# The technology management path and its development trend in the field of communication engineering in the era of big data

Haoquan Zhang

Shandong University of Science and Technology

a1houhou@163.com

# Abstract

In the face of the sustainable development of social economy and technical means, the current demand for communication is getting higher and higher, so improving the technical ability of the communication industry can better meet the communication needs of social justice. From the perspective of the long-term development of the communication industry, it is very important to identify the main path and development trend of technology management. Therefore, after understanding the basic characteristics of the field of communication engineering in the era of big data, this paper mainly studies the three technical management paths of cost control, talent training and cable management, and then determines the development trend of the field of communication engineering in the era of big data.

#### Keywords

Big data;Communication engineering; Cost management; Personnel training; Optical cable management.

# Introduction

As the basic content of the development of modern information technology, communication engineering technology is mainly composed of communication system and communication network technology. Improving the management level in the field of communication engineering technology can better cope with the increasingly competitive market environment and provide high-quality communication services for social residents. Nowadays, China's communication engineering management technology is facing more and more challenges and opportunities. In order to ensure the normal operation of communication technology, it is necessary to strengthen the management of communication engineering construction and pay attention to the training and management of professional and technical personnel. Only in this way can the security of communication engineering be guaranteed.

# 1. Analysis of technical management path in the field of communication engineering

#### 1.1. Cost control

In the era of big data, the field of communication engineering should strengthen construction cost control and reduce project investment costs. The cost management should be carried out according to the actual situation of the project, the construction conditions, resources and

International Journal of Computing and Information Technology ISSN: 2790-170X

IJCIT

Vol 1, No. 3, 2023

other information of the construction route of the communication project should be comprehensively understood, and the design department should be carefully supervised to propose high-quality construction schemes, which can avoid excessive cost resources consumed during the construction of the project [1]. According to the analysis of the cost control flow chart shown in Figure 1 below, it can be seen that cost control will penetrate into the whole process of engineering construction, so it is necessary to set up a construction team with strong comprehensive ability and high professional quality to control costs in strict accordance with the schedule process, so as to improve the construction quality of communication engineering. On the one hand, it is necessary to strengthen the internal staff's technical training and external recruitment efforts, and improve the comprehensive ability of the construction team by means of expert technical lectures and employees' going out to study. On the other hand, it is necessary to put forward scientific supervision and management of safety prevention programs, effectively prevent the hidden safety accidents during the construction of the project, and fundamentally protect the life and property safety of the site construction personnel. Because the quality of security prevention schemes is in direct proportion to the cost control, the more perfect the security prevention schemes, the lower the cost consumption, and the worse the security schemes, the higher the cost consumption. In addition, communication engineering enterprises should reduce the construction cost on the basis of controlling the construction inverse power. In this process, the construction personnel should fully understand the construction technical process, organization design preparation, technical application specifications, etc., design and preparation of construction projects in strict accordance with the requirements, and it is strictly prohibited to violate the law.

