

Cost Management in Telecom Sector

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The Perspective

Today's telecom market is multi-faceted, complex and unpredictable. The telecoms industry is at risk of becoming a low profit business. As the telecommunications industry continues to advance at breakneck speed, its costing systems will need to keep up. Originally designed based on the properties of legacy networks, price regulations for monopolistic services have generally utilized cost models adopting various costing methodologies. The increasing deployment of IP-based fixed and mobile infrastructure in combination with the still unanswered search for data monetization have intensified the pressure on the managerial accountants to review its costing systems for both regulatory and commercial cost analysis.

The telecoms industry is at risk of becoming a low profit business. Margins are under pressure and could drop from the current figure of 35 - 40% to as low as 15% within 5 years. Cost management has to become an inherent core competence for wireless and wireline operators. Significant cost reductions are only possible with substantial changes in the business/operating model. New pressures will mean a change in mindset and the ability to 'think outside the box'.

The Cost Structure of a Telecom Network

The telecom sector is characterized by very large investment costs. The precise percentage of total costs attributed to investments depends of course on the definition of investments and of telecom activities (e.g. whether research, marketing or similar activities are included). Although some sources claim investment, and investment-related costs to be as much as 90 percent of the costs of production, most estimates based on financial data, however, vary between 60 and 75 percent.

For an assessment of the cost structure's impact on market conditions, more than the level of investments in telecom is relevant. The type of investments is also important. A notable part of the investments are what economists refer to as "sunk costs". These are long term investments which can be used only for specific economic activities. An example is a fixed access network providing subscribers' access to the local exchange. This investment only has value for the supply of telecom services in this particular local area. Once the investment is made the operator can only exit this particular market at considerable costs

Telecommunication business has a number of objectives, including satisfying customers with high-quality products

and services, quickly and on time; maintaining high levels of market penetration; satisfying the customers; providing a good working environment for employees; and being financially successful. The long-term financial success of any telco business depends on whether its prices exceed its costs by enough to finance growth, provide for reinvestment, and yield a satisfactory return to its stakeholders. If there are few competitors, it may be possible to simply mark up costs to establish a price that yields a sufficient profit. However, as competition increases, market forces influence prices significantly more. To achieve a sufficient margin over its costs, a telco company must manage those costs relative to the prices the market allows or the price the firm sets to achieve certain market penetration objectives. In the context of these characteristics, different costing models have evolved.

Usually, cost models were tools used by regulators to monitor and control prices for access and interconnection services which are monopolistic in nature. Over time, operators have also developed cost models to analyze their own cost structures for regulatory and business purposes. With developments in new technology, services and regulations, cost models have gradually evolved to reflect these changes. At present, the capabilities of cost models have expanded and can be used for regulatory pricing (tariff regulations), profitability analysis (pricing strategies), regulatory accounting (accounting separation), and cost optimization, amongst other purposes. The adoption of a modern and sophisticated costing system was needed to assure public opinion, including the regulators and the new operators in the market, that costs were calculated based on a rational and reliable system, and furthermore that telco company was making serious efforts to improve its performance. The following sections include five main costing models in the telecommunication, namely, traditional costing system, activity-based costing, target costing, accounting separation and costing system for next generation networks.

The problem with the Traditional Cost approaches

Given the high-technology nature of the telecommunications industry, its manufacturing overhead costs represent a significant proportion of its total costs. Many telecommunication companies have been using the traditional costing system to assign manufacturing overhead to units produced. Users of the traditional costing method make the assumption that the volume metric is the underlying driver of manufacturing overhead cost. Under traditional

costing, accountants assign manufacturing costs only to products. Mainly, the traditional method of cost accounting refers to the allocation of manufacturing overhead costs to the products manufactured. The traditional method (also known as the conventional method) assigns or allocates the factory's indirect costs to the items manufactured on the basis of volume such as the number of units produced, the direct labor hours, or the minutes used. Traditional accounting fails to allocate nonmanufacturing costs that also are associated with the production of an item, such as administrative expenses. The trouble with traditional costing is that factory overhead may be much higher than the basis of allocation, so that a small change in the volume of resources consumed triggers a massive change in the amount of overhead applied. Such a large change in applied overhead is nonsensical, since there is not always a direct relationship between the volume of production resources and factory overhead.

Types of cost models

Telecommunication networks are capital-intensive and involve shared platforms and systems that support multiple services. As a result, numerous cost models exist and the treatment of such costs will need to be defined. The three main models are:

- **Standalone Cost:** This approach is used when the modelled network is providing only a single service and thus all costs (service-specific, joint, and common costs) are allocated to a single service.
- **Fully Allocated Cost (FAC):** All costs are considered and allocated to all services provided by the network; this approach is commonly used in conjunction with a top-down model. Resulting costs for services will be the highest possible and provide an indication of the cost ceiling.
- **Long Run Incremental Cost (LRIC):** With the LRIC, only incremental costs and/or service-specific fixed costs are allocated to services. If joint and common costs are allocated through mark-ups, the LRIC method will begin to resemble FAC. Resulting costs for services will be minimal and provide an indication of the cost floor.

The change of cost base from HCA to CCA : The current cost accounting (CCA) cost base considers the efficient utilization of resources, taking as basis the real network of the telecommunications operator. Excess capacity is excluded from the CCA valuation, where an asset is considered to have excess capacity if there is non-used capacity (above the acceptable safety margin) that is not expected to be used in a time horizon of three years.

