

## Failure Factors in Chinese Construction Enterprises Business and Management

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**Abstract:** The research on failure of construction business and management deals with various economic fields. Owing to various reasons, it is difficult to study failure of Chinese construction industry. The objective of this paper is to explore the factors associated with failures in Chinese construction enterprise business and management. First, this paper states the definition of failure of construction business and management and its background and research methodology. Then, the research field of construction business and management failure is compartmentalized into three parts: failure of construction project, failure of construction enterprise, failure of construction manager. Every part is divided into detailed factors according to importance and analyzed using literatures and examples. Finally, synthetic prevention countermeasures are presented following the discussion of the factors that cause failures in Chinese construction industry: scientific identification and prediction of failure, evaluation of competitive abilities, improving construction management qualities, independent professional inspecting and supervising, and synthetic prevention of failure.

**Key words:** China; construction; business and management; failure

### 1 Introduction

The development of enterprise is like the growth of a tree, any adverse circumstances and malnutrition maybe affect the growth of it. Therefore, just like a tree, an enterprise has possibilities to be prosperous, and has chances to fade.

In China, with the gradual foundation of market economy environment, competitions become more and more fierce, and enterprises feel more pressure to survive. Therefore, the failure rate of enterprises has reached unprecedented levels. If some scholars collect and study the enterprise failure experiences, it will be helpful and referenced for enterprises and career managers. Nevertheless, Hang (2002) claims that there are few academic institutions or scholars to conduct systematic research on the failure of enterprises. It is caused by various reasons: (1) it is difficult to collect failure samples; (2) the organizers or managers of failed enterprises intentionally avoid the investigation; (3) the organizers or managers cannot summarize the reasons for failure accurately, or after a long time, they cannot recall the cases clearly; (4) the failure reasons are various and complicated.

Market economy circumstances, in which construction enterprises exist, are highly uncertain and complicated. During the development of enterprises, it is universal that success and failure are inevitable result of the market competition, and enterprises ought to face it in an ordinary status. However, in China nowadays, construction enterprise managers always wish success but are afraid of failure. They seldom apply themselves to prevent the possibilities of enterprise failure, i.e. miserable consciousness of future. For this reason, it is necessary to study business and management failure in Chinese construction enterprise at present, and find out the factors that are likely to bring on failure of construction enterprise. On this basis, prevention countermeasures can just be advanced to prevent and control failures in Chinese construction enterprise consequently.

In overseas, efforts to reduce construction failures by studying their causes have led to a meaningful reduction in occurrence (Yates 2002).

### 2 Background Information

Success and failure of an enterprise always is the core of the enterprise research. Chen (1999) claims that enterprise failure is a great question for discussion. The fluctuations of enterprise are common phenomenon,

and it can be said that bankruptcy is an objective rule of the market economy. Therefore, role of market economy is that winner exists and loser quits, and then resources can be collocated efficiently.

Wang (2002) indicates that there is not a unified definition of enterprise failure up to the present. In many domestic or overseas papers, enterprise failure is generally considered as a kind of status or result, and financial difficulties and bankruptcy are two representations of enterprise failure. In general, phenomenon of enterprise failure is financial crisis, enterprise deficit, and adversity.

The Phenomenon of the enterprise failure includes crisis, breach of faith, bankruptcy, and liquidation. Concretely, there are a series of phenomenon in failure: financial status continues depraving; investment benefit continues under the minimal average; financial risk intensifies; enterprise cannot pay off debts and credit crisis comes forth; enterprise goes into bankruptcy eventually.

Wang (2002) indicates that object of enterprise failure research is an enterprise that has a series of events above. The research emphases: (1) analyze various milestones that lead enterprise to bankruptcy and failure, and analyze various factors inside and outside of enterprise; (2) analyze various resources and circumstances of enterprise; (3) analyze competitive abilities and competitive consequence.

