The background image shows a large, curved wooden structure, possibly a modern architectural feature or a tunnel, with a cityscape visible through an opening. The wood has a warm, golden-brown tone and a visible grain. The cityscape in the distance is hazy, suggesting a high vantage point.

Designers' Recognition of Modern Wood Construction -- Research Report



Client: Canada Wood (Shanghai Representative Office)



Research Institute: Reach Construction Consulting Co., Ltd.

Research Period: January-February 2022

Confidentiality

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As the face-to-face interviews were conducted for the purpose of this research to understand the perceptions of Chinese designers on modern wood structural construction. Therefore, it is not advisable to quote the interview contents, or to disclose the names, the companies of the interviewees, etc., and it is suggested to quote the contents in the form of "based on research or according to RCC research" instead.

- Background: In the context of China's "Carbon Peak and Carbon Neutrality Goals" and the explicit promotion of prefabricated wood construction in some provinces, RCC seeks to identify market opportunities for modern wood construction in China by interviewing the designers through telephone and face-to-face meetings about their perceptions of modern wood construction, technical blind spots, problems existing in the projects and their preferred training and promotion methods.
- Interview samples: RCC interviewed mainly design institutes and a small number of foreign-owned engineering consulting companies. The design companies interviewed included private studios, foreign-owned enterprises, local provincial SOEs, and national SOEs. In addition, the taking into account of the major applications of modern wood construction, the interview samples included a number of design companies who have ever been involved in construction projects in cultural, tourism, recreation and public buildings.

Interview samples implementation

Type of Companies Interviewed	Implementation method	Qty.	Remarks
Design Institute	Telephone interview+face-to-face interview	107	Affected by COVID-19 epidemic, all 6 samples interviewed were based in Shanghai, with four types of design companies interviewed: "private studios", "foreign-owned enterprises", "state-owned enterprises" and "central enterprises".
Foreign-owned Engineering Consulting Company	Telephone interview+face-to-face interview	5	
Total		112	

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Chapter Summary

- **Sample volume:** The total sampling for this report was 112, of which 104 were conducted by RCC and 8 by Canada Wood; the samples were distributed across 22 provinces and cities in China, with Shanghai having the largest number of interviewees.
- **Interviewees:** The majority of interviewees were general designers, with a few being design management; their professions were mainly architects, followed by structural engineers, etc.
- **Companies interviewed:** The majority of the companies interviewed were design institutes with Grade A qualifications for architectural design, but there were also a certain proportion of small and medium-sized design institutes, design offices and private studios. Their main business types were generally scheme design and engineering consultation; the projects undertaken by them were mainly public buildings, residential buildings and commercial projects; large-scale design institutes generally undertook nationwide projects, while small and medium-sized design companies undertook local or regional projects.

Sample Distribution

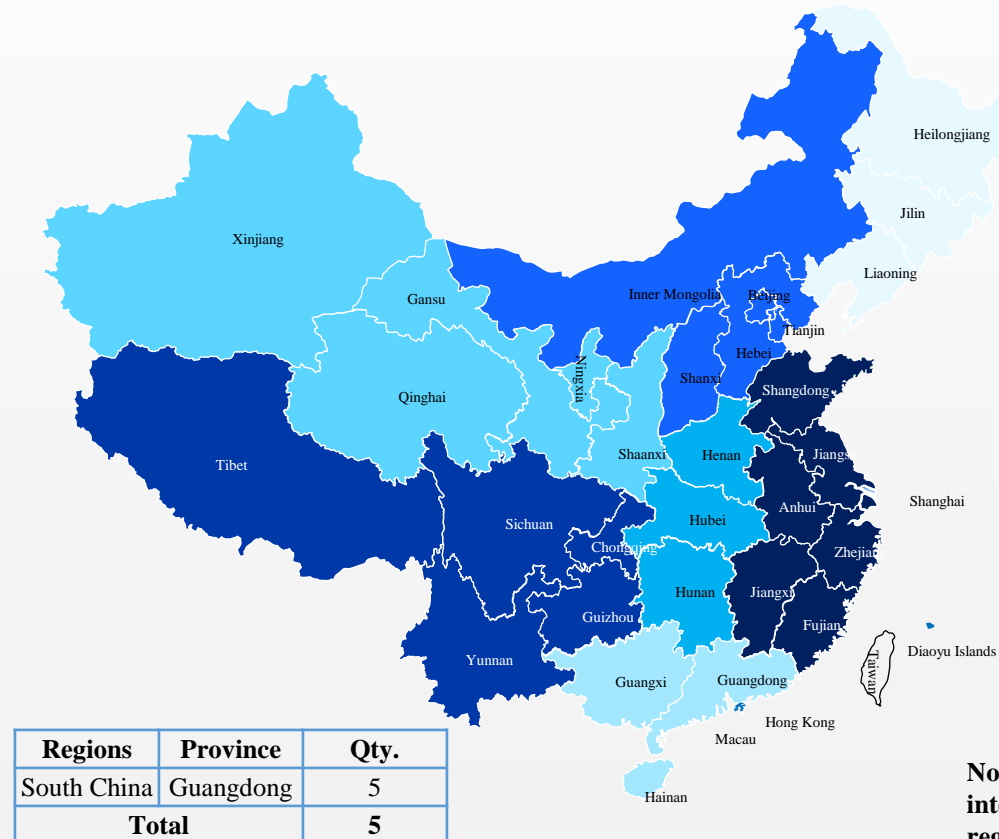
- **By region**, 7 regions were used according to the administrative division of China, of which East China had the highest Qty. of designers with 48 interviewed, followed by 21 in Southwest China, 18 in North China, 10 in Central China, 6 in Northwest China, 5 in South China and 4 in Northeast China, for a total of 112.
- **By province**, RCC interviewed designers from 22 provinces and cities in China, with the Top 5 provinces, including 23 in Shanghai, 11 in Zhejiang, 10 in Sichuan, 10 in Beijing and 10 in Chongqing.

Sample Distribution

Regions	Province	Qty.
Northwest China	Shaanxi	3
	Gansu	2
	Xinjiang	1
Total		6

Regions	Province	Qty.
Central China	Hubei	5
	Henan	3
	Hunan	2
Total		10

Regions	Province	Qty.
Southwest China	Sichuan	10
	Chongqing	10
	Yunnan	1
Total		21



Regions	Province	Qty.
South China	Guangdong	5
Total		5

Regions	Province	Qty.
Northeast China	Liaoning	2
	Jilin	1
	Heilongjiang	1
Total		4

Regions	Province	Qty.
North China	Beijing	10
	Hebei	4
	Shanxi	3
	Tianjin	1
Total		18

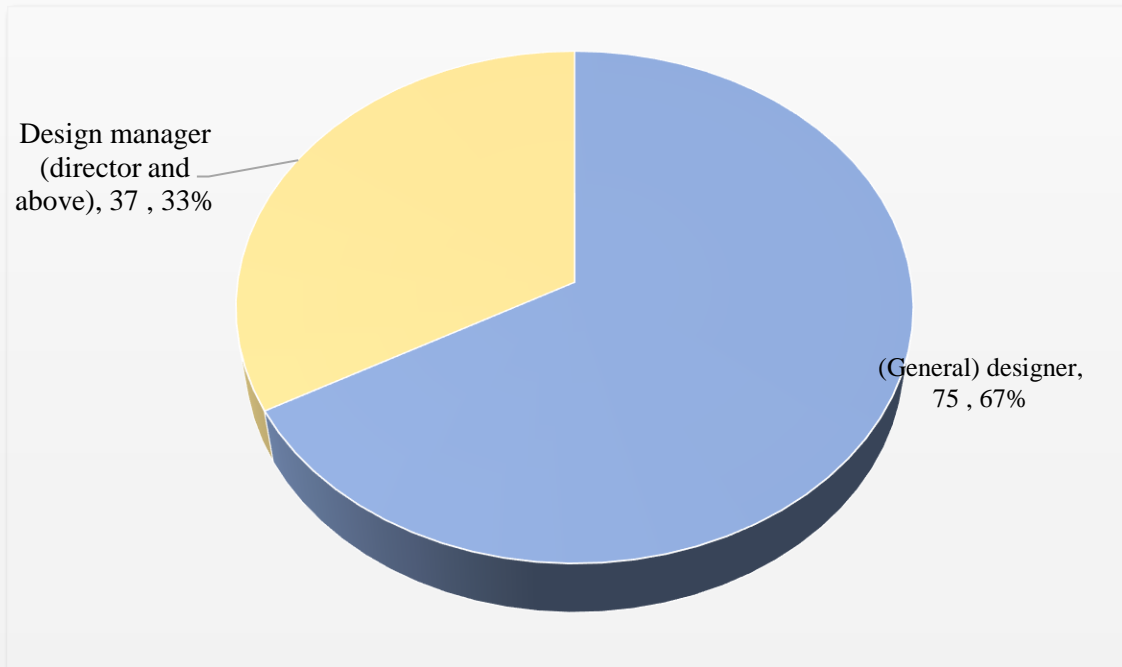
Regions	Province	Qty.
East China	Shanghai	23
	Zhejiang	11
	Jiangsu	8
	Anhui	5
	Fujian	1
Total		48

Note: The sample distribution refers to the location of the interviewed company, and the density of the sample in the region was based on the color intensity in the map.

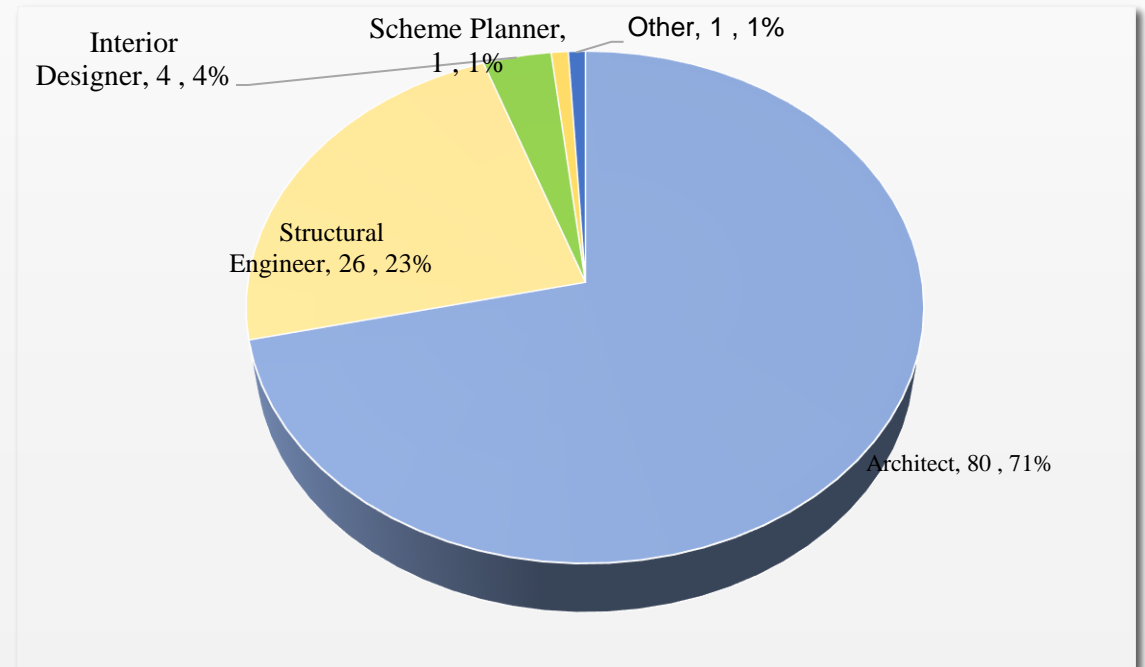
- Positions of designers interviewed: Of the 112 designers interviewed, 75 were general architects or designers, accounting for 67%; 37 were in design management position, accounting for 33%.
- Professions of designers interviewed: Of the 112 designers interviewed, 80 were architects accounting for 71%, 26 were structural engineers accounting for 23%, 4 were interior designers accounting for 4%, 1 was scheme planner and 1 was other (engineering manager), accounting for 1% each.

