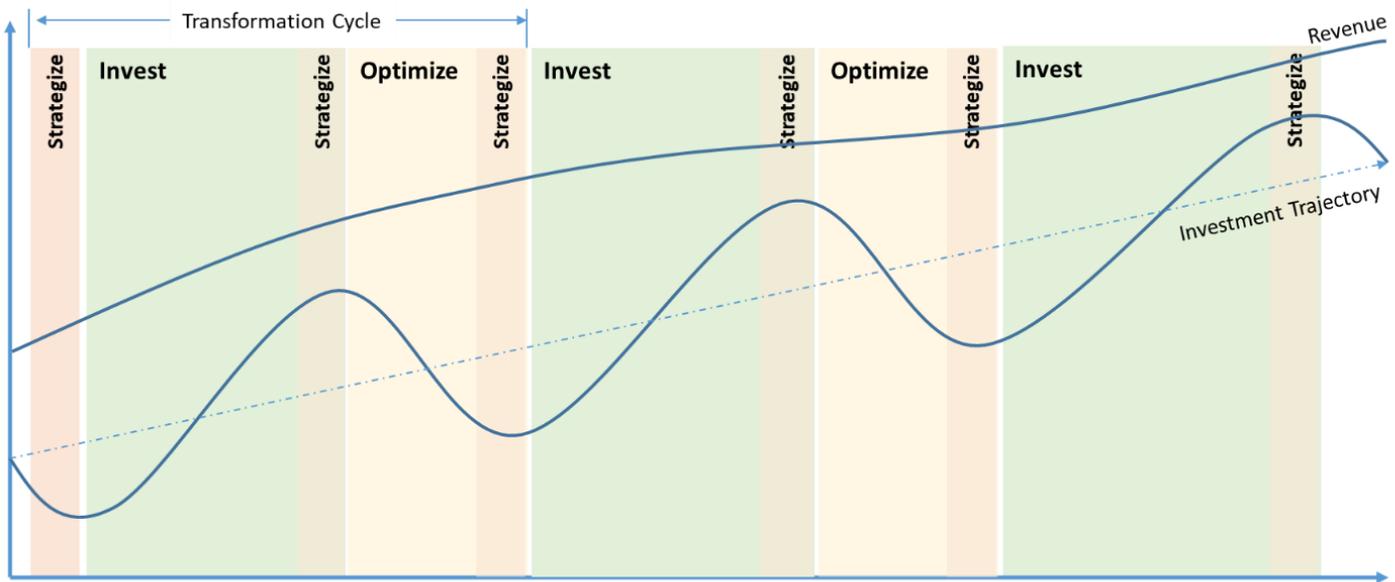


Figure 1 Different phases of Telecom Transformation investment cycles

- ✓ Network investment should be aligned with revenue over a cycle. That is the ratio of average investment and the average revenue over a period of investment cycle should be the same or lower.
- ✓ Keep in mind, transformation spend is cyclical and hence the profit expectations from the investment will be cyclical in nature.
- ✓ The operator need to find the right spend mix in the network to keep up at least with the revenue expectations of the finance leadership and at the same time fuel growth.

Metrics to measure and control transformation

Question is how are we going to measure this tangled web? Or politely put - what should be the characteristics of a metric that truly represent the different facets in transformation?

Here are some characteristics. This metric should –

- ✓ Be simple to understand,
- ✓ Capture the true relation between revenue and investment cycles, and
- ✓ Remain meaningful for companies in the same sector

BTW, we already introduced this metric in the previous section. It is the **Capital Intensity Ratio (CIR)**, *the ratio of the capital investment of a given year to the revenue in that year.*

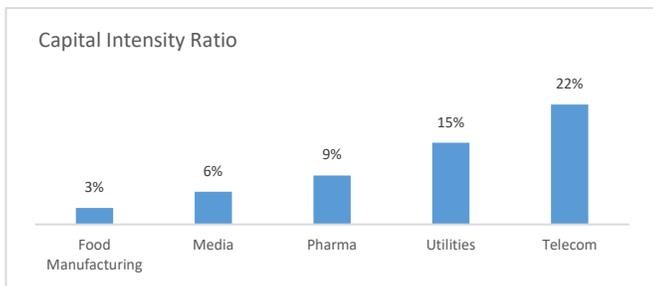


Figure 3 Capital Intensity Ratio for different industry sectors

Capital Intensity, in its native terms is a leading indicator for the capital investments a company needs

<sup>1</sup> Source: 2012 Morgan Stanley Investments analysis

to make back into the business to *remain in business and thrive*. Different industry sectors need to invest at different rates. As shown in Figure 3<sup>1</sup>, for example, a food manufacturing company needs to invest only 3% to keep growing, while a telecom industry being an infrastructure intensive business, needs to invest around 22% to stay in business.

Let us, for example, consider the airline industry. Common sense says it needs heavy capital investment to buy planes, maintain them, operate them and refurbish them. This higher capital-intensive nature of airlines makes it very difficult for new comers to break in. Same is the case with the Telecom industry. A continual upgrade to the network requires significant (~22%) reinvestment of revenue. This was one of the reasons why Google has had such a tough time making business sense of their Google Fiber investments.

