

RISK CULTURE REGARDING BUILT ENVIRONMENT IN LARGE-SCALE DEVELOPMENT: THE SHANGHAI CASE

Nankai XIA¹, Sijie LIU², Hailan ZHANG³

Abstract

The culture of built environment is gradually formed during the urban development. The most important part of the culture is cognitive and memories that people sense the city and that is the value of historic area and protection. However, China now is experiencing rapid development and changes since China's reform and opening up in 1978. With the speeding up of industrialization as well as rapid expansion of urban area, the built environment is totally different from the city used to be and all the cognitive and memories about the city are facing the danger of extinction. And what China is going through these years can reflect directly the contradiction of the protection and development. Therefore, Shanghai is a good case to study a system of culture risk.

The report explains the culture risk from risk identification, assessment, warning, and the management. In addition, culture risk evaluation system with certain risk factors is established. And this system can assess the culture risk of the built environment from different angles and levels. Furthermore, management measures based on the evaluation before are also proposed and provide some reference for the decision makers.

There are five parts in the paper. The first part is to give the background and significance of the research, and define the major concepts. The second part focuses on culture risk identification, which includes figuring out potential risks and their characters and origins, and also predicting the possible consequence. The third part is culture risk assessment, which is the most important part of the paper. In it, several

¹ College of Architecture and Urban planning Tongji University, Shanghai, PR China -
tjupi@sina.com

² College of Architecture and Urban planning Tongji University, Tongji University, Shanghai, PR
China - 15000270765@163.com

³ Tongji Urban Planning & Design Institute, Shanghai, PR China-zhhlxb@gmail.com

elements influencing culture of physical space are raised, each is divided into a couple of indicators; a system of multi-level assessment is built up. The fourth section is warning and management of culture risk. It will look into the subjects of management and suggest proper solutions. The last part is case study, in which Fuxing Wharf Area will be taken as the example to access culture risk.

Key words: culture risk; risk evaluation; risk management

1. Research Background and Significance

The urban culture of built environment is the accumulation of history. While it's not so simple to be equaled to history which can be recorded, it's a concept based on both time and space, which is changing all the time. The events happened earlier can be so vague for us because of our absence under that time and space. Luckily there is a path for us to get closer to the earlier culture and daily life—the physical space. In certain physical space, it's possible for us to sense how people behaved in it and how they looked upon the environment. Usually we get the information from the texture, color, and all the other the characters of the physical space.

Today's China has been experiencing rapid development and tremendous changes since the Reform and Opening-up in 1978. As one consequence, thousands of valuable historic buildings and blocks are destroyed. Together with the disappearance of the physical space which carries human memories, our city is losing their characters, and we are losing our culture. As we can see today, more and more cities in different continents are changing towards a certain standard city form which is occupied with high buildings.

1.1 Theory Introduction

In different kinds of research and reports, there are a lot of study about cultural conflicts and cultural alienation. While cultural risk, especially in urban development, is rarely mentioned.

As represented by Rush and Douglas, culture risk commentators propose The Cultural Theory of Risk. They hold the opinion that it is meaningless to merely focus on society structure of culture. There are various kinds of risk culture existing in society: political risk, economic risk and natural risk. It is those three kinds of risk culture that causes the disordered and unorganized society structure. However, the culture risk brought by large-scale development is not included in their theory.

In China, the study about culture risk in large-scale development is exactly being started recently. The studies mainly focus on the fields of enterprise culture risk and

transnational business culture risk. When referring to risk study in urban development, researches are mainly about economic risk and ecological risk. As culture risk study is barely started in China, it's necessary to learn from those mature theories and techniques.

1.2 Concept Definition

According to the work of Prof. Xia Nankai (2007), the large-scale urban development project is defined as the project that is led by government and constructed in a large and contiguous area, no matter located in new urban areas or old districts. Unlike projects led by economic benefits, large-scale urban development projects with various and complex functions play an important role in urban development strategy.