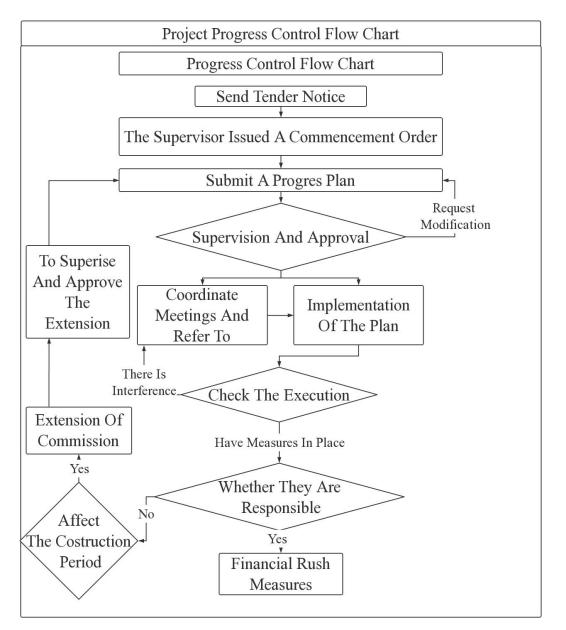


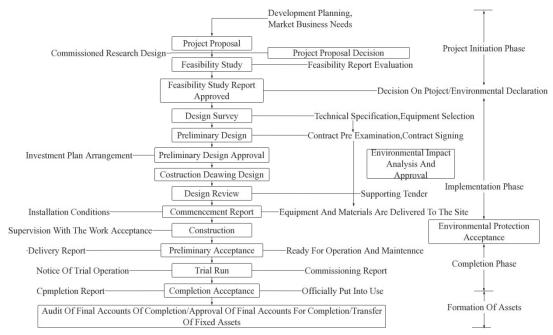
FIG. 1 Flow chart of cost control

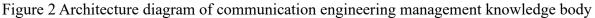
#### 1.2. Personnel training

In the rapid development of China's social economy, communication network is becoming more and more closely related to people's life and work. However, because there are few technical management talents in communication enterprises, they cannot meet the high standard and high requirements of communication engineering construction management [2]. Especially in the era of big data, how to train communication engineering talents and improve the innovation ability of communication enterprises is the focus of research by Chinese scholars. According to the analysis of communication engineering management knowledge system as shown in Figure 2 below, technical personnel training should start from the following aspects: On the one hand, training activities such as communication transmission technology management and communication engineering project operation management should be organized within the enterprise to ensure that employees of all departments can master the whole process of project initiation stage, implementation stage, completion stage

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and asset formation; On the other hand, it is necessary to improve the comprehensive literacy of technical talents in communication engineering enterprises by means of going out to study and expert lectures, so as to ensure the safety and stability of the operation of communication engineering projects. For example, in the project approval stage, the technical personnel should understand the market business needs and industry development planning through the project proposal, determine the project proposal decision through the feasibility study report, and finally start the construction preparation and construction work after effective approval. In this process, technicians must not only understand the technical requirements of traditional communication engineering construction management, but also clarify the main path of technical management according to the needs of the new era.





#### **1.3. Cable management**

As the most critical transmission equipment in communication engineering, the safety and stability of optical cable and cable are closely related to the overall operation of the communication network. Therefore, how to ensure the efficient performance of optical cable and cable is the key to improve the operation efficiency and quality of the communication engineering network [3]. In essence, communication optical cable refers to a plurality of optical fibers composed of the center and protective layer, compared with the traditional media with low cost, small size, high transmission stability, transmission capacity of the mouth, is currently one of the most widely used media in China's communications enterprises. Therefore, communication engineering enterprises should strictly control the application quality of communication optical cables in accordance with the supervision process in the preparation stage as shown in Figure 3 below, and ensure that auxiliary equipment, optical fiber, optical receiver, etc. meet the needs of engineering construction. First of all, the construction unit should carefully review the technical plan to avoid problems such as material and measurement errors; Secondly, on the basis of understanding God and design copy, strict control of the design scheme, routing scheme, budget table, etc., to avoid the hidden problems during the construction period affecting the quality of the cable design,

ISSN: 2790-170X

finally, to carefully review the contractor's construction qualifications, in strict accordance with the construction management needs to check the entry conditions.

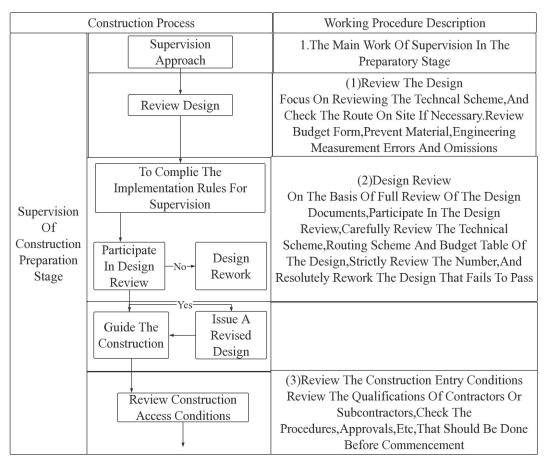


FIG. 3 Supervision process in preparation stage

# 2. The development trend of communication engineering analysis

Nowadays, the development of the communication industry has entered a sustainable stage, and both economic benefits and jobs have become the focus of China's economic development, and its market share is still increasing [4]. In the future, China's communication engineering should not only widely use wireless broadband technology to provide technical support for urban construction and social information modernization, but also improve the development of optical communication technology and improve the speed of communication engineering. In this process, by grasping the development opportunities provided by the era of big data, enterprises actively create higher economic benefits, understand the service needs of social residents, and provide more convenience for social development.

# 3. Conclusion

To sum up, the innovation and development of communication engineering has brought good communication services to people, but in China's communication engineering is an intensive production industry, and the requirements for technical personnel and technical management are getting higher and higher, so the future enterprises should increase the intensity of

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