As shown in Figure 2, within an industry sector the CIR changes between companies. This could be because of

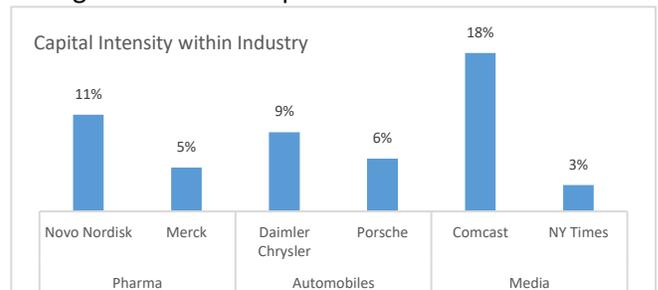


Figure 2 Intra sector Capital Intensity comparison

the customer base they are addressing with their products, or where they are in their year over year investment cycle or a simple misclassification (for example the media sector, as shown in the graph). Comcast, with the inclusion of NBC in its portfolio, can be categorized as a Telecom company or a media company. NY Times on the other hand is a pure newspaper media company. Comparing CIR of Comcast and NY times in this case is not accurate.

Let us say we sorted it all out and figured an industry sector specific average CIR, as shown in Figure 4.

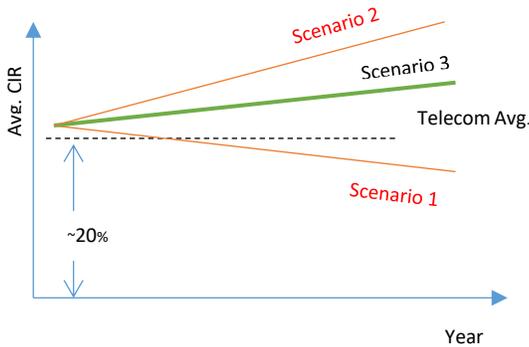


Figure 4 Different CIR situations for a Telecom industry

The Telecom company that you represent is trying to evaluate if they are investing less or more on their infrastructure. Get their CIR over the last few years and compare with the industry norm as shown in the figure. One gotcha to remember - CIR has to be a running average over a period of 10 – 15 years (Why? – again the investment in Telecom industry is cyclical). Let us analyze three scenarios as shown in the above figure.

**Scenario 1: Downward swing in CIR:** Unless a company found a silver bullet in making money without spending nearly as much as their peers, this is a good sign. Typically, this is not the case. This shows that the leadership is risk-averse, leading to potential downward spiral. As a colleague of mine says – not investing in the network will self-solve the problem by pushing the customers away.

**Scenario 2: Upward swing in CIR:** This is fine when you are a new comer in town. You may want to take risk and hence invest in the growth. But if you are an incumbent and you are spending more than the industry norm – you are taking a higher risk. What is going on? Why is it taking you more CapEx for gaining the same ARPU. Time for you to investigate.

**Scenario 3: Slight upswing in CIR:** It is ok to invest in your core asset to gain more customer base, be a little aggressive in investing in your

future safe network. Question of how much incremental investment really depends on the revenue opportunity that you are creating for your company. This is always the struggle.

The big question then is – How to manage capital intensity ratio during transformation to align with company’s strategic goals?

The Push and the pull of taking controlled risk

The capital investment in the Telecom industry using revenue (long term) or customer growth (short term) needs, in most cases, do not align. The push and pull between these needs spread across the whole organization. Let us look at how these differences in opinions (and incentives 😊) can be harnessed for the greater good of the company.

The revenue focused vision, aka product management view, increases the denominator in the CIR.



- ✓ The target here is fueling growth in revenue. Product Management does not get paid to optimize investment but to maximize revenue. They typically focus on -
  - New products
  - Deter competition
  - Increase customer footprint
  - Potentially increase customer revenue

That is, the product team pushes the company to take more risk with the intention to retain the customers and increase customer base.

The growth focused vision, aka operational view, increases the numerator in the CIR.

- ✓ The target here is optimizing the capital investment by meeting customer growth demands. That is, spend CapEx to meet current demand and future growth projections and stay within



budget. These operational groups typically focus on -

- New technology options
- Lower spend with higher returns
- Deploy in a targeted way – where required

That is, the operational teams spend the investment in a targeted way to manage growth and customer satisfaction.

Most of the time the revenue and the operational goals are diametrically opposite – requiring the need for a referee. The goal of the referee should be maintaining a sustainable and healthy growth by tracking Capital Intensity Ratio.



The finance team, who typically acts as a referee in transformational programs, focuses on

- Keeping the owners (shareholders, PE firms, private owners etc.) happy
- Controlling spend
- Monitoring, monitoring, monitoring
  - Revenue

- Spend
- Different business cases etc.

My goal in this article is not to mess up your day. But unfortunately, this transformation thingy is very complicated. Multiple teams pull and push to meet their objectives and hence incentives.

How can DTS help you with your transformation?

The question is how can one navigate through this complex problem. We at DTS have had the privilege to assist our customers through transformation multiple times. Be it may be to compete against new comers, introduce new technologies or counter the incumbents – we have done it a couple of times in the last five years.

We also developed different tools and processes to assist in navigating the maze of transformation decision making. Give us a call to assess our capabilities.

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