In this paper, the object faced with culture risk in large-scale urban development is limited to physical space, including space form, scale, texture, style and color etc.

1.3 Causes of Culture Risk

1.3.1 Economic Aspect

1) Economic Development

Economic development brings new culture and new lifestyle which risks former culture.

2) Function Promotion

When the function of the land is promoted or changed into a great extent, it is likely that the historical buildings are facing higher risk of being knocked down.

3) Infrastructure Construction

Infrastructure construction plays an important role in urban development. It is possible that a historical culture can be damaged by the constructing of a subway line or a street.

1.3.2 Political Aspect

To a certain extent, the culture risk is caused by the leaders' disregarding of the historical and cultural heritage conservation.

1.3.3 Technical Aspect

New architecture technology and materials:

The application of new architecture technology is the symbol of the new architecture culture, meeting the requirements of modern city. Historical and cultural heritage with traditional technology and material is impacted in the process of new architecture material's application.

1.3.4 Social Aspect

Culture is a concept which is changing and developing all the times. When certain form of culture fits in the development of modern society, it faces smaller risk of being destroyed relatively. On the contrary, the risk may be much higher.

2 Identification of Culture Risk

Risk identification is the first and the fundamental step of the progress of risk management. Risk managers can never handle the possible culture risk in project development without a correct identification of the risk. There are 3 aspects to identify.

2.1 Identify Potential Risk and Its Characteristics in a Project

In risk identification, figuring out what kinds of risks we are facing is the first step, and the analysis of their nature and influence follows. It is necessary to analyze the factors influence project development as completely as possible and make a list of these possible risks.

2.2 Identify Principal Risk Source

The origins of culture risks vary in different projects. They are relevant to the appearance and developing pattern of the risk. With the understanding of risk developing pattern, we are able to measure the possibility and influence of the risk. Furthermore, the handling and management of the problems can be easier.

2.3 Predict Possible Impacts of Culture Risk

The final purpose of risk identification is minimizing or even eliminating the adverse effects of project risk. After the identification of risks and their origins, predicting the possible adverse effects is necessary.

3 Evaluation of Culture Risk

3.1 Selection of Culture Risk Indicators

3.1.1 Single Indicator

Speaking of the culture risk in urban built environment, the index factors are closely associated with the impacts on physical space from the large-scale development. There are seven aspects which seem to be impacted most directly. They are city texture, city environment, city scale, architecture style, city color, landmark and city sculpture (Table 3-1-1).

Table 3-1-1 The Assessment of Culture Risk Indicators

Elements of assessment	Brief index factor of assessment	Specific index factor of assessment	Assessment method
City texture	The space pattern of buildings The gridding and framework of streets system The segmentation and demarcation of blocks	The building arrangement pattern (enclosed pattern, line-and-row pattern, free pattern)	Expert scoring method
		How the planned street network influence the characteristic of original street network	Fuzzy comprehensive evaluation method
		How the planned street network connects the original street network	AHP method
		Comparison of original street network density and project street network density	
		The gridding and framework of the street system	
		The patterns of streets	
		The scale of block	
City environment	Axis design	Axis pattern in the region	Questionnaire investigation method
	Sight corridor	Sight corridor	
	Major building interface	Changes of building interface	AHP method

	Skyline	Changes of skyline	
City scale	Building volume	The volume of new built buildings and preserved architecture	Index factor assessment method
	Building height	The volume of new built buildings and neighboring buildings	Expert scoring method
	Street scale	W/H (width/height) of the street	AHP method
	Block scale	The height of new built buildings and the originals	
		The impact of building height on the preserved architecture	
		The scale of the block	
Architecture style	Pattern of the architecture plan	Pattern of the architecture plan	Index factor assessment method
	Pattern of the architecture façade	Pattern of the architecture façade	AHP method
	Architecture material	New material and the original	
	Architecture style	The degree of style unification	
	Pattern composition	Architecture symbol	
Architecture color	Major color of block	Art and technic of architecture treatment	
	Color coordination	How the characteristic color of historic block is preserved	Index factor assessment method
	Color unification	Characteristic architecture color	Weighted method
		The unification degree of new built color and the original	
		The degree of association between architecture color and local building material	
Landmark	Characteristic	To what degree is the	Expert scoring

	architecture	characteristic architecture preserved and made use of New landmark's impact on original block	method AHP method
Sculpture	Characteristic sculpture	To what degree is the characteristic sculpture reserved Neighboring space design of the characteristic sculpture Changes of new sculpture style	Expert scoring method AHP method
...	...		

