



Analysis on How Communication Operators Implement Quality Improvement and Efficiency Increase to Boost High-Quality Development

TuiXian Feng^(✉)

China Mobile Communications Group Hainan Co., Ltd., Haikou 570125, Hainan, China
fengtuiXian@hi.chinamobile.com

Abstract. In recent years, affected by multiple internal and external pressures such as “increasing speed and reducing fees” and “increasing 5g construction”, the operating environment of the communication industry has undergone profound changes, and homogeneous competition has become more intense. The company is facing the double squeeze of significantly slower growth and high cost operation. The development situation is extremely grim. In order to solve the problem of “no income increase, no profit increase, and high operating costs” and implement the regulatory requirements of “stable growth” of the superior, the company’s cost management should change from the original simple and extensive management mode to a standardized, refined and intelligent one, improve the company’s core competitiveness by carrying out special activities to improve quality and efficiency, and ensure the company’s sustainable and healthy development. Starting from the significance of improving quality and efficiency, this paper takes the actual work of improving quality and efficiency of China Mobile Hainan Company as an example, analyzes horizontally from striving for external policies to optimizing internal measures, and vertically from front-end construction to back-end operation and maintenance, and proposes how to optimize cost refinement management, effectively implement quality and efficiency improvement, and help the company develop with high quality.

Keywords: Improving quality and efficiency · High-quality development · Refined management · Stable growth · Cost leadership strategy

1 Introduction

State owned enterprises are the backbone of national economic development. For a long time, the added value of central enterprises supervised by the state owned assets supervision and Administration Commission of the State Council accounts for 10% of the national GDP, and the tax contribution accounts for 1/6 of the national fiscal revenue. They have made important contributions to promoting economic and social development, ensuring the improvement of people’s livelihood, and strengthening the comprehensive national strength [1–3]. They are the ballast of economic development. China Mobile Hainan Company (hereinafter referred to as “the company”), as a subsidiary of China

Mobile Group, the leader in the communication industry, should take the initiative to effectively promote the improvement of quality and efficiency, ensure that the company's production and operation always maintain a stable operation, so that the company can truly become a dynamic, competitive and risk-resistant market entity, and make due contributions to the stability of Finance and employment, And play a greater role in promoting sustained and healthy economic and social development.

Cost leadership strategy is one of the three competitive strategies proposed by Michael Porter, a famous American management scientist and a famous professor of Harvard Business School [4]. Under the situation of homogeneous competition, the company should put the work of improving quality and efficiency in the prominent key position of development, rely on basic management, deepen benchmarking and excellence, implement lean management, start from all aspects of the company's operation and the whole process, take measures such as economies of scale, optimizing the enterprise value chain, and shaping the enterprise culture to promote the implementation of the cost leadership strategy and obtain competitive advantages, which is an important measure for the company to improve its core competitiveness, By building a low-cost and high-efficiency operation system and building a cost leading edge, the company will promote high-quality and profitable sustainable development and help the company win the competitive initiative.

2 General Idea and Specific Work Measures

2.1 General Idea

All employees have established the concept of "all costs can be controlled", comprehensively sorted out the work of improving quality and efficiency from all links of the company's operation and the whole process, effectively identified the links that can improve quality and efficiency, and proposed specific and effective measures. Set benchmarks to carry out benchmarking and excellence by excellence, refine and decompose monthly and quarterly phased indicators through annual target values, and use assessment to guide and supervise the implementation of goals.

According to the content of different areas of quality and efficiency improvement implementation, it is divided into planned construction lines, network operation and maintenance lines, market lines, it lines and comprehensive lines, and the main responsible departments are specified to organize and carry out special activities. In particular, the planned construction lines and network lines are regarded as the key areas of quality and efficiency improvement. Through regular promotion of best practices and establishment of closed-loop evaluation mechanisms, the means of quality and efficiency improvement are strengthened, Ensure that the special work is effective [5-7].

2.2 Specific Work Measures and Achievements in Key Focus Areas

Planned Construction Line

Resolutely implement the investment management and control requirements of the group company, focus on four aspects (construction pertinence, project efficiency, progressiveness, and guarantee effectiveness) and two guarantees (ensuring the leading edge of

network capacity and customer perception), follow six requirements (correct direction, reasonable structure, guarantee focus, controllable scale, ensure efficiency, and support development), continue to optimize resource allocation, and take business development as the starting point, Chbn works in all directions to find the right short board and make full breakthroughs.

First, accurately position market demand and scientifically allocate resources. Establish an evaluation model for typical scenarios, use the digital intelligence sand table, and combine the development needs of the grid market to establish a linkage model matching network resources, so as to realize the inclination of resource allocation to high-value areas. Establish an assessment model for typical scenarios, establish a demand assessment system based on CHB market, gradually improve the linkage model between grid market demand and resource allocation, achieve timely and effective allocation of resources under changes in market demand, and output a list of targets that can guide front-line operations.