Construction business and management failure consists of two aspects. The first aspect is marketing failure. Market brings about competition. For example, during bidding, enterprise A succeeded and enterprise B failed, then enterprise B is considered as a failure. Another aspect of failure is that during the construction business and management, enterprise cannot accomplish the anticipated goal due to many reasons. For instance, accidents occurred; construction enterprise could not finance in time and could not complete the project on schedule.

The first failure (i.e. marketing failure) also means that enterprise do not accomplish the anticipated goals. Thus, a definition of construction business and management failure can be presented that construction enterprise cannot accomplish the goals. There are many complicated factors to conduce the project accidents and make a enterprise cannot accomplish its goals. These factors include designing, constructing, supervising, and so on. They will affect the schedule of a project and bring serious consequences. Sometimes, a tiny fault of the design blueprint can still affect a series of progressive processes.

### **3 Methodology**

In this paper, methods used to find out factors that lead to business and management failure in construction enterprise are as follows:

- (1) Conduct literatures of business and management failure of construction enterprises.
- (2) Develop surveys and investigations of failed construction enterprises.
- (3) Collect business and management cases of failed construction enterprise.
- (4) Conduct analysis of the survey results and the case studies.
- (5) Factors that lead to failure of construction enterprises are distinguished from a great deal of datum and cases. In succession, these factors are divided using classification method and sequenced in terms of their respective importance.
- (6) Choose several basic factors from above according to their correlativity with failure, and present some corresponding countermeasures aiming at reducing the possibility of failure.

### **4 The Factors of Construction Business and Management Failure**

In China, many factors affect business and management of construction enterprise. Some factors are so important that they are almost the base of business and management of enterprise and are critical to enterprise, acting as roles leading to failure. There are various and complicated relationships among those factors, which cannot be easily distinguished from failure cases of construction. Through the methods above, a lot of literatures and surveys are processed, and the involved failure factors are concluded. Figure 1 presents these factors and their relationships. Every factor will be analyzed as follows.