3.1.2 Comprehensive Indicator

In the process of culture risk assessment of urban built environment, a comprehensive indicator is required. The indicator is brought out in following three steps:

- 1) Choose the indicators which reflect the characteristic of the physical space in the region.
- 2) Give each indicator its value according to its weight in all the factors.
- 3) Analyze the risk of each indicator with mathematic method and add up all the risks

3.2 Assessment System

There are two main parts in this assessment system.

3.2.1 Identification of Regional Culture Valuation_

Identification of the regional culture value is the first step to do in the process of identifying the culture risk. Determine the level of culture value (Table 3-2-1). Large-scale development brings larger culture risk to the region which has higher culture value. The determination can be finished by expert scoring method, or the existing result brought out by statutory planning.

Table 3-2-1 Assessment of culture value in region

The description of culture value	The characteristic of culture value	the level of culture value (color block)	The numerical value of culture
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degree			value
Extremely low	Almost no culture		[0, 0.2)
low	With a small amount of culture resource		[0.2, 0.8)
general	With noteworthy culture resource		[0.8, 1.2)
high	With culture resource to be preserved		[1.2, 1.6)
Extremely high	With extremely rare culture resource		[1.6, 2.0]

3.2.2 Assessment of Culture Risk Indicator

1) Select Indicators

The culture of urban physical space is accumulated along with the history of the space. The selection of index factors varies according to different regions with different functions and characteristics. In order to reflect the culture risk directly, the selection focus on the connection between factors and physical space characteristic. The index factors which have more direct connections with space characteristic should be selected.

2) Evaluate Indicators

An indicator weighs differently in different regions. For a given region, the weights of every selected indicator should be determined. Experts are invited to compare the importance of two factors in each pair. The factors are selected from table 3-1-1. The weights of factors are calculated with AHP method. Use number 1-9 to mark different levels of importance beyond the other factor (Table 3-2-2).

Table 3-2-2 The degree of relative importance for certain two indicators in culture risk influence

The degree of relative importance A compared to B	1-9
Extremely important	9
Much important	7
Relatively important	5
Slightly important	3
As much important	1

3) Define Indicators

Considering the impact on each indicator from large-scale city development, we divide the risk into 5 levels. They are healthy, okay, alert, dangerous and extremely dangerous (Table 3-2-3). There is barely risk when the status is healthy. When it is okay, the risk appears, while still under control. Status “alert” means attention from planning and developing agent is needed. Something should be done to avoid the risk. In the next status “dangerous”, it is necessary to make a thorough strategy and handle the risks. When the top status “extremely dangerous” is reached, the culture risks are possible to lose control at any time, destroying culture resource of the region. Risk control is vital.

Table 3-2-3 Levels of culture risk

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
healthy	Barely risk		[0, 0.2)
okay	Risk within limits		[0.2, 0.4)
alert	Risk noteworthy		[0.4, 0.6)
dangerous	Serious risk		[0.6, 0.9)
Extremely dangerous	Risk anytime to lose control		[0.9, 1.0]

3.2.3 Comprehensive Risk Assessment

Analyze the relationship between different single risks, forming the comprehensive risk assessment. First, determine the numerical values of each risk indicator with the expert scoring method, AHP method and questionnaire investigation method. Considering different factors in different regions, calculate the weight of each factor. Combine both the numerical value and the weight to figure out the factor risk (Table 3-2-4). Secondly, perform matrix analysis with factor risk and culture value in certain region to finally get the comprehensive culture risk (Table 3-2-5).