Position of Designer Interviewed

N=112

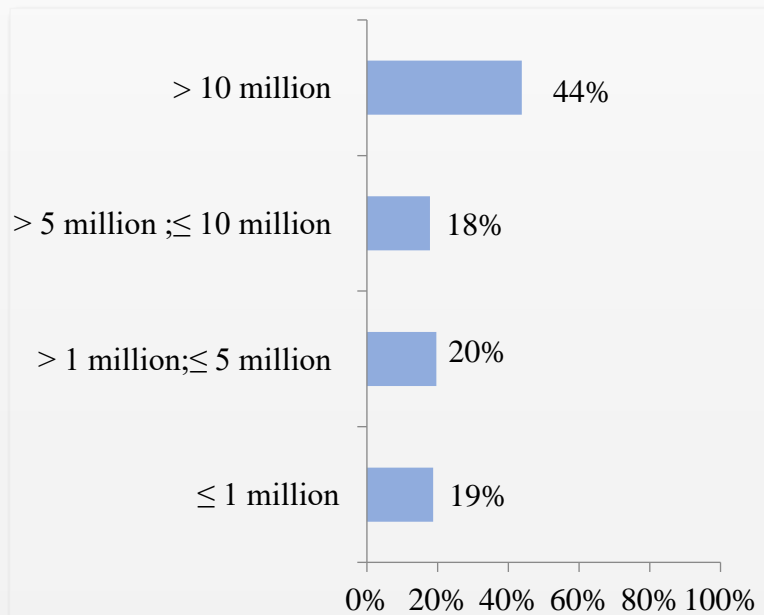


Professions of Designer Interviewed

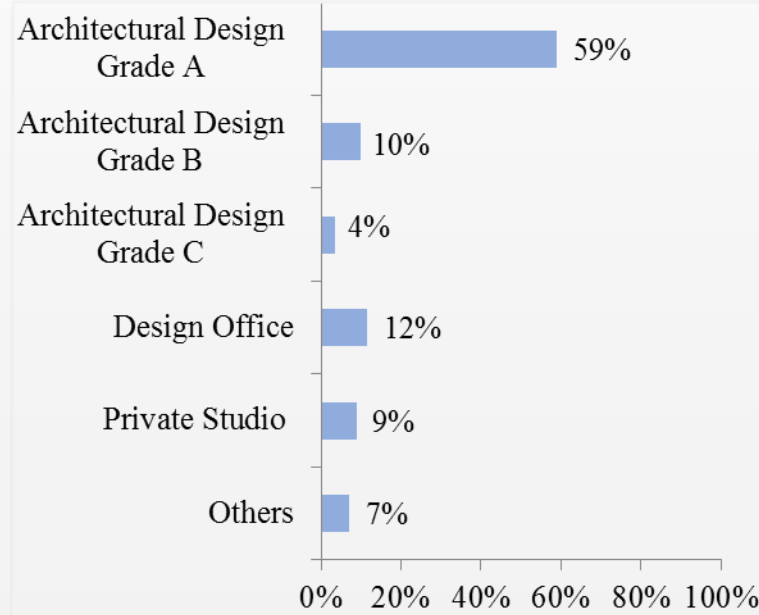


- Registered capital of company interviewed: Of 112 companies interviewed, 49 companies had a registered capital greater than RMB 10 million, accounting for 44%; 20 companies had a registered capital between RMB 5 million to 10 million, accounting for 18%; 22 companies had a registered capital of RMB 1 million to 5 million, accounting for 20%; 21 companies had a registered capital less than or equal to RMB 1 million, accounting for 19%.
- Main design qualifications of the companies interviewed: Of the 112 companies interviewed, 59% have obtained Grade A qualifications for architectural design; 10% have obtained Class B qualifications; 4% have obtained Class C qualifications; another 12% were design companies; 9% were private studios; and another 7% haven't obtained architectural design qualification, but with other qualifications such as urban and rural planning, decoration design and landscape design.
- Main businesses of the companies interviewed: Of the 112 companies interviewed, 91% of their main businesses have involved scheme design; 68% have involved engineering consulting; 39% have involved construction drawings, and 20% have mainly involved others (others mainly refer to general contracting, technical service and research, bidding agency, supervision and inspection, restoration of ancient architecture, etc.).

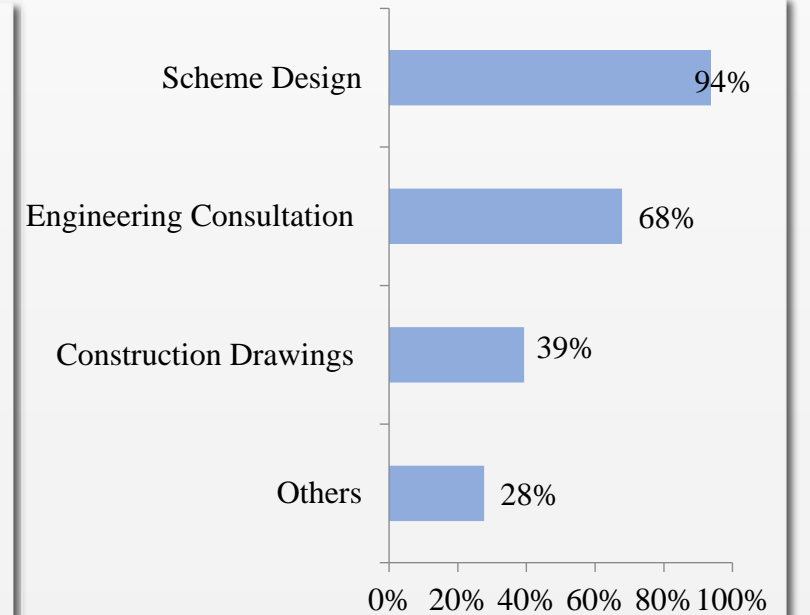
Registered Capital of Interviewed Companies