Second, do a good job in source control and fine investment plans. At the macro level, first, we should strengthen the resource allocation thinking of “elements + capabilities”, make a forward-looking layout, and ensure that the network architecture is stable and reasonable, the technology is leading, and the ability to evolve smoothly; Second, we should reasonably reserve resources. Basic resources such as bureau buildings and pipelines should be considered in combination with the long-term network planning and deployed in place at one time. In the micro aspect, first, we should do a fine design, accurately position business needs, and give priority to the needs with high revenue contributions. Second, we should use information means, rely on digital intelligence sand table and other IT tools, systematically promote the accurate matching of user value and network capacity, guide network construction from extensive to refined, and strive to maximize investment benefits.

Third, formulate a low-cost network construction strategy, and strictly implement the standards in all links. First, it is necessary to delimit the cost red line, and formulate the cost control red line according to the typical scene cost standards in the professional guidance; Second, we should do a good job in comparison of construction schemes, and reasonably select low-cost construction means on the premise of ensuring reasonable technology, quality standards and production safety; Third, we should promote co construction and sharing. Pole road sharing can reduce the cost of rural optical cables by about 30%. We should vigorously promote pole road co construction and sharing in accordance with laws and regulations.

Fourth, the requirements for network construction should be formulated differently in combination with professional characteristics. In terms of reserve of basic resources, make full use of government space, public green space and other resources to deploy computer rooms, save the cost of site acquisition, and actively strive for relevant relief and compensation by relying on preferential policies of the government; In terms of wireless and broadband construction, we should actively tap the potential and make good use of the old, and do a good job in reusing the removed plates and spare parts. In terms of special line construction, reserve optical cables and fiber distribution point resources by region and scene, constantly shorten the access distance of end customers, reduce access costs, and shorten the time limit for special line installation and relocation.

Typical cases of improving quality and efficiency of planned construction lines:

Use the policy of low-cost construction of convergence machine room. Actively connect with the Sanya Municipal government, make full use of the preferential policies such as several measures for accelerating the construction of new infrastructure in Sanya City, complete the site selection survey of 60 public green spaces and 104 government units in 2020, and complete the application for free land for 28 5g integrated computer rooms. The low-cost and rapid solution to the land demand for converging machine rooms and 5g construction is expected to save the company 30 million yuan in purchase and lease costs.

Fully reuse the existing network equipment to reduce the construction cost. For the 5g private network project of Changjiang nuclear power unit 3 and 4, through the cooperation of the company's internal network industry, the independent design of the scheme is realized, the dependence of manufacturers is reduced, and the existing special line UPF capacity of the existing network is fully reused. There is no need to build a new UPF, and the cost is reduced by 600000 yuan, which is 26% lower than the bidding cost of the scheme before optimization.

The network industry cooperates to accurately position the market demand to ensure the quality and efficiency of construction investment. Relying on the digital intelligence sand table, Wanning explored the "five haves and one low" (valuable, scale, resources, relationships, strength, low cost) broadband precision construction mode. 63 high-value administrative villages were locked through the platform pull list and offline Village Shopping; Through the analysis of surrounding resources provided by the platform and the confirmation of on-site access resources, the rapid coverage construction plan was formulated to effectively improve the coverage level of administrative villages. The ranking of key indicators in the province was significantly improved, and the average cost of ports was reduced by 25.5%.

Network Operation and Maintenance Line

The network operation and maintenance line adheres to the principle of "guarantee, pressure and control". It adheres to strengthening management, consolidating the foundation, special rectification and comprehensive audit in the four fields of network electricity fee, network rental fee, tower service fee and network maintenance fee, and comprehensively and deeply promotes the high-quality development of cost reduction and efficiency increase.

First, in the management of network electricity charges, fully strive for and make use of policies, sort out the stock, strictly control the increment, and promote the cost reduction and efficiency increase of electricity charge management. In terms of policy, first of all, make full use of the government's policy on 5g station meter reading to household power consumption, actively communicate, and effectively promote the reduction of 5g station transfer power price; Secondly, cooperate with the market supervision and Administration Bureau to jointly tackle the phenomenon of indiscriminate price increase of power transfer. After checking the basic information of all stations, the inventory stations actively coordinate and promote the work related to the conversion of power supply to direct power supply, and actively communicate and promote the conversion of power supply to directly issue VAT special tickets for tax deduction. The newly added stations strictly control the ratio of direct power supply stations and the unit price of 5g

stations transferred to power supply constructed at the same site, and reduce electricity charges by studying intelligent power saving means such as hierarchical shutdown and promoting the construction of 5g stations c-ran.