Table 3-2-4 Matrix analysis of different risk factor weight

		The level of culture risk				
		Healthy [0, 0.2)	Okay [0.2 , 0.8)	Alert [0.8 , 1.2)	Dangerous [1.2, 1.6)	extremely dangerous [1.6, 2.0]
The relative	As much important					
	Slightly					

importance of two factors	important					
	Relatively important					
	Much important					
	Extremely important					

Table 3-2-5 Matrix analysis of comprehensive risk assessment

		The level of culture risk				
		Healthy [0, 0.2)	Okay [0.2, 0.8)	Alert [0.8 , 1.2)	Dangerous [1.2, 1.6)	Extremely dangerous [1.6, 2.0]
Degree of culture value	Extremely low [0, 0.2)					
	Low [0.2, 0.8)					
	General [0.8, 1.2)					
	High [1.2, 1.6)					
	Extremely high [1.6, 2.0]					

4 Warning and Management of Culture Risk

4.1 Warning System of Culture Risk

The warning system is to predict the culture risks possibly happen. The fundamental of prediction is information collecting and risk monitoring. We perform data analysis and carry out the risk identification, risk assessment. The goal of the system is to prevent the risk from eruption, to minimize the adverse effect on regional culture.

The base of culture risk warning is culture risk assessment, which can be used to develop the standard of warning. Divide the warning interval into 5 situations according to the index of culture risk. Each situation is represented by a single color. Blue represents healthy situation, not necessity for warning. Green represents okay, slight warning is needed. The third is alert situation represented by yellow. When the

culture risk is higher, orange warning is sent out to alert the subject of development. The most serious situation is red warning with extremely high risk of damaging and destroying culture resource. Warning should be send out immediately to avoid the adverse effects. The assessment table is listed below (Table 4-1-1).

Table 4-1-1 Matrix of comprehensive culture risk assessment

Warning intervals	Risk situation	Level of risk (color block)
blue	<p>Culture environment is not disturbed or destroyed.</p> <p>Structure of the culture system is complete.</p> <p>System function of recovering and regeneration is powerful.</p> <p>There is hardly problem in culture resource.</p>	
green	<p>Culture environment is slightly damaged.</p> <p>Structure of the culture system is comparatively complete.</p> <p>System function of recovering and regeneration is good.</p> <p>There is hardly problem in culture resource.</p>	
yellow	<p>Culture environment is damaged to some extent.</p> <p>Structure of the culture system is influenced.</p> <p>System function of recovering and regeneration is weak.</p> <p>The culture problem appears.</p>	
orange	<p>Both culture environment and structure of the culture system are damaged.</p> <p>Function of the system is weaker, difficult to recover from outside interference.</p>	

	Culture problem is serious.	
red	Both culture environment and structure of the culture system are destroyed. System function lost, much difficult to recover from outside interference. Culture problem is more serious.	

4.2 Management System of Culture Risk

4.2.1 Subject of Culture Risk Management

There are four management subjects divided according to the roles they play in the process of management: manager, developer, designer and implementer. Government is the most important and powerful subject.

The management organization is made up by the government and social agent. Government (especially department of cultural affairs and research center in university) has the responsibility of increasing culture risk awareness. On the other hand, social communities such as cultural city center are more flexible to fill in the gap in which government can't reach. They may perform well in the fields of risk identification, monitoring and warning.

4.2.2 Solutions of Culture Risk Management

Before the very beginning of the building, it's necessary to publicize the warning planning, supervise the illegal buildings, collect feedback from the public and evaluation from experts. When the development begins, introduce various solutions according to the situation and warning level of the culture risk (Table 4-2-1).