Main Design Qualifications of the Interviewed Companies



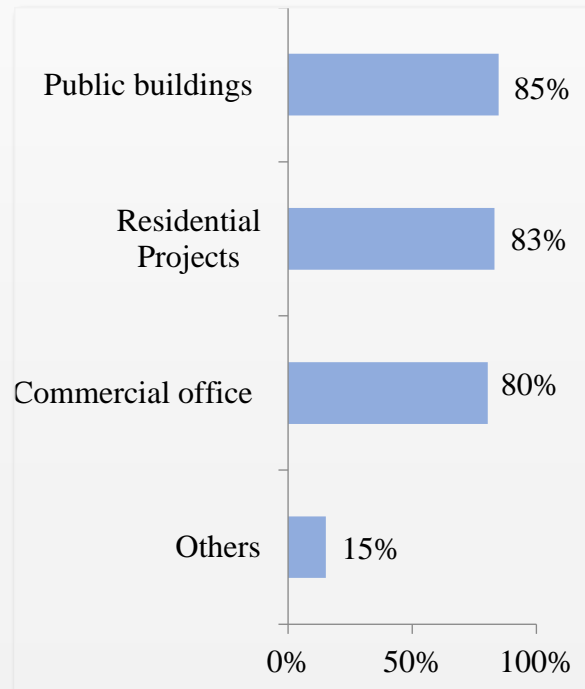
Main Business of Interviewed Companies



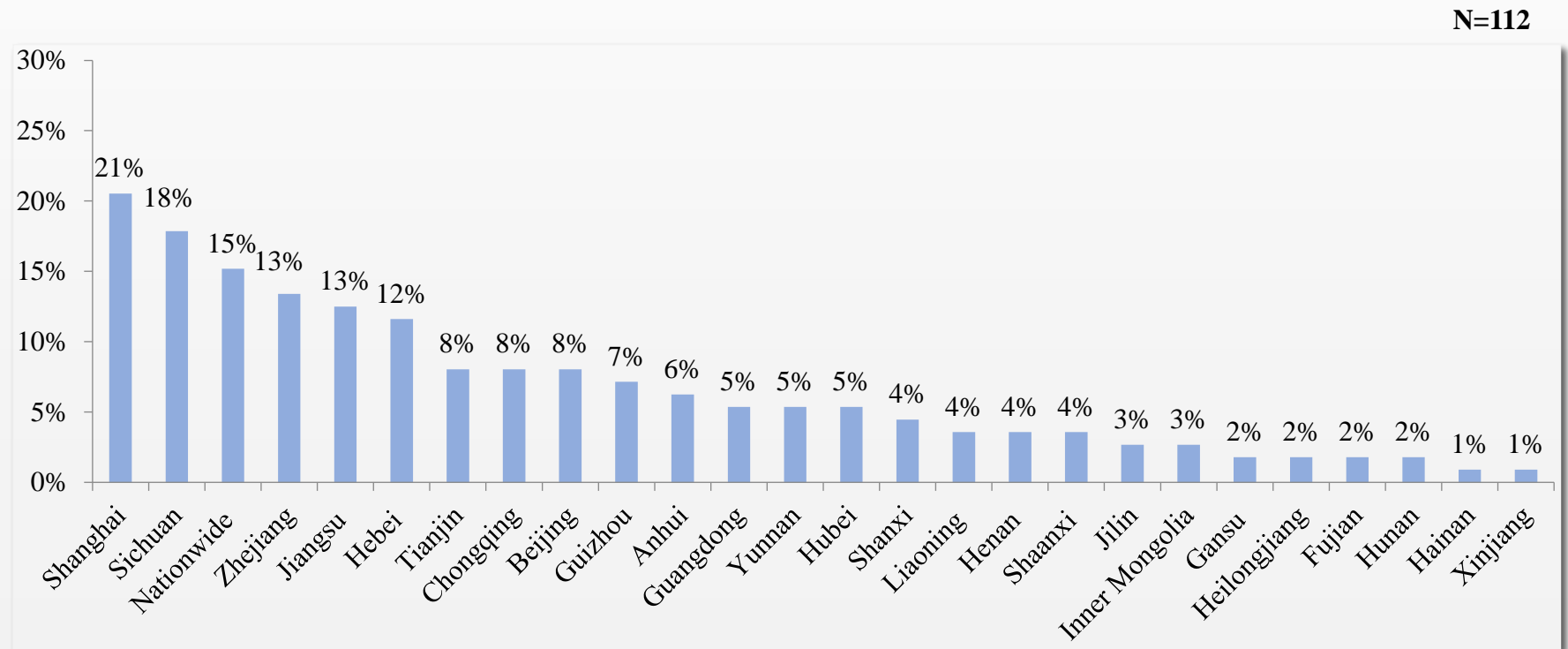
N=112

- Main types of projects undertaken by the interviewed companies: of the 112 companies interviewed, 85% of the companies mainly undertook public buildings; 83% of the companies mainly undertook residential buildings; 80% of the companies had commercial projects; 15% of the companies mainly undertook projects belonging under others (others mainly refer to industrial parks, cultural tourism and recreation, municipal works, gardens and antique architectures, etc.).
- The locations of projects undertaken by the interviewed companies: Of the 112 companies interviewed, 21% were mainly located in Shanghai; 18% were located in Sichuan; 15% indicated that the main businesses were nationwide; 13% each located in Zhejiang and Jiangsu; 12% located in Hebei; 8% each located in Beijing, Tianjin and Chongqing; 7% in Guizhou; 6% in Anhui; 5% each in Hubei, Guangdong and Yunnan; 4% each in Shanxi, Liaoning, Henan and Shaanxi; 3% each located in Jilin and Inner Mongolia, 2% each located in Gansu, Heilongjiang, Fujian and Hunan; 1% each in Hainan and Xinjiang.

Main Types of Projects Undertaken by the Interviewed Companies



Main Project Location of Interviewed Companies



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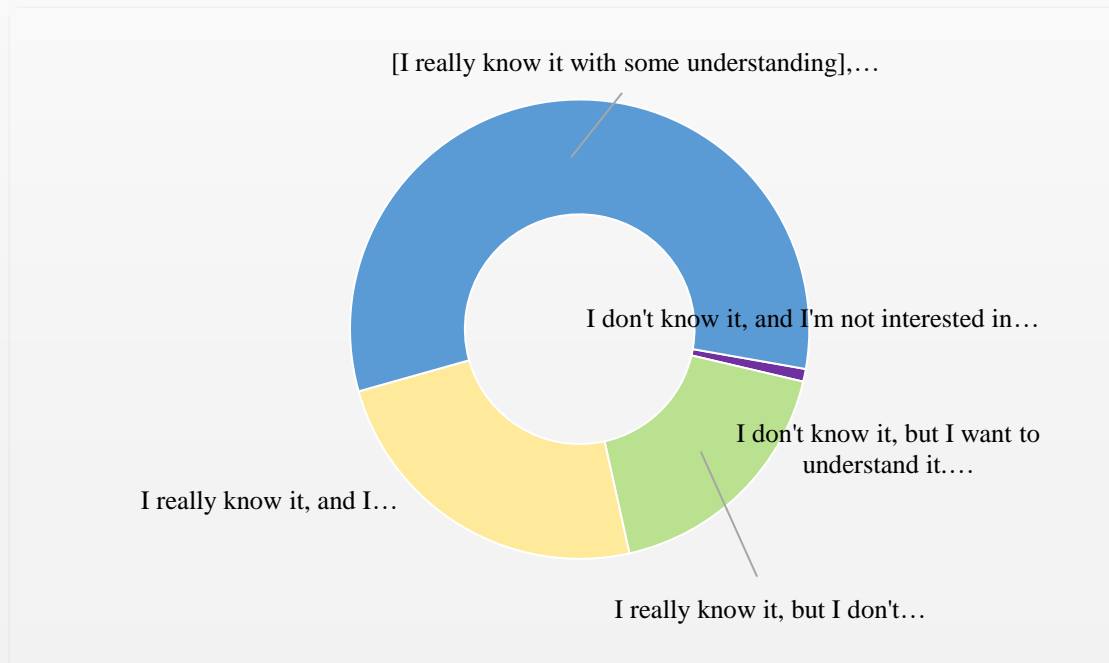
Chapter Summary

- While this report focuses on interviews with designers who have worked on cultural, tourism and recreational projects that may be related to wood structural engineering, RCC has found that there are limited number of professional designers specializing in modern wood structural engineering in China. Some designers still possess certain misconceptions when it comes to answering the questions such as "the main characteristics of modern wood construction" and "the difference between modern wood construction and traditional wood construction". Most think that modern wood construction is suitable for the application in the characteristic projects of cultural tourism and recreation and some cultural venues of local governments. In the field of "Beautiful Countryside Planning", modern wood construction is considered to be "marketable" or "not very marketable", and as a whole, the application is relatively niche; at the same time, it is believed that the projects of modern wood construction will not be developed basically by large real estate developers mainly in urban development in China, while the real estate developers mainly engaged in the development of cultural tourism and recreation may involve the application of modern wood construction in some projects.
- Whether the interviewees had done wood construction projects, most of them believed that the greatest advantage of modern wood construction lays in the natural and friendly properties of wood, followed by the uniqueness of the shape and appearance, while at the same time indicating that the higher cost of modern wood construction buildings and the public concern about product performance were the biggest obstacles to the current market development.
- Some of the designers who have worked on wood construction described the practical difficulties encountered in their projects, such as imperfection of technical specifications and drawings, the longtime taken to review the drawings and the problems of fire protection. Other interviewees have not been exposed to modern wood construction, but most of them would like to have the opportunity to try modern wood construction design in the future.

- **Interviewees' knowledge about modern wood construction:** Of 112 interviewees, 57% have known and had some understandings about modern wood construction; 24% have acquired knowledge and relatively had better understandings about modern wood construction; 18% have known but acquired no knowledge about modern wood construction; 1% had no idea but wanted to know about modern wood construction; in addition, as RCC focuses on designers who have worked on projects such as cultural tourism, there was no "don't know and not interested in knowing" cases among the interviewees.
- **Interviewees' familiarity with concrete structure, steel structure and wood structure:** Of 112 interviewees, 2 of them did not answer; therefore, of 110 valid samples, the familiarity with ① concrete structures, ② steel structures and ③ wood structure, sorted from highest to lowest, ①-②-③ has accounted for 84%; ③-①-② has accounted for 8%; ①-② has accounted for 3%; ③ and ②-①-③ have accounted for 2% respectively; ②-① has accounted for 1%.

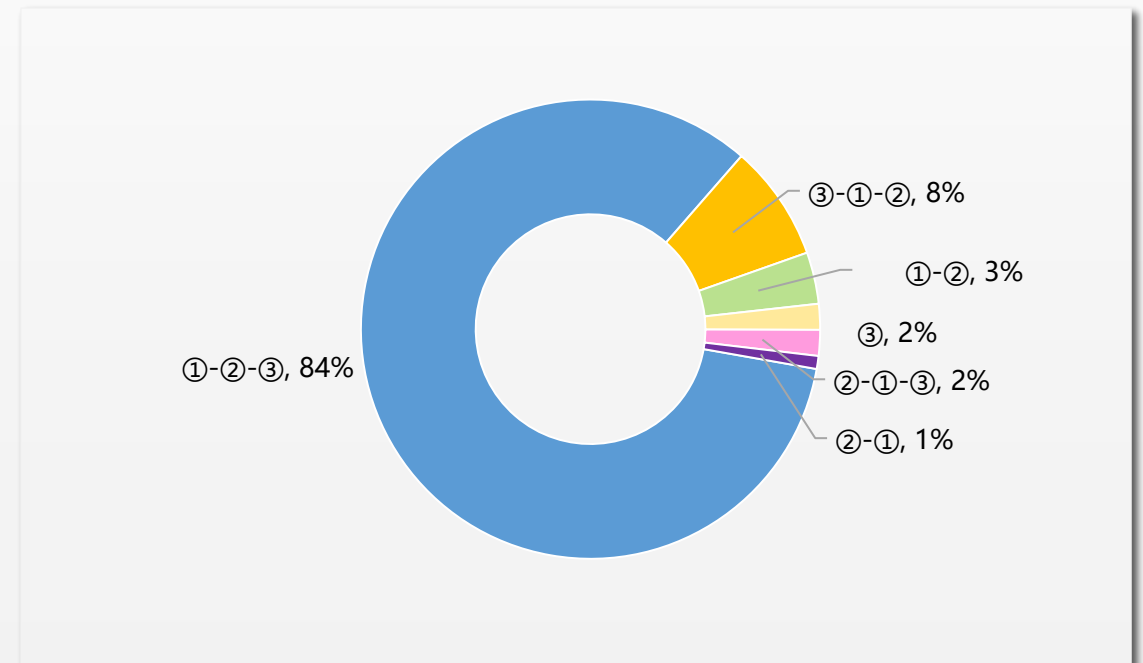
Knowledge on Modern Wood Structural Engineering

N=112



Familiarity with Concrete structure, Steel Structure and Wood Structural Engineering