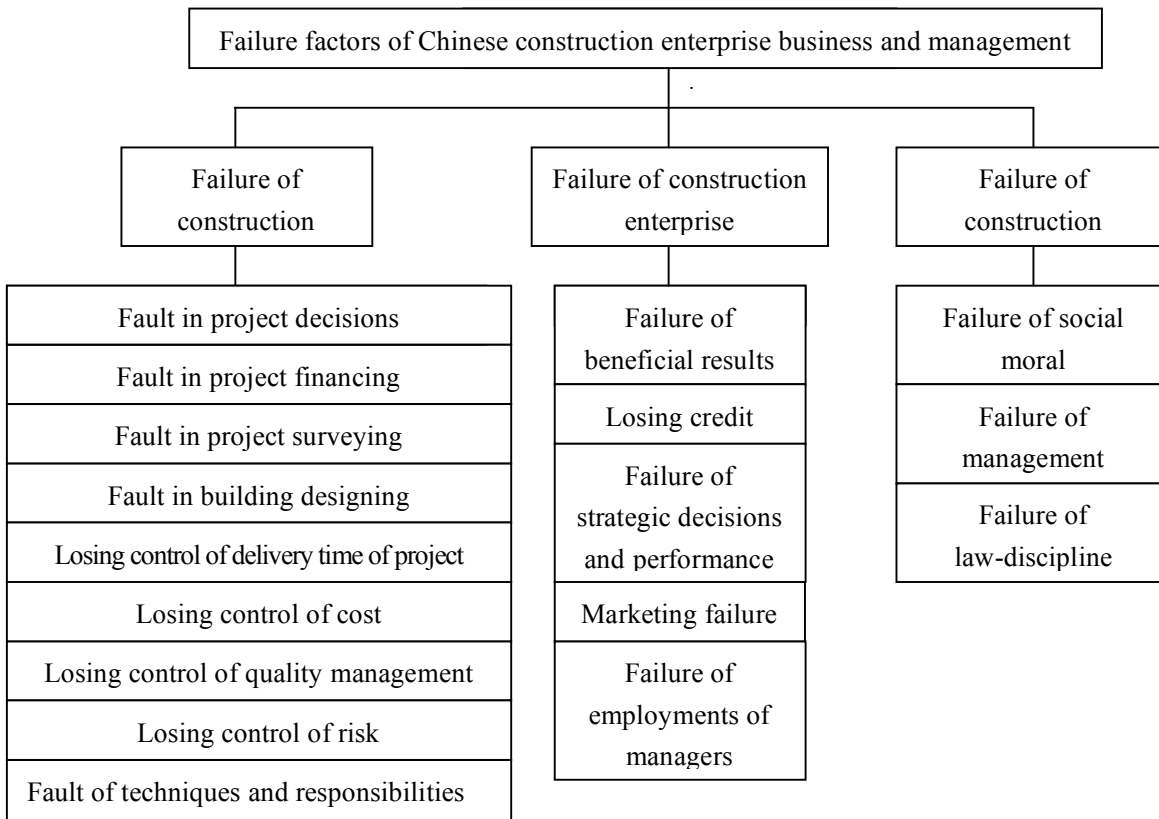


Figure 1 Failure factors of Chinese construction enterprise business and management

#### 4.1 Failure of construction project

In China, Considering failure of business and management on construction enterprise, the first important factor is failure of construction project, which usually lead to fail directly. Commonly, failure of construction project comprises nine aspects as follows: fault of project decision-making, fault of project financing, fault of project survey, fault of project design, losing control of time limit for a project, losing control of investment, losing control of quality, losing control of risk and technique fault. They will be stated as follows.

##### 4.1.1 Fault in project decisions

Project decisions are very important to the entire construction project. If an operator or manager makes a wrong decision from the beginning, it is doomed to bring about unimaginable disasters.

As presented in some literatures, there are many cases about fault project decisions. For example, in China, during the sixties and the seventies of last century, many air-raid shelters were built in some big cities. Some scholars argue that if subways were built instead of the air-raid shelters in those cities then, nowadays subways would have been more widespread in cities. As development of economy and society, those air-raid shelters were gradually abandoned. Consequently, the shelters even brought about ground sinking. In addition, there still are some cases at the same time. Some war industries were built in remote mountainous district where traffics were extremely inconvenient then. A lot of labors, resources and time were spent in building railway connecting with the outside world.

The factors that influence decision-making are as follows: anticipated benefit, site, market, raw and processed materials and techniques. Any mistake decisions of these factors will cause the false

decision-making. First, if calculation of anticipated benefit has errors, project will fail from the beginning. Second, if the site of the project is located inappropriately, the construction and commissioning of the project will have a significant impact on the production and operation. Third, if supplies of raw materials are not adequate in time, the project will be affected. Forth, if market purchase and sale have difficulties, it is doubtful to start a project. Last, if technique standard of a project is not advanced, the project will need reconstruct as soon as it complete. According to some literatures, the last situation often appears in importing techniques from abroad. Sometimes, the imported techniques are already obsolete and lead to huge economic losses.

#### 4.1.2 Fault in project financing

Fault in project financing also conduces failure of construction business and management, and this kind of phenomenon is universal in China. According to some correlative investigations, in China, fund of a project sometimes is divided into many parts: Central government offers one part, district government provides another part, and province government affords the rest. Alternatively, foreign capitals offer one part fund of a project, and domestic funds offer another part. Sometimes, a part of funds is offered, and another part is not received. For instance, district government affords its share of fund, but central government does not afford its portion; or enterprise pays its share fund, but foreign capitals do not pay its part. Many problems exist in the sources and mode of project financing, so many projects cannot be accomplished or are suspended, which results cost increases consequently.

#### 4.1.3 Fault in project surveying

Survey is extremely basic for a construction project to be accomplished successfully. If quality of survey is low-level, which will be used in construction of a project, it maybe results in an unqualified project, bringing heavy economic losses and leading to vital accidents (Xu 2002). Otherwise, if survey document cannot be submitted on time, it will affect schedule of project. As indicated in some literatures, in China, the faults of project surveying often occur in Yunnan province and Guizhou province, which geologic circumstances are very complicated. It is noticed that fault of surveying maybe bring disastrous consequences, and lead the project to be overwhelmed.