Table 4-2-1 Solutions suggested according to different risk levels

Warning level	No warning	Slight warning	Medium warning	Serious warning	Special warning
Warning color	blue	green	yellow	orange	red
Status of risk	healthy	okay	alert	dangerous	Extremely dangerous

Measures	Supervise the process of development.	Take measures to limit and avoid the risk	Avoid the risk and keep the risk from being more serious.	Figure out solutions together with relative department.	Organize urgent management group to preserve specifically on the physical space.
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5 Case Study

Research on culture risk of a region includes risk identification, assessment, warning and management. Among all the aspects, assessment system is the core part, on which we will put especially emphasis in the case study.

5.1 Case Selection

5.1.1 Case Introduction

The case of Fuxing Wharf Area⁴ is located in a community named Dongjiadu of Huangpu district, Shanghai. The area's boundaries are Baidu road to the north, Dongjiadu road to the south, south Zhongshan road to the west, while Huangpu River lies in the east of (Figure 5-1-1). The total land use area is 16.40ha, while the plus area of all the blocks is 12.89ha. Existing construction area is 199,100m². The length of the bund along Huangpu River is 950m.

⁴ Shanghai Tongji Urban Planning & Design Institute received the invitation of Shanghai Huangpu River developing bureau in 2007 to finish 《Conservation-oriented development planning of Fuxing Wharf Region》. The author investigated the developing progress on-site. He found the planning was carried out exactly as its original intention, only slowly in speed. The case is considered to be fit for the following risk assessment.



Figure 5-1-1 Location of Fuxing Wharf

5.1.2 Reasons for Choosing Fuxing Wharf

The area locates in the riverside area outside the old town of Shanghai. This area used to be a typical wharf area of Shanghai. The land use was a mixture of traditional Chinese business, trade, physical distribution and residence. The region was characterized by little-scale blocks and high building density. The unique culture of Fuxing Wharf area can be sensed when we get close to the old architecture and space, for example, Waima Road, Wharf Road, riverside warehouse, the Customs and so on.

5.2 Assessment of Culture Risk

5.2.1 Identification of Regional Culture Risk

The area of Fuxing Wharf saw the industrialization progress of Shanghai. The city prospered on the basis of river. The ethnic capitalists gathered here to take advantage of the convenient water transportation. The culture characteristic of the area lies in the following aspects.

1) The warehouse

Eight warehouses are the most featured buildings in the area. Five of them are located on the riverside (Figure 5-2-1), and the other three are separately for medicine, fruit and freezing. The total architecture area is 65,000 m².



Figure 5-2-1 The five warehouses along the river

2) The streets

“Competition for the wharf” reflects the importance of wharf in the time of water transportation. The streets lie perpendicular to the river densely (Figure 5-2-2). Streets are named after different industries, families and areas.



Figure 5-2-2 Main streets

3) The neighborhood

Each neighborhood is owned by a certain industry, gang or family. The average area of a neighborhood is less than 1ha. In the neighborhood, business and shops are outside, while residence is located inside. Storage, business dealers and accounts settlement are all carried out in the neighborhood.

In summary, as the most typical wharf site of Shanghai, Fuxing Wharf area has a collection of valuable historical buildings and spaces. We can divide them into 3 elements. First one is the shops which reflect the society network. Second one is the warehouse and yards symbolizing the prosperous water transportation. The third is the neighborhood filled with characterized residential buildings “Linong”. With expert scoring method assess the culture value of Fuxing Wharf Area is as follows (Table 5-2-1).

Table 5-2-1 Culture valuation of Fuxing Wharf Area

The description of culture value degree	The characteristic of culture value	The level of culture value (color block)	The numerical value of culture value
high	With culture resource to be preserved		[1.2, 1.6)

5.2.2 Assessment of Culture Risk Indicator

1) Select Indicators

Fuxing Wharf Area is multifunctional with shops, warehouses and yards for goods in majority. There is hardly featured color and sculpture. So we remove the color and sculpture elements from the assessment table (Table 5-2-2).