N=110

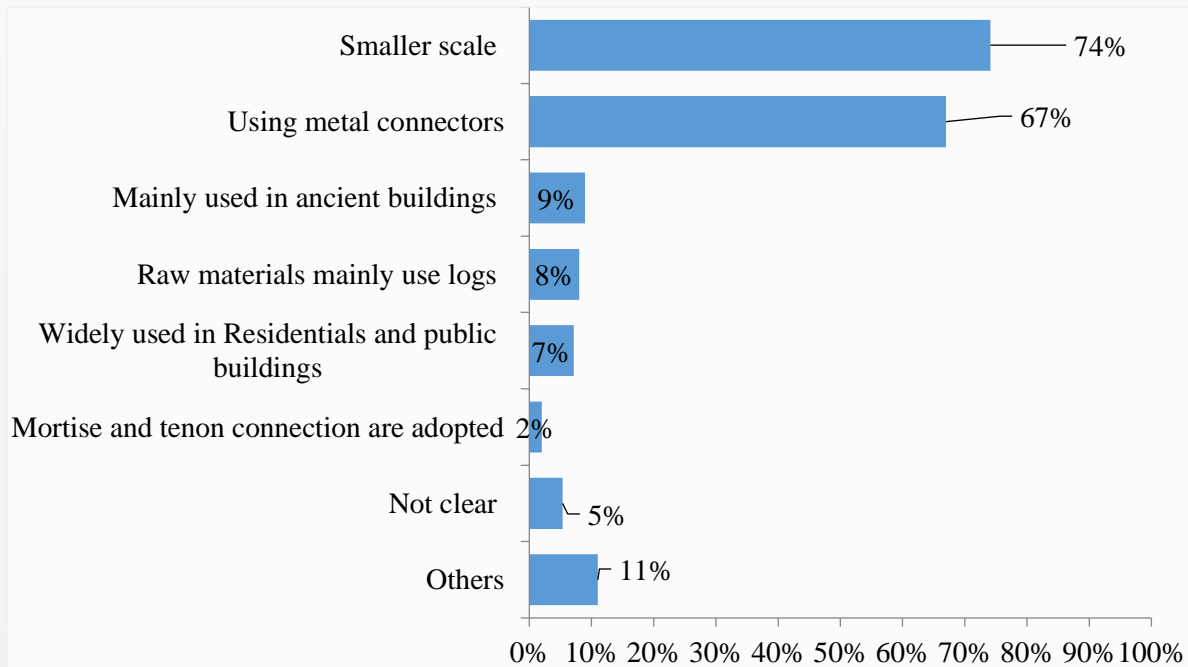


Main Features of Modern Wood Construction

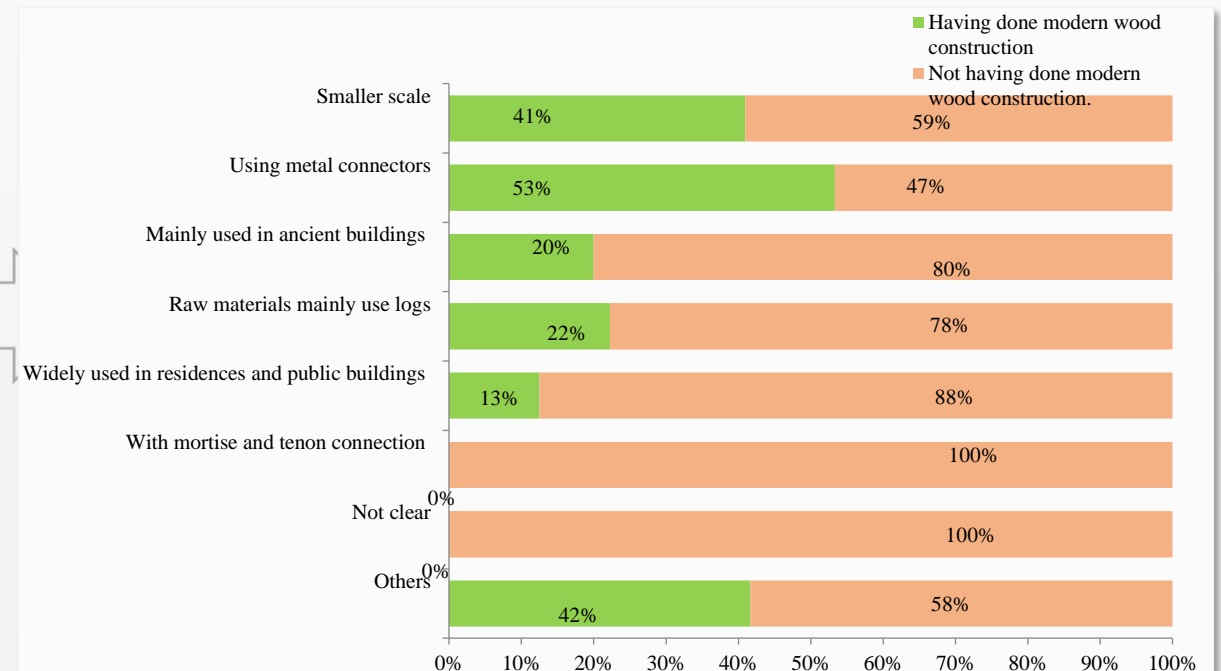
- **Main features of wood structural engineering as perceived by interviewees:** Of 112 interviewees, 74% have believed that modern wood structural engineering buildings are small in scale; 67% have believed that they adopted metal connectors; 26% of the interviewees had some misconceptions about the features of modern wood structural engineering, considering that they are mainly applied to ancient buildings, that raw materials mainly adopted logs, that they were widely used in residences and public buildings in China, and that the mortise and tenon links were mainly adopted; 5% of the interviewees said that they are not sure; and 11% of the interviewees gave other answers, such as unique shape, environmental protection, good seismic performance and prefabricated buildings, etc.
- **Classification and comparison:** Whether they had experience in modern wood structural engineering design, "small scale" and "metal connection application" have been the two main characteristics most recognized by interviewees; compared with designers without experience in modern wood structural engineering design, interviewees with experience in modern wood structural engineering design gave better and more comprehensive answers to modern wood structural engineering features, and had fewer misconceptions.

The Main Features of Modern Wood Structural Engineering

N=112



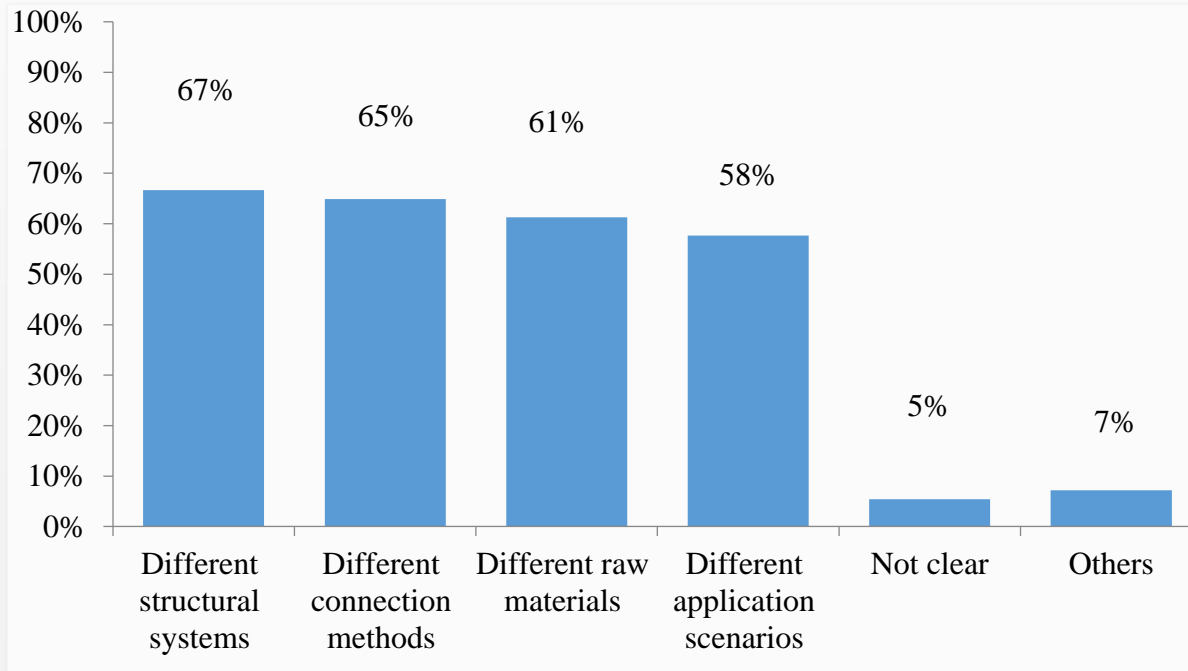
Breakdown of Main Features - Perceptions Experience with or without Modern Wood Structural Engineering Design



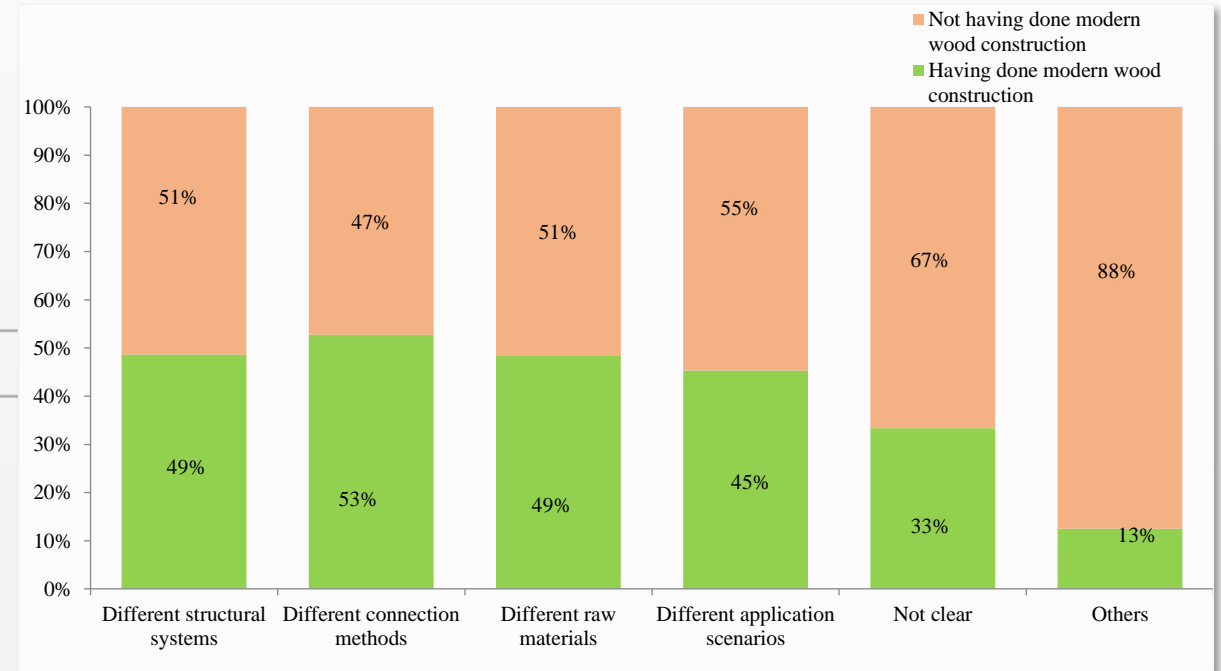
Main Differences between Modern Wood Structure and Traditional Wood Structure

- **Main differences between modern wood structure and traditional wood structure:** Of 112 interviewees, there were 111 valid samples. Of which, 67% believed that the two structures are different; 65% believed that the linking method is different; 61% believed that the raw materials are different; 58% believed that the application scenes are different; 5% gave the answer of not sure; 7% gave other answers, such as different cross-sectional forms of the two components. The modern wood structure has some simplification compared with the traditional wood structure building, the materials of modern wood structure are more optimized, and the modeling of modern wood structure is more outstanding. The modern wood structure is highly prefabricated in the factory whereas the traditional wood structure is constructed on site by the master craftsmen, etc.
- **Classification and comparison:** Whether there was experience related to modern wood structure design, the interviewees answered that the main differences between modern wood structure and traditional wood structure are similar, mostly in terms of connection, raw materials, application scenarios. Compared with designers with no experience in modern wood construction, interviewees with experience in modern wood structure design were more likely to give clear answers, but not many were able to give an opinion other than the intended answers.