#### 4.1.4 Fault in building designing

Building designing is important for a construction project. Generally, building designing involves three aspects: formwork designing, structural designing, and decoration designing.

Hereinto, fault in structural designing commonly result in fatal project fault. According to a recent survey, there is fault in structural designing of ZhaoBaoshan Bridge in NingBo city, which leads great losses. Blueprint of this bridge combines one of cable-stayed bridge with that of level-spanning bridge, unfortunately, structural designing of this bridge follows the rules of cable-stayed bridge, which makes bond part between cable-stayed bridge and level-spanning bridge collapse ultimately. As a result, designing engineers must redesign to reinforce the bridge, which brings about great economic losses.

Whereas, because it is not easy to appraise formwork designing, it cannot be simply judged being good or not. For instance, public opinions of formwork designing of National Great Theatre include two kinds: someone considers it is excellent, and some other does not think so.

Finally, if designing engineers cannot handle decoration designing appropriately, it will weaken appearance aesthetic feelings of a building, and increase progressive maintenance works.

#### 4.1.5 Losing control of delivery time of project

Delivery time is extremely important for a construction project. Even if delivery time advances only one day, it maybe bring about considerable income. On the other hand, delay of delivery time sometimes leads to vital losses (Cong 2003).

Losing control of delivery time of a project mainly involves phase losing control and completely losing control in a project. In term of some statistics datum, currently in China, delivery times of many projects generally take a turn and can be controlled better, especially, which main bodies of projects can complete in time. It is concluded that main bodies can complete in seven days building a common building. Whereas, several ending items of a building sometimes cannot complete even in seven years, which are vividly called “ending marathon.” Another problem is that foundation work cannot harmoniously cooperate with installation work. Usually, foundation construction, facilities base, and installation procedure cannot be arranged in reasonable sequence. Same problem also come forth among joint work, crossed work and parallel work. For instance, installation facilities are not located until foundation project is completed, which finally makes delivery time of whole project lose control.

#### 4.1.6 Losing control of cost

Control of cost is fundamental in a project. In the light of some investigations, a kind of phenomenon mostly appears in every project, which is called “three kinds of excesses”. It means that investment-final-account exceeds investment-budget, investment-budget exceeds budgetary-estimate and budgetary-estimate exceeds estimative-accounts. This kind of phenomenon is relative to the old planned economy system in China. It exists in many projects, leading funds of many projects out of control. As an exception, Yaohang project makes the cost under control and nowadays it is very few in China. In this project, project management firm of Tsinghua University uses agent construction mechanism and control the cost.

#### 4.1.7 Losing control of quality management

Control of quality management is critical to a construction project. Various accidents of base and main body can lead a project losing control of quality. Generally, there are three aspects of losing control of quality:

The first aspect is losing control of structural quality. In China, life span of a common civilian building is designed as 50 years, and that of major and important building is designed as 100 years. Currently, more attention is paid on quality management in a construction project. As an example, “Great Wall Cup of structure” competition holding in Beijing mainly emphasizes the structural quality.

The second is losing control of function quality. Commonly, shortcoming of function quality will increase the progressive maintenance works. Concretely, function designs of some dwelling house are not rational and do not accord with the demands. For instances, corridor is designed too long, space cannot be utilized fully, and toilet is stuffy. As for the details, doors and windows cannot be shut tight, sunshades leak, and floor and wall are cracked.

The third is losing control of esthetical quality. Construction procedure is a unity of product and art. Appearance of a building should be artistic, and it should harmonize with the environment. Therefore, esthetical quality is a important factor for whole quality of a building.

#### 4.1.8 Losing control of risk

Compared with some other projects, a construction project has greater investment scale and longer delivery time. Consequently, there are many latent risk factors in a construction project. Generally, risks of a construction project comprise social risk, natural risk and human risk.