Table 5-2-2 The assessment of indicators of culture risk in Fuxing Wharf Area

Elements of assessment	Brief index factor of assessment	Specific index factor of assessment
City texture	<p>The space pattern of buildings</p> <p>The gridding and network of streets system</p> <p>The segmentation and demarcation of blocks</p>	<p>The building arrangement pattern (enclosed pattern, line-and-row pattern, free pattern)</p> <p>How the planned street network influence the characteristic of existing street network</p> <p>How the planned street network connects the existing street network</p> <p>Comparison of existing street network density and project street network density</p> <p>The gridding and network of the street system</p> <p>The patterns of streets</p> <p>The scale of block</p>
City environment	<p>Axis design</p> <p>Sight corridor</p> <p>Major building interface</p> <p>Skyline</p>	<p>Axis pattern in the region</p> <p>Sight corridor</p> <p>Changes of building interface</p> <p>Changes of skyline</p>
City scale	<p>Building volume</p> <p>Building height</p> <p>Street scale</p>	<p>The volume of new built buildings and preserved architecture</p> <p>The volume of new built buildings and neighboring buildings</p>

	Block scale	W/H (width/height) of the street The height of new built buildings and the originals The impact of building height on the preserved architecture The scale of the block
Architecture style	Pattern of the architecture plan Pattern of the architecture façade Architecture material Architecture style Pattern composition	Pattern of the architecture plan Pattern of the architecture façade New material and the original The degree of style unification Architecture symbol Art and technic of architecture treatment
Landmark	Characteristic architecture	To what degree is the characteristic architecture preserved and made use of New landmark's impact on original block

2) Evaluate Indicators

The value of each indicators is different in culture issue. It's necessary to compare the factors and calculate their weights. The 3 valuable culture elements: warehouse, street and neighborhood fit in with the assessment elements of mark and city scale. While the architecture style and city environment are less characteristic. On this analysis, we figure out the weight of each element (Table 5-2-3).

Table 5-2-3 Weight of culture risk element in Fuxing Wharf Area

Index element	Weight
City texture	5
City environment	5
City scale	7
Architecture style	3
Landmark	9

3) Define Indicators

Urban Texture



Figure 5-2-3 original texture the site



Figure 5-2-4 planned texture of the site

Figure 5-2-3 and 5-2-4 show the original and planned texture. By analyzing the index factors of city texture with the methods of experts scoring and AHP , we can get the comprehensive assessment (Table 5-2-4).

The building arrangement pattern: there used to be two types of textures. One is stand-alone texture which is formed by warehouses along the Huangpu River. The other one is enclosed pattern texture formed by residential building, hotels, banks and pawnshops. During the development, we keep the stand-alone texture and reform the original enclosed texture. Regroup each neighborhood to strengthen the enclosed texture. Integrate all the neighborhoods to form an integrated area.

The gridding and network of streets system: keep the streets network with the trend of extending to the river.

The scale of block: keep the original scale of block, divide the block with street network.

Table 5-2-4 Culture risk assessment of city texture

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
okay	Risk within limitation		[0.2, 0.4)

Urban Environment

Consider skyline and major building interface to be the index factors of city environment. By analyzing the two factors with the methods of experts scoring and AHP, we can get the comprehensive assessment (Table 5-2-5).

Table 5-2-5 Culture risk assessment of city environment

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
okay	Risk within limitation		[0.2, 0.4)

Skyline

The original skyline is higher in the middle and lower on the two ends. There are some tall buildings inserted, creating a complex and charming skyline of the area (Figure 5-2-5). While in the planning, we keep the diversity of the skyline, raising the building height in the south. The skyline seems to be higher on the two ends, and lower in the middle (Figure 5-2-6).



Figure 5-2-5 original skyline



Figure 5-2-6 planned skyline

Major building interface

The building interfaces formed by warehouses are the major interfaces in riverside area (Figure 5-2-7). We keep the space pattern and culture elements of the original interfaces, and change the utilization of the warehouses (Figure 5-2-8).



Figure 5-2-7 original riverside interface



Figure 5-2-8 planned riverside interface

Urban Scale

Consider building volume and street scale to be the indicators of city scale. By analyzing the two factors with the methods of experts scoring and AHP , we can get the comprehensive assessment (Figure 5-2-6).