The Main Differences between Modern Wood Structural Engineering and Traditional Wood Structural Engineering
N=111



Breakdown of Main Features- Perceptions Experience with or without Modern Wood Structural Engineering Design

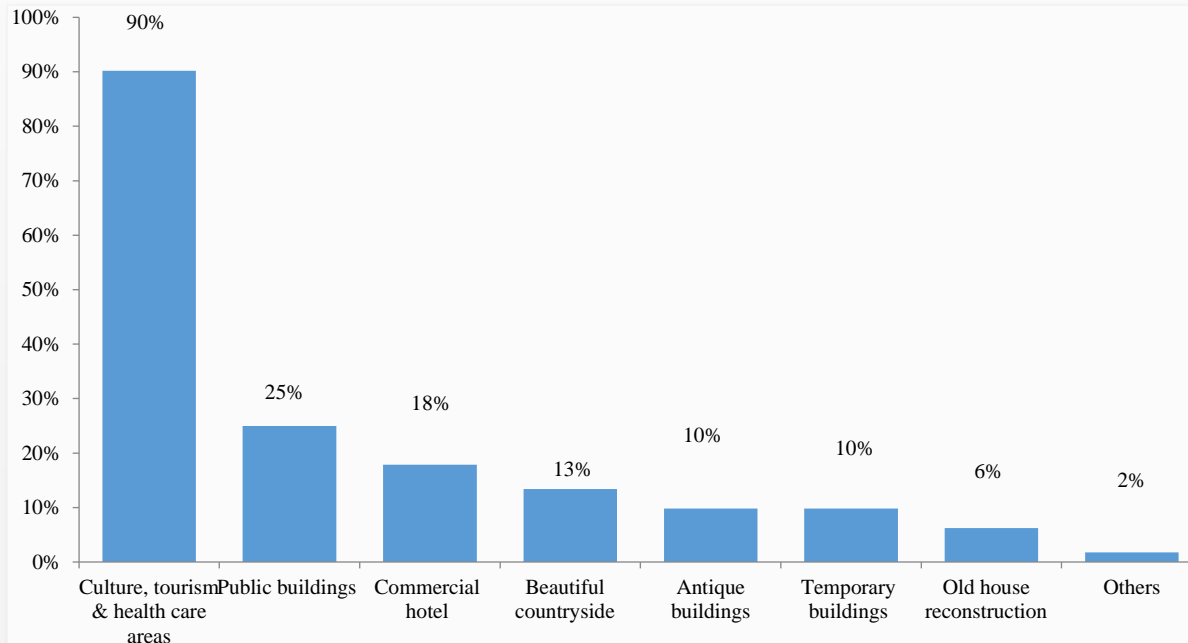


Types of Buildings Suitable for Modern Wood Construction

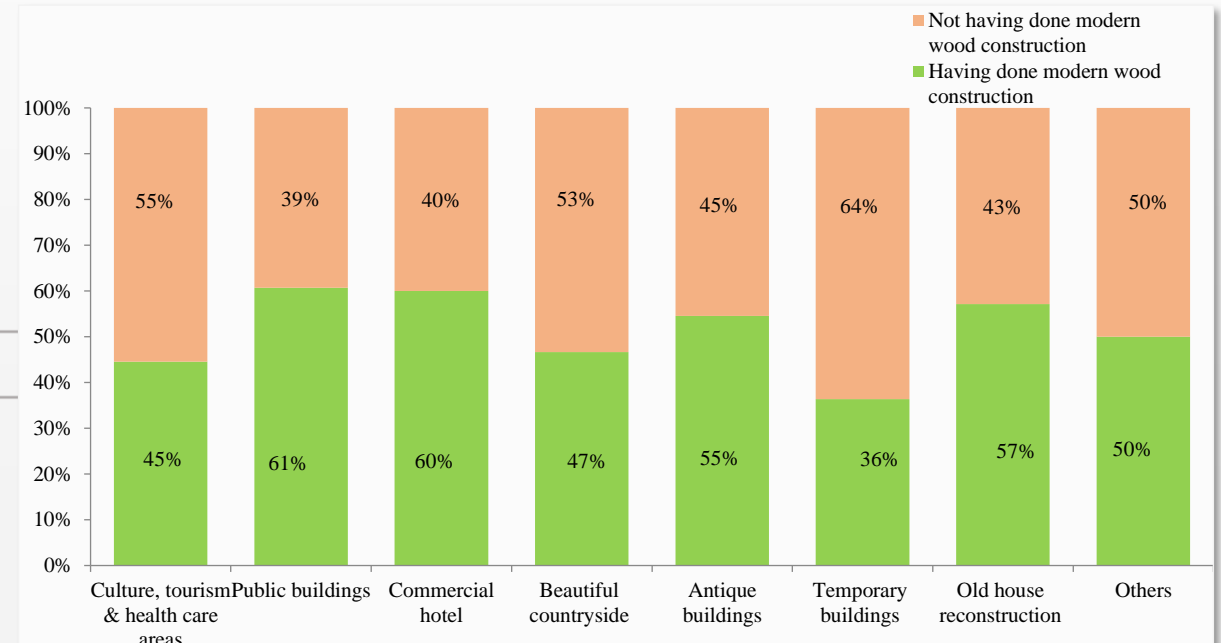
- **Buildings suitable for modern wood construction:** Of 112 interviewees, 90% of interviewees believed that modern wood construction has been mainly applicable to the cultural and recreational projects; 25% believed that it is suitable for public buildings; 18% believed that it is suitable for boutique commerce, hotels and office buildings; 13% believed that it is suitable for beautiful countryside planning; 10% of interviewees believed that wood construction has been mainly applied to antique buildings and temporary buildings; 6% believed that it is suitable for old house reconstruction; and 2% believed that it is suitable for low-rise and small-sized buildings.
- **Classification and comparison:** Whether they had experience in modern wood construction design, culture and recreation was considered to be the most recognized applicable field of interviewees. Compared with designers who have no experience in modern wood construction design, interviewees with experience in modern wood construction design were more likely to recognize the application of modern wood construction in fields like public buildings, boutique commercial hotels and old house reconstruction.

Types of Buildings Suitable for Modern Wood Structural Engineering

N=112



Breakdown of Main Features- Perceptions Experience with or without Modern Wood Structural Engineering Design



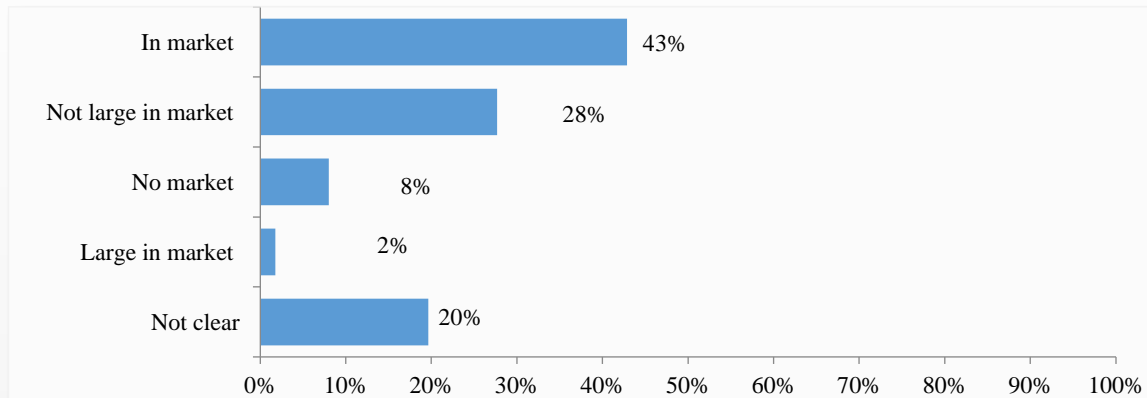
Market Opportunities in the Construction of Beautiful Countryside

- **Market Opportunities for Modern Wood Construction in Construction of Beautiful Countryside:** Of the 112 interviewees, 43% believed there were market opportunities; 28% believed the market was small; 8% believed there was no market; 2% believed the market was large; and 20% said they were not sure.
- **Classification comparison:** On the whole, designers with experience in modern wood construction design are more likely to recognize the market opportunity of modern wood construction in the field of "Beautiful Countryside Planning" than interviewees who have no experience in this field.

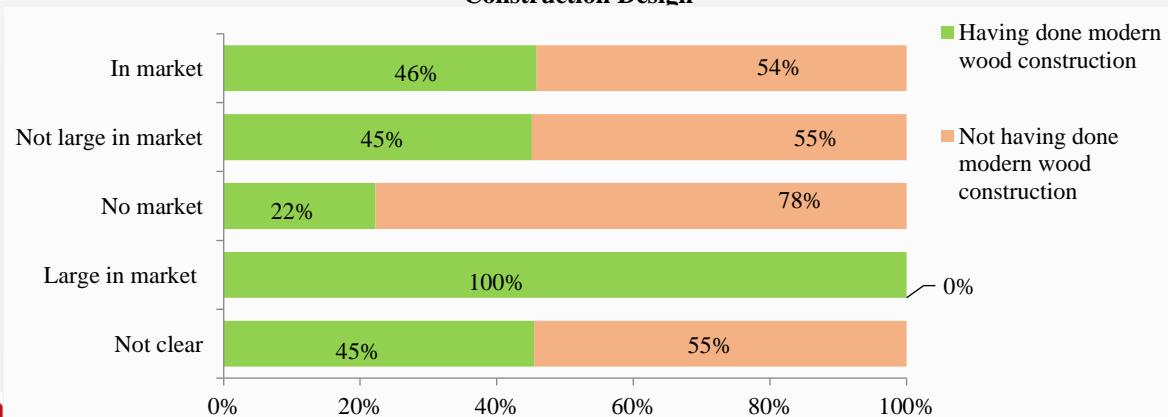
Market Opportunity of Modern Wood Construction in the Construction of Beautiful Countryside

N=112

Explanation of Interviewees' Views



Market opportunity breakdown – Perceptions with or without Experience in Modern Wood Construction Design