Costing for Next Generation Networks

Present costing approaches and methodologies have been designed based on the characteristics of legacy networks and thus are effective when used to model costs of legacy networks. The emergence of NGNs, however, presents a new set of considerations for telecommunications companies

as it is much more difficult to apply the traditional cost causality principles. NGNs can have significant impacts on the traditional costing systems, including cost allocation, treatment of incremental costs

Costing System for Next Generation Networks (NGN) has been defined by the International Telecommunication Union as “a packet-based network able to provide services including telecommunication services and able to make use of multiple broadband, quality of service enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies”. It is an IP-based network with a multi-layer architecture for services, control, transport, and access. Traditional switches are replaced by media gateways and soft switches.

All players in the telecoms market will be forced to reduce their long term costs. Incumbents will be affected to the same extent as alternative operators. It is expected that these players to initiate cost saving measures year on year. The management has to ensure that the organization acts cost consciously to leverage operational saving measures. The organization has to have the tools and procedures, including full cost transparency, in place. Basic cost controlling techniques have been established in most organizations but it is now essential for steering tools and procedures to be aligned to actual business drivers.

Pressure on prices and margins is a situation faced by almost all operators. The telecom scenario shows a world going “flat” with abundant voice and data volumes while the cost of promotional discounts to attract new customers increases. As a result revenues and EBITDA margins are under strong pressure, a trend which can be clearly seen in the recent financial results of the top players in the telecoms market. Only Deutsche Telekom and Verizon have escaped this trend (see Figure 1). Operators have to protect margins when ARPU's are under pressure and simultaneously new technologies trigger new CAPEX.

Cost reduction

Unknown costs cannot be efficiently managed In order to excel in OPEX and CAPEX management, full cost transparency must be established in order to identify, prioritize and optimize additional saving measures. Usually the obvious areas will already have been targeted in the first cycle of cost cutting. Therefore the challenge is to find the hidden potential by enabling a broader audience to act cost sensitive. For this reason the first phase of the cost reduction project needs to focus on establishing a stringent OPEX/CAPEX analysis.

Organizations do not always have the data available to act in a cost conscious manner. Many issues can inhibit an organization's cost management ranging from system or process based barriers to political or emotionally driven behavior. The staff responsible for defining strategies, rollout plans and architectures need to know the current cost drivers and the potential alternatives.

Rather than beginning by collecting the data from different departments which is likely to result in inconsistency, the entire cost basis must first be provided from the top-down, e.g. by the controlling department. These costs can then be categorized and interpreted bottom-up by the responsible departments leading to a controlled 'single source of truth'. This approach provides the systematic root-cause analysis necessary to identify and steer cost drivers and to identify saving initiatives.

There are also a broad range of new OPEX saving possibilities which can be leveraged through a new generation of technologies, e. g. in the area of software defined radio networks (SDR) and self organized networks (SON). In addition, energy efficiency becomes more central to the discussion when selecting the next patch of network elements.

A cost conscious company culture A basic cost reduction mechanism and culture across all staff must be in place (e. g. personal target setting, cost transparency, etc.). The challenge is to have a Cross-unit alignment To optimize OPEX and CAPEX a dialogue between the strategic and operation representatives (e. g. network and IT) needs to be ensured, in order to prioritize and balance cost increasing and cost cutting activities. Multiple technology ecosystems increasingly compete against each other (e. g. IPTV vs. DTH, ADSL vs. HSPA, VDSL/FTTx vs. LTE, macro rollout vs. femto deployment) and the need for alignment is vital.

Target Costing in Telecom Sector

To compete effectively in today's emerging telecommunication market, telco's must be customer-oriented, hence they must simultaneously address the issues of time/speed, quality and cost in product planning and development and this is the rationale behind the technique of target costing. The fundamental objective of target costing is very straightforward.

It is to enable management to manage the telecommunication business to be profitable in a very competitive marketplace. Target costing is a mechanism for determining selling. The object of target costing is to identify the production cost of a proposed product so that, when sold, it generates the desired profit.⁵ Target costing can be defined as a cost management tool for deducing the overall cost of a product over its entire life cycle with the help of the production, engineering, research and design, marketing, and accounting departments. Also, target costing can be described as a method of determining the cost of a product or service based on the price that customers are willing to pay

The telecom operator must understand customer's perceived value of a service as well as their attitude for purchasing services. The telco company must take into account competitors alternative and substitute services. This is because customers are shoppers and will shop around for the best price and value.

Conclusion

A few decades ago the market for telecom services was a homogenous market supplying essentially the same service – telephony – to all types of customers. Today the market is becoming much more diversified with an increasing range of services offered by incumbent PTOs, providers of cable-television, data communication companies etc. Most of these new companies have not invested in their own physical infrastructure but rely on network capacity leased from other operators

As the telecommunications industry continues to advance at breakneck speed, its costing methodologies will need to keep up. Originally designed based on the properties of legacy networks, price regulations for monopolistic services have generally utilized cost models adopting various costing methodologies. The increasing deployment of IP-based fixed and mobile infrastructure in combination with the still unanswered search for data monetization have intensified the pressure on the industry to review its costing methodologies for both regulatory and commercial cost analyses. Cost allocation for NGN and IP-based networks should reflect the relationship between traffic volumes, service quality, and capacity.

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