Chapter 2
Transformation and Upgrade of the Optical Fiber Industry in China: Taking YOFC as an Example

Ma Huimin
Huazhong University of Science and Technology, China

Han Huang
Huazhong University of Science and Technology, China

Xin Dai
Huazhong University of Science and Technology, China

Lu Xu
Rennes School of Business, France

Changqin Yin
Huazhong University of Science and Technology, China

Jie Xiong
Rennes School of Business, France

Ke Wang
Huazhong University of Science and Technology, China

Jinlong Zhang
Huazhong University of Science and Technology, China

Yeming Gong
EMLYON Business School, France

ABSTRACT
This chapter describes the development stage of China’s optical fiber manufacturing industry, and then analyses the Yangtze Optical Fibre and Cable Joint Stock Limited Company (YOFC) development stage. According to YOFC case, the authors show that continuous learning and absorption, proprietary R&D and product innovation, good use of every opportunity and favorable development policy, talent reserve and intelligence support, active transformation by sizing up the situation, independent operation, and elimination of monopolization are the implications of transformation and upgrade of the optical fiber industry.

DOI: 10.4018/978-1-5225-3468-6.ch002
INTRODUCTION

This chapter describes the historical development and evolution of China’s optical fiber manufacturing industry. By a case study of Yangtze Optical Fibre and Cable Joint Stock Limited Company (YOFC), we analyze the development stages and periods of the industry leader. The development of YOFC provides a rich empirical evidence of the evolution of the fiber manufacturing industry in China. After introducing the case study of YOFC, we summarize the key successful factors: continuous learning and absorption, proprietary R&D and product innovation, seizing opportunities and favorable development policy, talent development and intelligence support, active transformation by sizing up the situation, independent operation and elimination of monopolization are the implications of transformation and upgrading of the optical fiber industry. This study may benefit the executives of high-technology companies and decision makers of other firms with ambition to reach the success of YOFC. This article also provides insights to public policy makers on how and when government can or should intervene the market development. The lessons and experiences of YOFC, in particular the transformation, offers insights to the state-own enterprises who are seeking the path of strategic renewals in China.

1. The Optical Fiber Industry in China

1.1 Made in China 2025 Policy and the Optical Fiber Industry

In order to upgrade the manufacturing industry, China’s State Council have launched the “Made in China 2025” plan in March 2015. According to “Made in China” plan, integration of new-generation IT with the manufacturing industry is at the core. The Ministry of Industry and Information Technology of the China has been long committed to promoting integration of informatization and industrialization. Wide applications of information technology can bring a major change to the traditional manufacturing industry (Gong, 2013). “Made in China” is gradually changing from resource-driven to information-driven. Intelligent equipment in plants and workshops with powerful functions is connected with Internet or equipment wirelessly. This leads to emergence of the Internet of Things and service-oriented Internet, and promotes the integration of the physical world and the information world in the form of CPS. The interconnection within the whole plant makes cooperative work possible. The production mode has also been transformed from resource-driven to information-driven. The information-driven product manufacturing process reflects the value of intelligent manufacturing. For example, with intelligent manufacturing, production procedures can be designed more scientifically; productivity can be improved; the personalized production can be realized; the resource use can be adjusted with the most energy-efficient mode adopted. However, all the above-mentioned are based on the development of communication technology. Based on the development process of YOFC, this article analyzes the elements of fiber optic industry transformation and upgrading, and provides reference for the transformation and upgrading of other optical fiber enterprises.

1.2 Historical Development of China’s Optical Fiber Industry

In recent years, we have been experienced the continuous development and increasingly wide applications of the optical fiber technology (Diao, 2017). Since emergence of the first optical fiber with practical value in the 1970s, the optical fiber technology has kept on progressing. With diversification of optical fiber