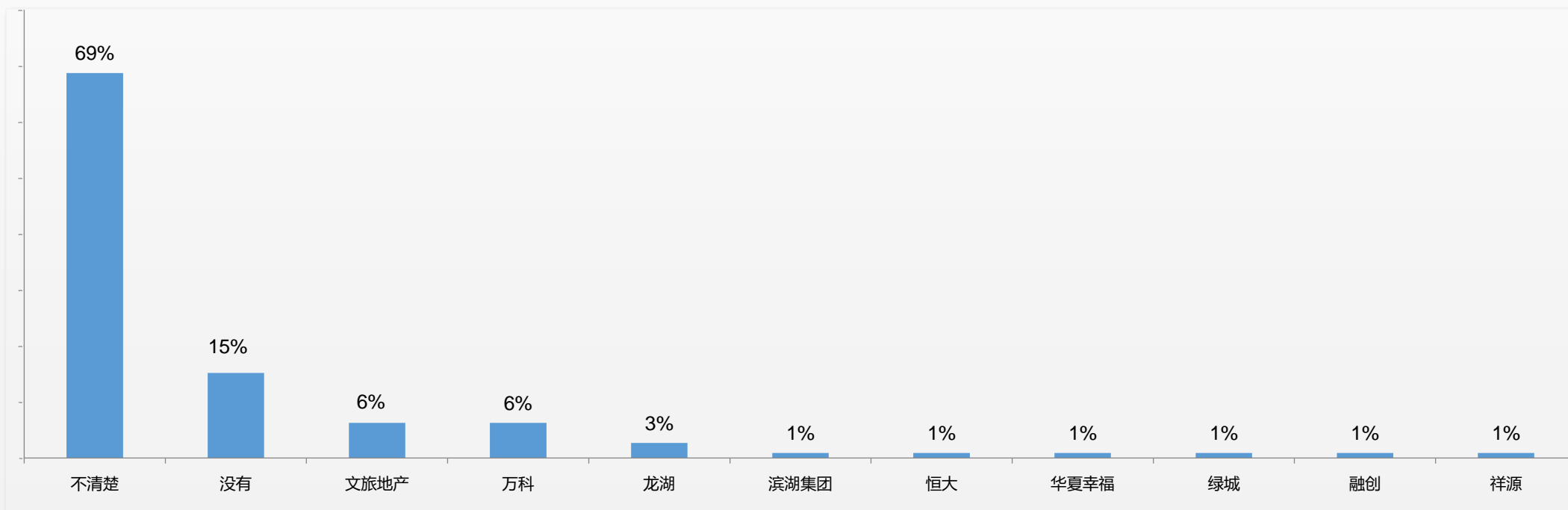
- Available in the market:
 - It is considered that there are market opportunities in the residential accommodation projects and rural service center projects in Beautiful Countryside Planning, especially some antique buildings, are suitable to be constructed with modern wood construction as they are of mixed wood structure without fire prevention and height restrictions.
 - New rural areas in economically developed areas generally build with 3-4 storeys, which are not too sensitive to the cost, plus modern wood construction is novel in modeling, especially in southern areas (such as Jiangsu, Zhejiang, Shanghai, Sichuan, Guizhou, etc.), which do not need to consider winter heating, without the concerns about fire prevention, plus the relative abundance of local bamboo and wood resources, some owners like the modern wood construction style, so it is suitable for the development of modern wood construction;
 - Some new countryside areas such as Sichuan are suitable for modern wood construction due to their good earthquake resistance.
- Small market opportunities:
 - There are concerns about the performance of the product, wood structure is considered to be poor in durability and fireproof performance; in addition, the cost is considered to be high and the later maintenance is relatively complicated;
 - The modern wood construction is considered to be a European and American architectural style, without traditional Chinese elements, not national.
- No market: It is considered that the cost is high; the products are not durable and fire-proof, and the fire inspection is difficult to pass. In addition, a few interviewees expressed the view that Chinese rural housing was originally wood structure, but now they are basically updated into concrete, and some people consider it a retrograde act if they adopt modern wood construction.
- Large market:
 - Two interviewees said that the modern wood construction of some cultural and residential projects, public primary school libraries and villager service centers in beautiful countryside planning is very distinctive, and some of the interviewees have already landed some projects.

Which real estate enterprises have developed modern wood construction projects?

- **The real estate enterprises in China that have developed more modern wood construction projects:** Of 112 interviewees, 69% said they were not sure; 15% believed that domestic real estate enterprises chase profits, while modern wood construction cost was high and there were more complaints in later period, and that no real estate enterprise in China would develop modern wood construction projects in bulk; 6% of interviewees said that the real estate developers in the cultural and tourism direction may develop more projects of modern wood construction, but did not mention the specific cultural and tourism real estate developers; 6% mentioned that Vanke would develop more modern wood construction projects, 3% mentioned Longfor Properties; 1% mentioned Binhu Group, Evergrande, China Fortune Land Development, Greentown China, Sunac and Sunriver respectively.
- Also, based on the RCC research, three institutions, including the China Index Academy, have released the "Top 10 Ranking of Cultural Tourism Real Estate in 2021", with Sunac, OCT, RiseSun, Jinmao, Sunriver, Everbon, Hanhua Industry, Shanghai Yitian Cultural Tourism Development Group, Dinglong Group, Ryugu Real Estate.

Which real estate enterprises have developed more modern wood construction projects?

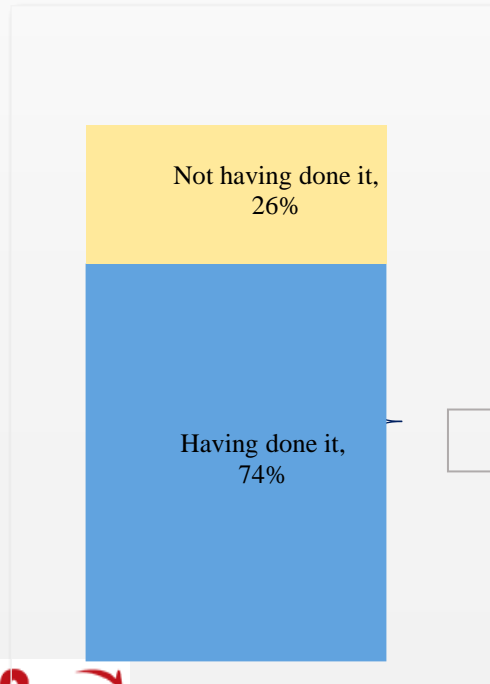
N=112



Have you ever worked on wood structure building and what type?

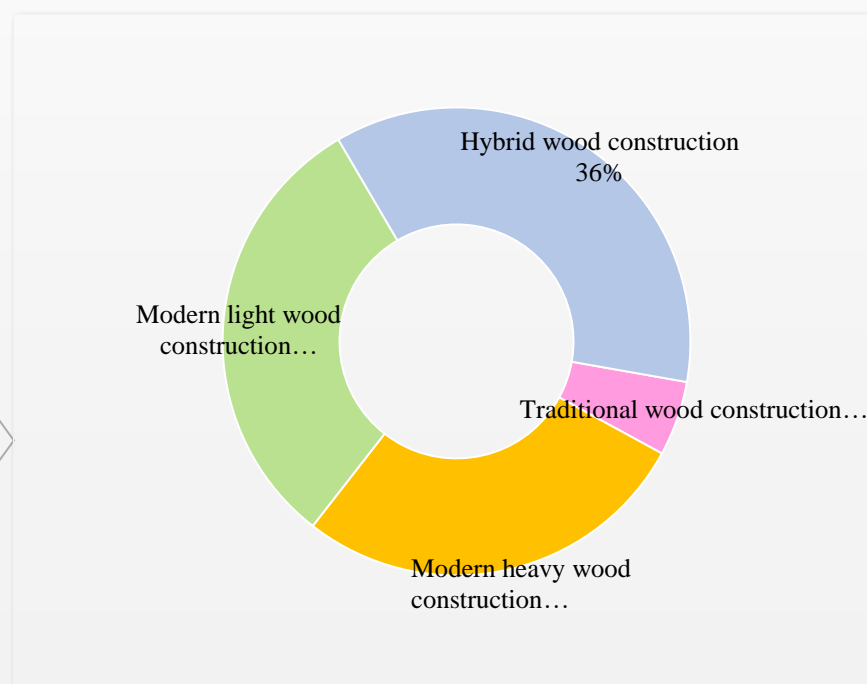
- Whether or not having the experience in wood construction: Of 112 interviewees, 83 said they had done it, accounting for 74%; 29 said they had not done it, accounting for 26%.
- What types of wood construction have been done: Of the 83 samples, the proportion of hybrid wood structure was the highest, accounting for 36%, followed by modern light wood frame, accounting for 31%, modern heavy timber structure, accounting for 28%, and traditional wood structure, accounting for 5%.
- What types of projects have been done: Of the 83 samples, culture, tourism and recreation are the highest, accounting for 64%; followed by public buildings at 17% and commercial hotels at 9%; while traditional temple buildings account for 6%, and old house renovation accounts for the lowest proportion, only 4%.
- Data Description:
 - 74% of the interviewees had done wood construction, accounting for a higher proportion, which due to RCC interviewed the designers who may be associated with wood construction , and some samples were provided by Canada Wood, whose interviewees had basically had experience in wood construction.
 - The proportion of hybrid wood structure accounted for 36%, which is high and this may be because some interviewees perceive projects that are steel structures with wood decoration as hybrid wood structure.

Whether or not having
experience in wood structure? N=112



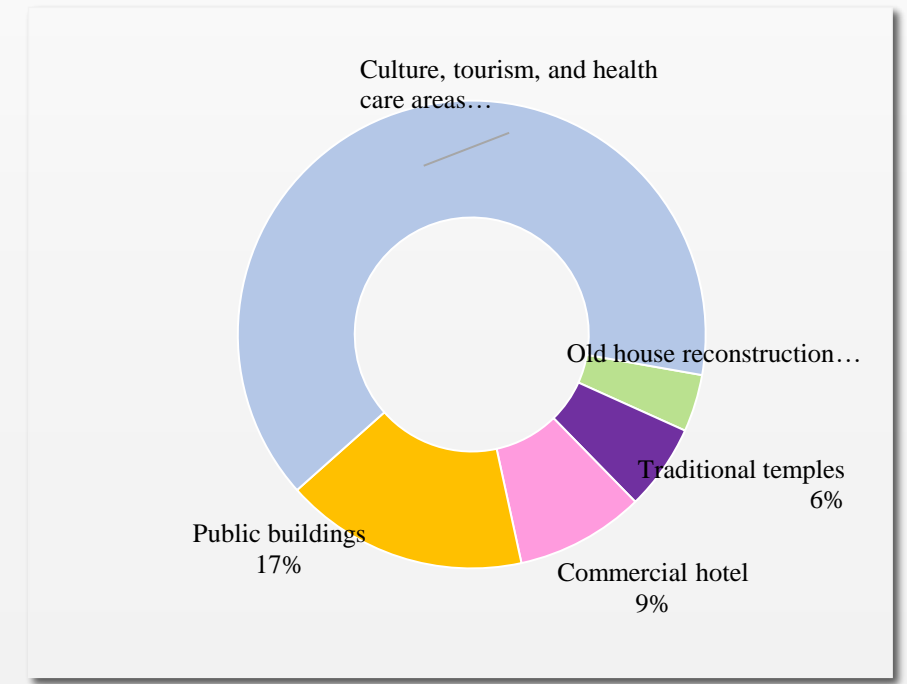
Distribution of Wood Structure Types

N=83



Distribution of Project Types

N=83



Reasons for choosing modern wood structure for projects

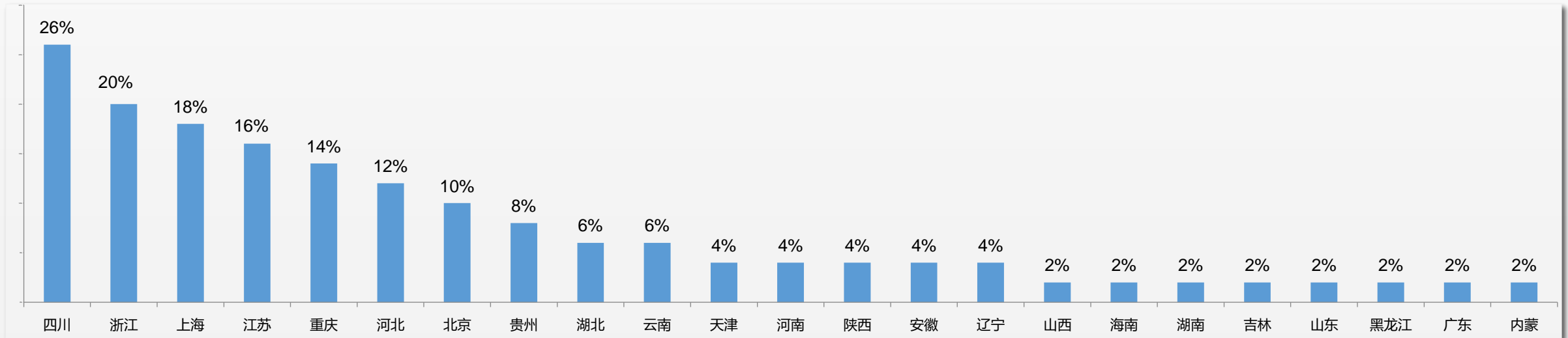
➤ **Reasons for choosing modern wood structure:** Of the 83 interviewees who have experience in modern wood construction, 50 of them have experience in LWF and heavy timber projects; the reasons for choosing modern wood structure are as follows:

1. The wood structure is unique and beautiful, fast to construct and saves secondary decoration;
2. The owner has a passion of wood structure or the landscape provider prefers wood structure;
3. The cultural and tourism project needs the natural integration of buildings and surrounding areas, and the wood structure is relatively a good fit;
4. wood structure is able to highlight the local characteristics in the construction of beautiful countryside planning;
5. The original building is a wood structure and needs to be preserved in its original form;
6. Recommended by the designer.

➤ **Distribution of modern wood construction projects of interviewees:** as a whole, modern wood construction projects are mainly concentrated in Southwest China, where bamboo and wood resources are abundant, East China and surrounding areas of Beijing and Guangdong with more developed economy. TOP5 provinces include Sichuan, Zhejiang, Shanghai, Jiangsu and Chongqing.

Distribution of Modern Wood Structural Engineering Projects Undertaken by Interviewees

N=50



What difficulties did the interviewed designers encounter in modern wood construction projects and how they are solved?

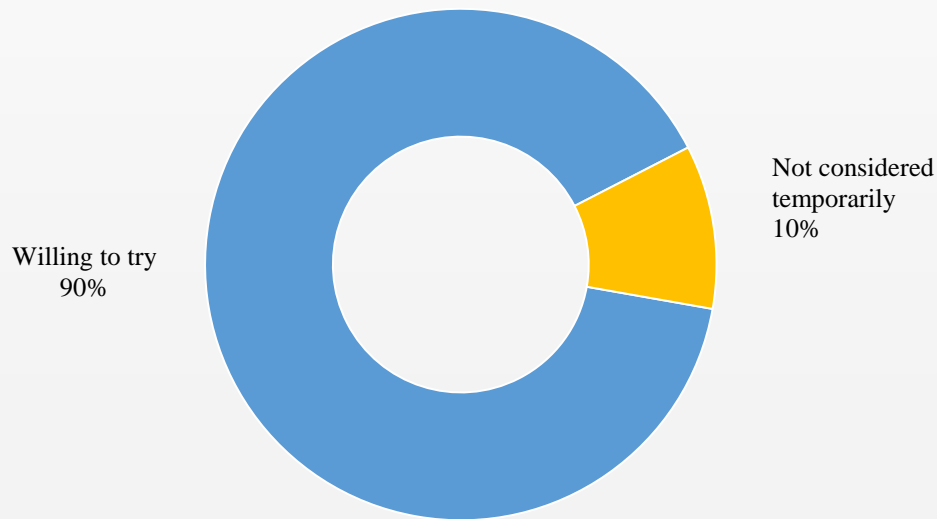
- 1. The specifications and drawings of modern wood construction are not perfect. For example, the design of connections, large-span openings, and hybrid structure construction are not well regulated in terms of component mixing. Interviewees indicated that there was a 2,000 sq. meter vertical open space in the project, and there was no design code to follow, so instead he had to draw on the relevant codes for concrete structures.
- 2. Longer review & approval times. Due to imperfect specification or the drawing reviewers are not familiar with the modern wood construction, the drawing reviewers will raise various concerns, which would lead to longer drawing review time. Interviewees expressed that some projects are generally changed to steel structures due to tight deadlines; in case of relatively abundant time, designers need to communicate with drawing reviewers repeatedly, and for the controversial parts, it may be necessary to hire experts to argue or do experiments to solve the problem.
- 3. Fire protection issues. At present, the fire protection rating of modern wood construction in China is between 3-4, and some public building projects requiring Grade 2 fire protection are generally made of steel-wood mixed structure. Also, some small local fire authorities are concerned about the fire prevention of modern wood construction, and actual projects needs repeated communication and even expert verification.
- 4. Affected by the pandemic and other factors, it is difficult to source imported GLT and engineered wood. Performance of GLT made with domestic glue are not up to requirement, many products have no inspection report.
- 5. There is lack of mature calculation software for mechanical load of modern wood construction in China, and some structural designers consider that modern wood construction with more than 3 storeys to be a safety risk. At present, modern wood construction buildings in China are generally 3 storeys or below.
- 6. The design time for domestic projects is short, and changes are inevitable on site, while modern wood structures are prefabricated in factories, and in some projects the prefabricated materials did not fit actual site conditions and become scrapped.
- 7. Collaboration between the lead designer and the structural engineer in the design of the project, and cooperation with professional wood construction manufacturers needs to be strengthened. Interviewees indicated that design of some projects were completed with drawing produced but then realized no producers could produce the required wood components.
- 8. Due to climate and other factors, the wood expands and shrinks. If the spliced joint of the wood becomes larger and or if there is oil leakage in the lumps of the wood, it will cause concerns about the durability of the wood in the future.
- 9. The application of BIM in modern wood construction and how to combine modern wood construction with traditional wood construction is a subject that needs to be explored and perfected.
- 10. There are great differences between foreign and domestic calculation systems for modern wood construction, which cannot be copied directly. For example, the units may be measured in inches abroad, whereas in China they need to be converted to centi-metres.

Will you be willing to try modern wood construction design in the future?

- **Willingness to try wood construction design in the future:** Of 29 interviewees who have not done wood construction design, 26 said they would like to try modern wood construction design, accounting for 90%; only 3, accounting for 10%, said they would not consider it for the time being.

Will you be willing to try modern wood construction design in the future?

N=29



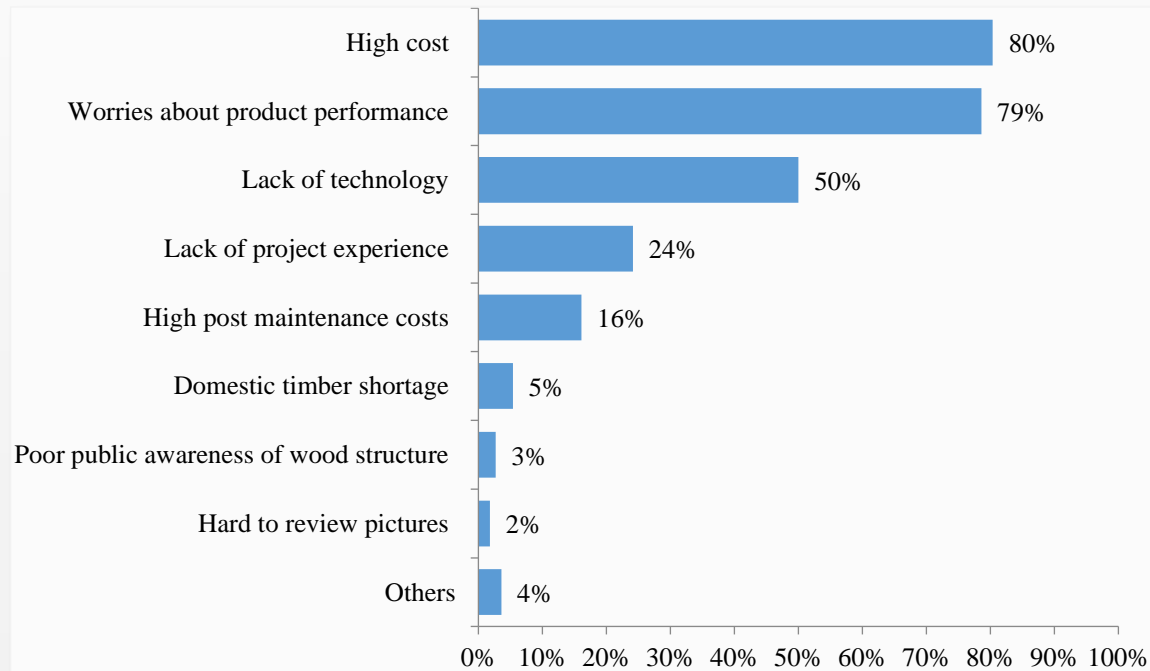
Explanation of Interviewees' Views

- **Willing to try:**
- Modern wood construction is unique in modeling, and the wood materials are friendly, natural and environmental-friendly, making them more appealing, and some interviewees expressed that they had participated in the Canada Wood's events in Suzhou and other places, and found it quite impressive;
 - Modern wood construction not only give designers more room to design, but also provides market development opportunities in China, which makes the designers willing to try;
 - Some interviewees expressed that if developers require modern wood construction, they would be willing to try;
 - A few interviewees stated that although they were planning and designing institutes and were at the front end of the project, they would recommend modern wood construction in places where resort sites and construction conditions were more limited or where the client had special requirements.
- **Not considered for the time being:** It mainly because the designers and the design institutes mainly focus on buildings with concrete structure, and wood construction is more niche and specialized, the company has no talents or relevant experience in this field, so it is not convenient to change the profession of the designer for the time being, so not considered for the time being.