Social risks consist of strikes and parades and so on. Natural risks comprise earthquake, typhoon, tsunami, and so on. Human risks include changes of leader and changes of project manager, they often make materials and information incomplete and lacking (Liu 2004).

Recently, in China, in order to shift risk from a project, government develop some finance methods such as insurance agents and guarantee agents. It is always reported at media that some real estate firms default wages of peasant-workers, default project funds, and even fabricate financial report forms. Aiming at phenomenon above, guarantees can shift risks from construction enterprises on to the guarantee agents or insurance agents, which can deal with risks much better.

#### 4.1.9 Fault of techniques and responsibilities

In most situations, faults of techniques are due to new techniques, which often bring about big problems. Patents of techniques are not always credible because it is very easy to apply talent right for a kind of new technique. If the newly applied talents are not authenticated by a superior department and are admitted achieving a standard criterions, then their applications will possibly result in vital faults.

In addition, there are faults of technical responsibilities, which are presented as follows: construction engineers neglect their duties, or supervisory engineers and project managers are out of their duties. As a typical example of this kind of faults, Shanghai Tunnel Project, which techniques and technical responsibilities are both in troubles, leads up to wasting 1 billion Yuan of funds.

#### 4.2 Failure of construction enterprise

Considering failure of business and management on construction enterprise, the second important factor is failure of construction enterprise. It can be divided into five aspects: failure of beneficial results, credit failure, strategy failure, market failure, employment failure. Hereinto, four preceding aspects will result in frustration of bidding for an enterprise. Even the enterprise successes in bidding luckily, if it cannot provide appropriate remedial measures, progressive construction processes will be affected badly.

##### 4.2.1 Failure of beneficial results

Failure of beneficial results of a construction enterprise should be analyzed from three respects: fault of economic benefits, fault of social benefits and fault of environmental benefits. Any one of these can bring about enterprise failure.

Fault of economic benefits actually are represented that there are some troubles on input and output of an enterprise. An enterprise ploughs into a lot of labors and materials. It will bring social benefits to society and bring environmental benefits to environment. Sometimes, a project will bring some effects to environment, such as pollutions, unreasonable development of resources, and harm on ecological balance.

##### 4.2.2 Losing credit

Credit of a construction enterprise involves three parts: enterprise's credit with government, enterprise's credit with consumers and enterprise's credit with employees.

An enterprise can lose its credit with government in some cases. Concretely, it does not abide by laws, it escapes from paying taxes, it does not obey national instructive plan, and it engages in harmful activities. If an enterprise acts like above, its business and management will fail consequently.

Enterprise's credit with consumers is very important to its business. If a construction enterprise loses confidence of consumer, it will lose the market.

Similarly, enterprise's credit with employees is also critical to itself. If employees have not enough confidence with enterprise, they will no longer expect to be awarded because of their great efforts, they will not exert themselves to the utmost at work. Managers must let every staff know value of his work and have a sense of achievements. It will encourage staffs to work hard. It is universal in many construction project that workers work half-heartedly. Construction is a procedure that regroups various types of materials through labors. In one word, labors plus materials equals a project. If employees work carelessly and use inferior materials, enormous hidden troubles will come.

##### 4.2.3 Failure of strategic decisions and performance

Failure of strategic decisions and performance includes fault of strategic decision-making and fault of strategic implementation. The latter deals with strategy management, it is a process to achieve strategic objectives.

Strategic planning is one of the most important factors that can increase a firm's adaptation to the environment (Arditi 2000).

Strategy and strategy management are two different concepts. The first is to constitute the strategy using various decision-making methods and techniques. In order to obtain a comparative advantage prior to the competitors, managers should seek appropriate organizational positioning for their enterprises.

Another is to manage the strategy, to impel enterprise to achieve objectives of strategy. During strategic implementation process, Objectives cannot always be achieved. Therefore, Deviations must be corrected to ensure the final objectives.