Second, in the management of station rental fees and tower service fees, on the one hand, by strengthening the maintenance of basic data and fine management requirements, we can eliminate resource waste; on the other hand, by making good use of policies, we can seize opportunities to effectively reduce rental fees. The lease history data information of the site and the information between the systems have a low degree of matching, which can't effectively judge the actual lease start time, expiration time, dismantling time and other information, to a certain extent, resulting in a waste of resource lease. By carrying out dynamic verification in a step-by-step and planned manner, the authenticity of the data is further standardized, and the detailed verification with the front and rear end demand time points is carried out, so as to clarify the lease start and end time points and sharing ratios, effectively reduce resource waste. We will make effective use of the free and open policy of public resources, coordinate with the Bureau of science, industry and information technology and other competent departments to negotiate in depth on the rent of building stations in the government and public institutions, reasonably reduce or reduce the rent, and help reduce the rent.

Third, in the management of network maintenance fees, the work of improving quality and efficiency is mainly done by improving self maintenance ability, reducing the scope of agent maintenance, revitalizing old materials, optimizing refined management, strengthening professional collaboration, and reducing the cost of agent maintenance. In terms of equipment maintenance, it is required to comprehensively improve the "three capabilities": core self maintenance capability, on-site personnel self maintenance capability, independent research and development capability, and expand the scope of self maintenance; In terms of optimizing resource allocation, cost reduction and efficiency increase are mainly realized by making full use of dismantled materials, surplus materials and old materials, and reducing the backlog of spare parts through fine management. Strict control over software upgrading and development resources is strengthened to improve the efficiency of expenditure. Strengthen collaboration among different disciplines, complete the implementation of business planning requirements from "top to bottom", and put forward the need for effective collaboration among professional networks at all levels to carry out network planning. This will not only avoid network bottlenecks, but also put an end to excessive allocation of local resources. It will also facilitate the professional reuse of follow-up personnel and reduce the labor cost of operation and maintenance.

Typical cases of improving quality and efficiency of network operation and maintenance lines:

Use the policy to actively strive for site rent and electricity fee reduction. According to the requirements of the notice of the leading group office of Hainan Province on accelerating the solution of the first batch of 5g construction specific problems and implementing the opening of public resources issued by the leading group office of Hainan Province, Danzhou actively coordinated with the local government and won the consent of Danzhou Nada No. 4 middle school to sign a rent free agreement between the two stations, and agreed to change the transfer power supply to direct power supply.

Sanya charge has taken advantage of the government's 5g power supply guarantee policy, actively coordinated with Sanya technical school, and agreed to authorize our base station to install communication base station power consumption meters, so as to realize meter reading and household charging. The unit price of power consumption has been reduced from 1.1 yuan/kWh to 0.6957 yuan/kWh, saving 100000 yuan of transformation cost from power supply to direct power supply, and 50000 yuan/year of electricity cost.

Effectively integrate existing resources to reduce costs while increasing efficiency. Qionghai took the initiative to move the low location mobile station in Ziwen village with weak signal to the high location Telecom Station, effectively saving a total of 26000 yuan/year in rent and electricity. Through in-depth research and rational utilization of pipeline resources, Danzhou has realized the development of channels, helped to promote the development of broadband business, and is expected to save 300000 yuan in the cost of new channels.

Strive for resource exchange and sharing to effectively improve quality and efficiency. Chengmai fully grasped the strong demand from customers of the two groups of Macun power plant for weak signal coverage, and won customers' consent to our company's rent free and electricity free base station construction, which not only solved and improved the network quality, but also saved a total of 61700 yuan/year in electricity and rent. The company's Sanya Wuzhizhou island base station and the friend's submarine optical cable have different routes. In order to ensure the quality and stability of the submarine optical cable network, the company and the friend have realized the dual route protection of the base station through the replacement of submarine optical cable resources, which is expected to save 500000 yuan in the construction cost of the second route of the submarine optical cable.

3 Conclusion

The work of improving quality and efficiency is a long-term systematic work. The work should be carried out not only with effective organization and leadership, but also with efficient coordination mechanisms. It is necessary to strengthen unified leadership and centralized management, and assign responsibilities to specific departments and posts. Who uses, who is responsible, and who controls; Take the opportunity of improving quality and efficiency to solidify the working mechanism and process of industry finance integration; Strengthen publicity, encourage active participation and make more contributions, and make diligence and thrift the code of conduct consciously practiced by all employees.

The implementation of the work should not only have a clear goal of pressure reduction, but also have specific work measures. Through benchmarking, budget, quota, assessment, incentives and other measures, we should force the refined management of cost; We should enhance the systematization of cost reduction and efficiency increase, not only focusing on the source, increasing demand control and centralized procurement, but also focusing on the process, cleaning up inefficient and ineffective assets and business activities, and improving and accelerating the application of new technologies and new marketing transformation. Work guarantee should have both a strong work team and a good system support. Set up special working groups and project teams to unify

ideas and improve work quality and efficiency as soon as possible. At the same time, it is required to strengthen the optimization and transformation of IT systems, open up system data interfaces, solidify control processes and improve production efficiency.

Focusing on the special activities to improve quality and efficiency, the company deeply implements the group's resource allocation strategy of "guaranteed, controlled and controlled", strives to achieve the goal of "advancing business efficiency, advancing key business shares, improving network capacity and quality", and effectively promotes the company's high-quality development.

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