

# Influencing Factors and Countermeasures of the Effect on Construction Training Development in Qinghai under the Impact of COVID-19 Pandemic

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**Abstract:** The coronavirus disease 2019 (COVID-19) pandemic has resulted in significant delays and cost overruns on construction projects. Implementing construction training is one of the most important strategies to mitigate the adverse impact of COVID-19 on Qinghai's construction industry and help the industry adapt to the new normal. This study aims to evaluate the adoption of training strategies for pandemic management in the construction sector amid the COVID-19 pandemic. The three objectives are to analyze the construction training industry during the pandemic era in Qinghai; to explore the effect of influencing factors on the industry; and to evaluate countermeasures for developing the construction industry for the post-pandemic period.

**Keywords:** Countermeasures of Effect; Construction Training; COVID-19 Pandemic

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## 1. Introduction

In 2020, the pandemic suddenly hit, and online teaching began in China. It turned out that many local small training institutions had to withdraw from the market. Still, due to the particularity of the work of practitioners in the construction industry, face-to-face courses cannot be canceled across the board. In this complex training environment, coupled with the various new development in media technology, different teaching methods have emerged one after another. There are Moments, Douyin, and Kuaishou, which mainly take pictures or video sharing, as well as DingTalk, Tencent Video, and live broadcast platforms developed by various institutions. The situation has formed a blended learning platform model such as online and offline, fragmented, community-based, task, and project-based learning. In addition to the learning model affecting the development of the construction training industry, what other factors have influenced the development of the construction training industry during the pandemic era.

## 2. Theoretical Basis

### 2.1 Theoretical Significance and Value

Theoretically, the theoretical research on the construction training industry is relatively weak, and the analysis of the influencing factors on the development of the construction training industry is relatively infrequent and incomprehensible. There is currently no special legislation on the construction training industry in my country. The construction training industry's internal and external environment has undergone significant changes under the current epidemic situation. (He: et al. 2021)<sup>[1]</sup>.

### 2.2 Practical meaning and value

From a practical point of view, carrying out construction training is a key measure to improve the professional ability and quality of construction employees. Continuous delivery of fresh blood, so the healthy development of the construction training industry is essential. Under the current epidemic situation, the internal and external environment faced by the construction training industry has undergone tremendous changes, which has had a significant impact on the development of the construction training industry and has brought new challenges to the development of the construction training industry.

Opportunities and Challenges. Therefore, it is necessary to study such options and challenges in depth to put forward scientific and reasonable countermeasures and suggestions for the construction training industry to promote its better development (Liang, 2019)<sup>[2]</sup>.

### **3. Understanding the Influencing Factors and Countermeasures of the Effect on Construction Training Development in Qinghai under the Impact of COVID-19 Pandemic**

#### **3.1 Research on the relationship between construction training and pandemic**

The COVID-19 pandemic has significantly impacted the construction industry, which is sensitive to economic cycles. On the upside, however, construction has a lot of potential to stimulate recovery due to its job creation potential; recovery measures, in turn, can support the sector's transformation towards sustainability and digitalization. Tripartite cooperation, social dialogue, and international labor standards are vital to promoting a people-centered recovery in the construction industry from the crisis (Ayat: et al. 2021)<sup>[3]</sup>.

#### **3.2 Research on the SWOT analysis of the construction training**

That is, the situation analysis based on the internal and external competitive environment and competitive conditions is to enumerate various main internal advantages, disadvantages, and external opportunities and threats closely related to the research object through investigation and arrange them in a matrix form. The idea of systematic analysis is to match various factors for analysis and draw a series of corresponding conclusions from them. The findings usually have a certain degree of decision-making in China.

#### **3.3 Research on factor analysis theory**

This method mainly refers to the selection of objects according to the various factors that should be considered in selecting value engineering objects and based on the knowledge and experience of analysts to determine the chosen things. This method is simple and easy to implement, requiring value engineers to be familiar with the product and have rich experience. It is more suitable when the research objects are pretty different from each other or the time is tight. The disadvantage is that there is no quantitative analysis, and the subjective influence is significant.

#### **3.4 Research on the impact of the COVID-19 pandemic on the construction industry**

This may be because the labor-intensive nature of construction challenges the viability of social distancing in the workplace. The COVID-19 crisis has temporarily closed construction sites and disrupted global supply chains. The pandemic has delayed most ongoing construction projects and reduced the construction industry's productivity, resulting in substantial cost and time overruns (Guo: et al. 2017)<sup>[4]</sup>.

### **4. The Conceptual Framework for the Research Study**

#### **4.1 Influencing factors of construction training technologies**

Training techniques are receiving increasing attention in the construction industry. Technologies such as virtual and

augmented reality (VR and AR), BIM, unmanned aerial vehicles (UAV), wearables, and Internet of Things (IoT) technologies have been developed and applied to increase the efficiency and effectiveness of construction training, as well as improve the field Health and safety, and time and cost management (Gholizadeh: et al. 2018)<sup>[5]</sup>.

### **4.3 Attitude and behavior perception in the diffusion of innovation**

Diffusion of innovation is “the process by which innovation spreads among members of a social system through specific channels over time. Innovation means an organization can be driven primarily by internal and external influencing factors through active participation. External influences exist outside the adopting organization, such as policy, regulation, advertising, market demand, competitive advantage, or demonstrable benefits of innovation. Rules can force companies to adopt innovations through explicit norms, standard procedures, incentives, subsidies, and grants. With a solid operating structure, internal factors are more important than external factors in driving innovation adoption in the construction industry.

## **5. Influencing Factors and Countermeasures of the Effect on Construction**

### **Training Development in Qinghai under the Impact of COVID-19**

#### **Pandemic**

##### **5.1 Market competition**

Market competition is when two or more companies or organizations compete with each other for profit by using various strategies. Market competition exists in multiple forms in different markets.

##### **5.2 Government policy**

Public policy is a series of decisions made by governments and other political actors to influence, change or frame issues or issues that policymakers and the general public have endorsed in the political arena.

##### **5.4 Social awareness in construction training**

The purpose of construction training is to maintain the order of the construction market, ensure construction quality and safety, and promote the sound development of the construction industry.

##### **5.5 Effects of pandemic**

Effects on business closure cause reduction in demands and downfalls of the industry with disruptions in the supply chain and business activities.

## **6. Conclusion**

By analyzing the internal and external factors affecting the development of the construction training industry, the SWOT analysis of the construction training industry, to find out the problems of the construction training industry, and to guide the construction training industry to develop into a healthy and sound direction by designing solutions to the issues. The countermeasures and recommendations to encourage the development of the construction training industry are given: improve brand power and enhance core competitiveness; accelerate the pace of innovation in the construction training industry; optimize the training mode and improve service quality; Improve the relevant policies of the construction training industry; accelerate regional economic development; improve the income level of urban and rural residents; change the misunderstanding of the society and the public on the construction training industry, etc.

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