#### 4.2.4 Marketing failure

Phenomenon of marketing failure of a construction enterprise is as follows: an enterprise fails in bidding, market information is asymmetrical and ineffective, and an enterprise loses market credibility. If an enterprise wants to win in bidding, it will need to grasp whole market information. If an enterprise does not know completely about buyer's demands and bargaining conditions, its information is ineffective. If seller and buyer cannot exchange information smoothly, then information is asymmetrical (Wu 2004). In addition, if product of an enterprise cannot satisfy consumers, market credibility of this enterprise will be damaged. Anyway, market credibility is extremely important to an enterprise. For example, if a construction enterprise often wins LuBan Prize, which is a prize in construction industry, it will be a kind of advertisement. It may bring unexpected opportunities for an enterprise.

#### 4.2.5 Failure of employments of managers

Enterprise failure mainly involves employments failure, especially project managers. A project manager is crucial to a project, and it is significant how to make use of a project manager. If project manager's managerial skill is master, his enterprise will win; otherwise totally lose. Different project manager deals with same project, destiny of this project will be different. A project manager can build a high-quality project; he can also do a collapse project. Therefore, in order to increase economic benefits, it is important to cultivate and choose a qualified and excellent project manager for a construction enterprise.

### 4.3 Failure of the construction manager

Failure of construction manager is also correlative to business and management failure of a construction enterprise. It can be divided into three parts: failure in social moral, management failure and law-discipline failure.

#### 4.3.1 Failure of social moral

Failure of social moral of an enterprise includes following phenomenon: Cheating, seeking excess profits, shifting off social moral, and disobeying social ethics. A manager of enterprise commonly has held his fixed moral and value criterions when he enters the enterprise. If he is defective in professional moral, he will be capable to neglect his duties and chase additional benefits.

#### 4.3.2 Failure of management methods

Management methods combine science with art. A qualified manager should be provided with two kinds of knowledge, first is technological knowledge, and another is humanistic knowledge. In addition, a manager should be able to put him in other one's position and be considerate of them, and he should know his own limitations.

If a manager is not provided with sufficient abilities and cannot entrust somebody else for his work, it will bring on management failures.

### 4.3.3 Failure of law-discipline

At present, it is universal that a construction enterprise has troubles in law and discipline in China. For example, acting in collaboration maliciously, damaging benefits of nation, embezzling public funds, escaping taxes, and disobeying national instructive plan. Especially, most private enterprises often disobey laws.

Law-discipline troubles of enterprises will affect normal economic system, and will finally lead to business and management failure of construction enterprises.

## **5 Prevention Countermeasure of Construction Business and Management Failure**

Having discussed various factors relative to failure of business and management on construction enterprise and relationships among them, some scientific identification can be concluded, and some countermeasures can be put forward to reduce instances of business and management failures of construction enterprises.

### 5.1 Scientific identification and prediction of failure

Failure of construction business and management involves studies of various fields. Only through multidisciplinary and multi-angle discussing, scholars can realize origins of failures. Only based on comprehensive analysis of failure factors, they can build scientific and rational prediction models, and obtain maximal prevention and treatment with minimal cost (Wang 2002).

In order to predict scientifically, many economic methods should be used for reference. For instance, some fundamental methods in contemporary Western economics are to analyze functions of economic variables, build mathematical models, make decisions, and predict. Research of enterprise failure need adopt this kind of methods to use mathematics and statistics to build prediction model of failure.

Generally, backgrounds of enterprise failures are complicated, and they cannot be explained with only one factor. It can be said that various factors produce one disease, and one factor brings various diseases.

### 5.2 Evaluation of competitive abilities

It should be noted that all of failures of a construction enterprise could be attributed to lack of competitive abilities. It is a normal phenomenon for a construction enterprise to fail in market environment. In order to prevent failure, it is important to cultivate enterprise competitive abilities of an enterprise.

Competitive abilities of a construction enterprise include three parts: marketing abilities, project management abilities and innovation abilities (Yao 2003).