Building volume

Keep the volumes of original warehouses and continue volumes in new buildings.

Street scale

Make a comparison of South Zhongshan Road, Waima Road and Wharf Road. Analyze the value of W/H. For Waima Road and Wharf Road, W/H=1. For South Zhongshan Road, W/H=2. The scale sense of South Zhongshan Road is comparatively weak (Figure 5-2-9).

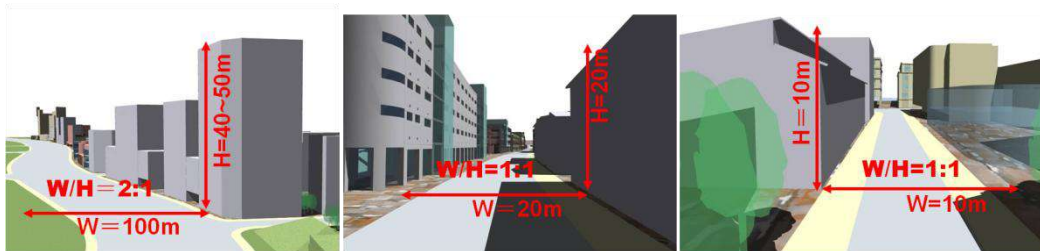


Figure 5-2-9 Street scale of South Zhongshan Road, Waima Road and Wharf Road

Table 5-2-6 Culture risk assessment of city scale

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
alert	Risk noteworthy		[0.4, 0.6)

Architectural Style

Keep original architecture style when renewing the warehouses. However, the modern style of new built hotels, office buildings and shopping malls is so incompatible with the original style (Table 5-2-7).

Table 5-2-7 culture risk assessment of architecture style

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
alert	Risk noteworthy		[0.4, 0.6)

Landmark

Consider characteristic architecture to be the indicator of landmark (Table 5-2-8). The New Wharf Square, the inner court of Jiqingli and a couple of warehouses are preserved. The original and planning are shown in Figure 5-2-10 to Figure 5-2-15.

Table 5-2-8 culture risk assessment of landmark

Description of risk	Status of risk	Level of risk (color block)	Numerical value of culture risk
healthy	Barely risk		[0, 0.2)



Figure 5-2-10 Existing 4#5# warehouse and the transformation



Figure 5-2-11 Existing 1# warehouse and the transformation



Figure 5-2-12 Existing 2# warehouse and the transformation



Figure 5-2-13 Surrounding of 1# warehouse and the transformation



Figure 5-2-14 Inner court of Jiqingli and the transformation



Figure 5-2-15 Existing space between 3# and 4# warehouse and the transformation

4) Comprehensive Risk Assessment

Integrate the factor weight and level of culture risk to figure out the risk of each element with the method of expert scoring (Table 5-2-9).

Table 5-2-9 Culture risk level of each culture risk element

		The level of culture risk				
		Healthy [0, 0.2)	Okay [0.2, 0.8)	Alert [0.8 , 1.2)	Dangerous [1.2, 1.6)	Extremely dangerous [1.6, 2.0]
Index element	City texture					
	City environment					
	City scale					
	Architecture style					
	landmark					

Culture risk which the index elements are facing is low. Element levels are not necessary to be adjusted in the condition of high culture value. After integrating the risk level of 5 elements, we get the final comprehensive culture risk assessment. In a word, culture risk level of the case is okay.

6 Conclusions

As is known culture valuation of physical space is one of the most important parts of urban culture, since it carries all the memory and reflects culture context. This paper tries to construct a systematic analytical method applying to large-scale development of a city. This system is integrated by culture risk identification, assessment, warning and management, in which, culture risk assessment is mostly emphasized because of its key function in this system. With this analytical method we are able to minimize the risk with which we may face in the progress of city development. In this paper, management strategies are also recommended to provide a risk solution for the city planner.

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