A firm must be different enough to have a unique advantage over its competitors, especially in a tough market (Arditi 2000). Competitive abilities of enterprise are critical to an enterprise, and these abilities also include abilities of manager. An enterprise or a project has life, sometimes its life is longer, sometimes is shorter. It is important for an enterprise or a staff to maintain health status. Consequently, evaluation of competitive abilities is a crucial countermeasure to prevent failure for an enterprise.

### 5.3 Improving construction management qualities

Qualities are important for a project, an enterprise, or a manager. A manager should emphasize enterprise's qualities, and a staff should pay attention on his qualities.

Qualities of an enterprise, a staff and a manager are different. Therefore, it must be emphasized that everyone should study in all life. Bill Gates ever said that maximal salary he pays out for an employee is to train him. He considers that it is maximal benefit to provide studying chances with employees. Regrettably, in China, maximal treatment required by employees is money award.

Development of a construction enterprise lies on development of employee's abilities. Best method to improve qualities of employee is to promote employee training and make him a talented person.



#### 5.4 Independent professional inspecting and supervising

Business and management of a construction enterprise needs independent professionals to supervise. For instance, cost engineers can evaluate exactly and budget prudently; chief inspectors can supervise efficiently; registered structure engineer can calculate accurately and save money; an independent construction professional can furnish full time inspection and strong supervision should be provided to avoid ‘short cuts’ by workers.

Sometimes, improper construction designing will lead to waste. For instance, if Structural design is as secure as possible, it will construct a blockhouse instead of a building. Mr. Li Ruihuan ever criticized projects in Tianjin, which may be described as ‘do not beat one’s brain to build adding unnecessary reinforcing bar to avoid progressive collapse’, ultimately, it result in great waste.

A construction enterprise should make use of certified professionals and intermediary agencies. In business and management of construction, intermediary agencies can be employed in many fields. For instance, in Hang Yao project, accounts with contractor is settled by an audit agency, it saves a large number of funds.

#### 5.5 Adopting synthetic prevention measures for failure

Generally, without obtaining the goals, an enterprise fails. Failures will result in losses of tangible assets and invisible assets. The first can be calculated by economic figures, including losses of finance and material resources. Whereas, the latter cannot be calculated by money, such as brand depreciating, enterprise culture is slack and strategy is confusing (Wang 2002).

Failures will bring losses of social fortune and resource. It means that social fortunes are collocated wrongly, and great deals of social wealth are destroyed. It even will result in a mass of unemployment, accidents, disasters, crimes, and so on.

In one word, losses brought by failure are various. It is necessary to analyze failures from various fields and various angles, and adopt synthetic prevention countermeasures to control failure accordingly.

## 6 Conclusion

This paper first puts forward background and methodology of research on business and management failure of Chinese construction enterprise. Then, it gives definition of business and management failure of construction enterprise and considers two aspects of this kind of failure. It conducts relative literatures and investigations of construction failure. On the base above, it analyzes various factors relative to the failure and relationships among them, and classifies those factors according to the importance. Last, the paper aims at characters of those factors and brings forward some countermeasures to predict and prevent failure effectively.

These countermeasures include scientific identification and prediction, evaluation of competitive abilities, improving construction management qualities, independent professional inspecting and supervising, and synthetic prevention of failure. Nowadays, in China, the most important thing is scientific identification and prediction of failure for managers of construction enterprises. It can help them to realize the necessary to predict the fields and possibilities of failure, distinguish factors and occasions that can bring about failures, and analyze synthetic effects of various factors. It can also forecast coming crisis, and help construction enterprises adopt some necessary remedies and countermeasures to avoid failure. Only not being afraid of failures, managers can easily face difficulties and opportunities, and lead their enterprises to success. Accordingly, efforts and experiences of failures can obtained from durative applications of countermeasures in business and management of Chinese construction enterprises, then countermeasures that are more proper will be advanced and the deviations will be reduced.

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