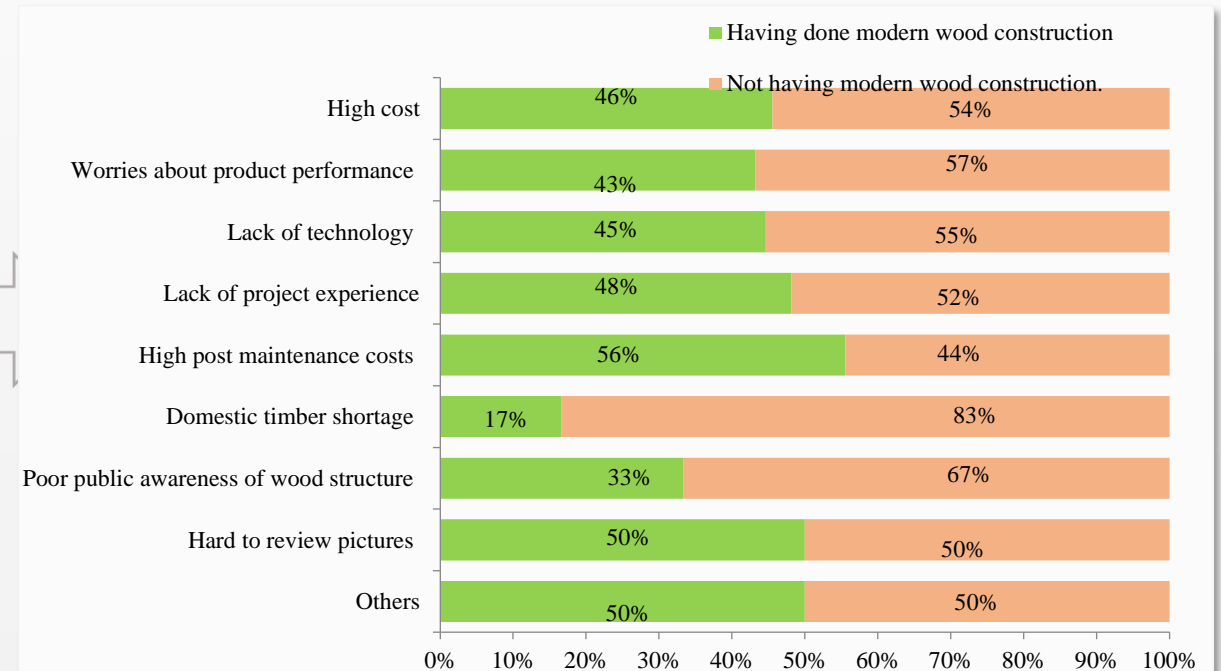
Barriers to the Development of Modern Wood Construction in China

- **Main barriers to the development of modern wood construction in China:** Of 112 interviewees, 80% believed that the cost is high; followed by the concerns about product performance, accounting for 79%; 50% believed that it is lack of technology, such as lack of professional wood construction design and construction personnel, and imperfect technical codes; 24% believed that it is lack of project experience; 16% believed that the maintenance cost is high in later period; 5% believed that domestic wood is in short supply; 3% believed that the public has poor acceptance of wood construction; 2% believed that the long time for drawing review drags its development; and 4% chose others (e.g. land policy, simple shape, lack of PC timber factory in China and lack of strong support from the government).
- **Classification and comparison:** Whether they have experience in modern wood construction design, "high cost" and "concerns about product performance" are the two main obstacles to the development of modern wood construction in China. Compared with designers with experience in modern wood construction, interviewees who have no experience in modern wood construction design believed that the proportion of "domestic wood shortage" and "poor public acceptance of wood construction " is higher.

Barriers to the Development of Modern wood construction in China
N=112



Barrier rated by interviewees with and without Experience in Modern wood construction Design

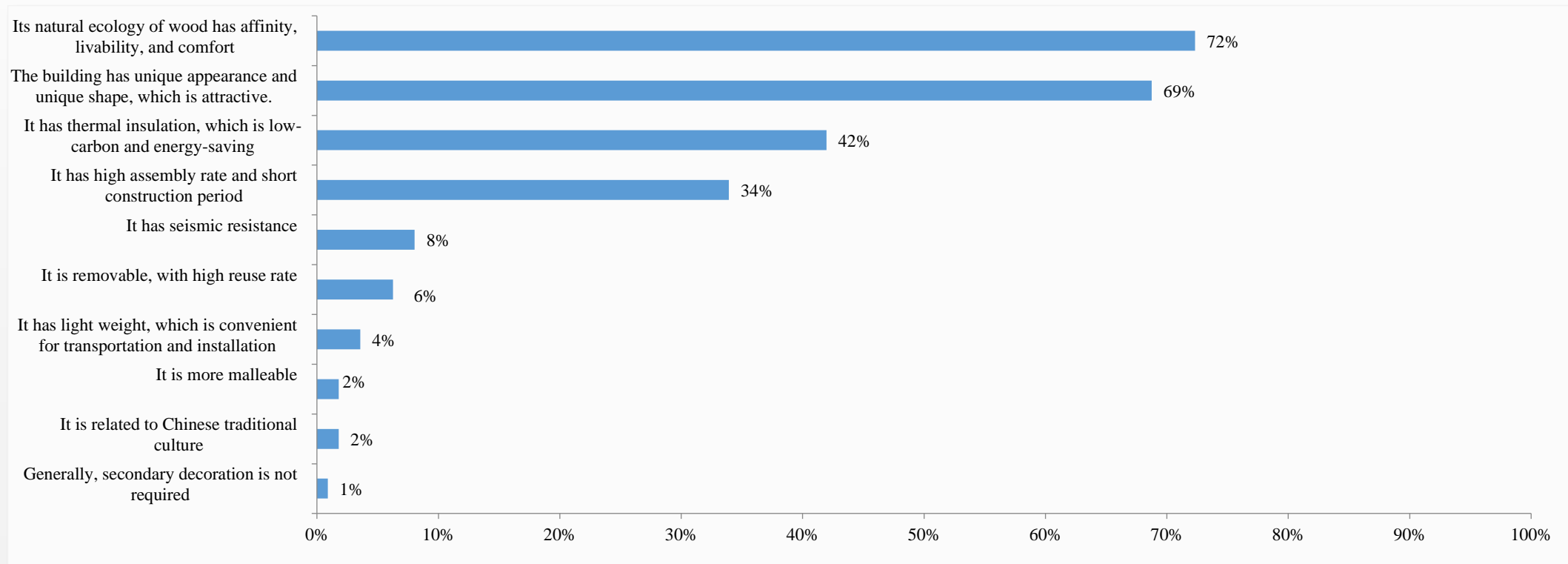


Advantages of Modern Wood Construction Design

- **Advantages of modern construction:** Of 112 interviewees, 72% considered wood's natural ecological affinity, livability and comfort to be its most important features; 69% considered that the modern wood construction to be unique, charming and attractive in appearance; 42% considered it to be heat insulating and low-carbon energy efficient; 34% considered it to have a high prefabrication rate and a short construction period; 8% considered it to have excellent seismic performance; 6% considered it to be disassembled and highly reusable; 4% considered it to be lightweight and easy to transport and install; 2% considered it to be malleable and better than concrete and steel; another 2% considered modern wood construction has some connection with Chinese traditional culture; and 1% considered that modern wood construction generally does not need secondary decoration.

Main Advantages of Modern Wood Construction

N=112



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Chapter Summary

- At policy level, the central government has issued relevant policies of "Carbon Peak and Carbon Neutrality Goals", "Prefabricated construction" and "Promotion of Low-density Housing in County-level Cities"; at provincial level, Hebei, Jiangsu, Hainan, Anhui and other provinces have advocated using modern prefabricated wood construction in relevant policy documents. On the whole, the government has not yet issued any policy specific for modern wood construction, nor has it supported specific construction goals or incentives for modern wood construction.
- In this context, most of the general designers interviewed have paid low attention to policies, and some senior design executives give some personal opinions. Generally speaking, the low carbon and environmental protection nature of modern wood construction conforms to the current national development policy. However, policy support is limited. It is necessary to solve the adverse factors of cost, product performance, public perception, raw material supply, etc. to enter a period of rapid development of modern wood construction in China.
- In addition, interviewees who have experience in wood construction are more optimistic about the development of modern wood construction in China compared to interviewees who have no experience in wood construction, especially in the fields of cultural tourism and recreation, cultural venues and beautiful countryside planning.

Carbon Peak and Carbon Neutrality Goals

- In September 2020, the Chinese government announced that it aims to peak carbon dioxide emissions by 2030 and strive to achieve carbon neutrality by 2060.
- In October 2021, the State Council issued the Action Plan for Carbon Dioxide Peaking Before 2030, proposing to promote green low-carbon building materials and green construction methods, strengthen R&D and application of low-carbon building materials, such as wood and bamboo building materials, and to accelerate the industrialization of new-type buildings to vigorously develop prefabricated buildings and promote steel structure houses.

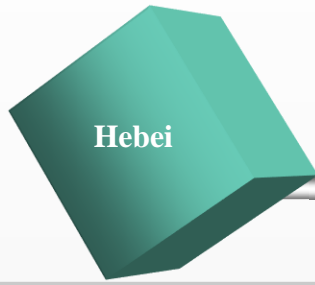
Prefabricated buildings

- In 2019, the Ministry of Housing and Urban-Rural Development put forward the development plan for prefabricated buildings, and by 2020, the prefabricated buildings would account for about 15% of new buildings nationwide.
- In March 2021, the Ministry of Housing and Urban-Rural Development announced that in 2020, the total of prefabricated buildings would reach 630 million square meters nationwide, accounting for 20.5% of new buildings, exceeding the target.
- In January 2022, the Ministry of Housing and Urban-Rural Development prepared the Outline for 14th Five-Year Plan for Construction Industry Development, proposing that by 2035, the proportion of prefabricated buildings in newly built buildings will reach more than 30%. At present, the state is pushing the prefabricating construction, and it is required to meet a certain percentage of the prefabrication rate at the land auction stage to be eligible for land.

Development of Low-density Housing in County-level Cities

- In June 2021, 15 departments including the Ministry of Housing and Urban-Rural Development jointly issued the Opinions on Strengthening the Green and Low-carbon Construction in the at County-level, requiring not less than 70% of the newly-built residential buildings in the county to be of 6-storey height or lower, and the maximum height of newly-built residential buildings in the county shall not exceed 18-storey unless approved under special circumstances.

- In recent years, the provincial governments of Hebei, Jiangsu, Hainan, Anhui, etc., have required to "actively develop modern prefabricated wood construction buildings where conditions are available" in the documents in the field of prefabricated and green buildings, but the lower-level governments have not issued detailed rules for the construction goals of modern prefabricated wood construction.



Hebei

- In January 2017, Hebei Provincial Government issued the Implementation Opinions on Vigorous Development of Prefabricated Buildings to advocate the development of modern wood construction where conditions permit.



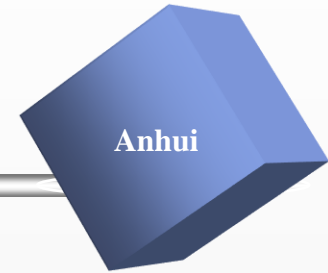
Jiangsu

- In December 2017, Jiangsu Provincial Government issued Opinions on Promoting the Reform and Development of Construction Industry to actively promote prefabricate steel structure buildings and prefabricated wood construction, and to actively explore the construction of prefabricated low-rise housing in rural areas.



Hainan

- In December 2017, Hainan Provincial Government issued the Implementation Opinions on Vigorous Development of Prefabricated Buildings to encourage appropriate development of modern fabricated wood construction in scenic spots, garden landscape, antique buildings and other fields, as well as in low-rise and high-grade commercial residential buildings.



Anhui

- In September 2020, five departments including the Provincial Department of Housing and Urban-Rural Development issued the Implementation Plan for Green Building Creation in Anhui Province to steadily promote the prefabricated construction methods. It advocated the application of light steel structure and wood construction in tourism vacation, garden landscape and antique building projects.

The Influence of Carbon Neutrality Policy on Modern Wood Construction

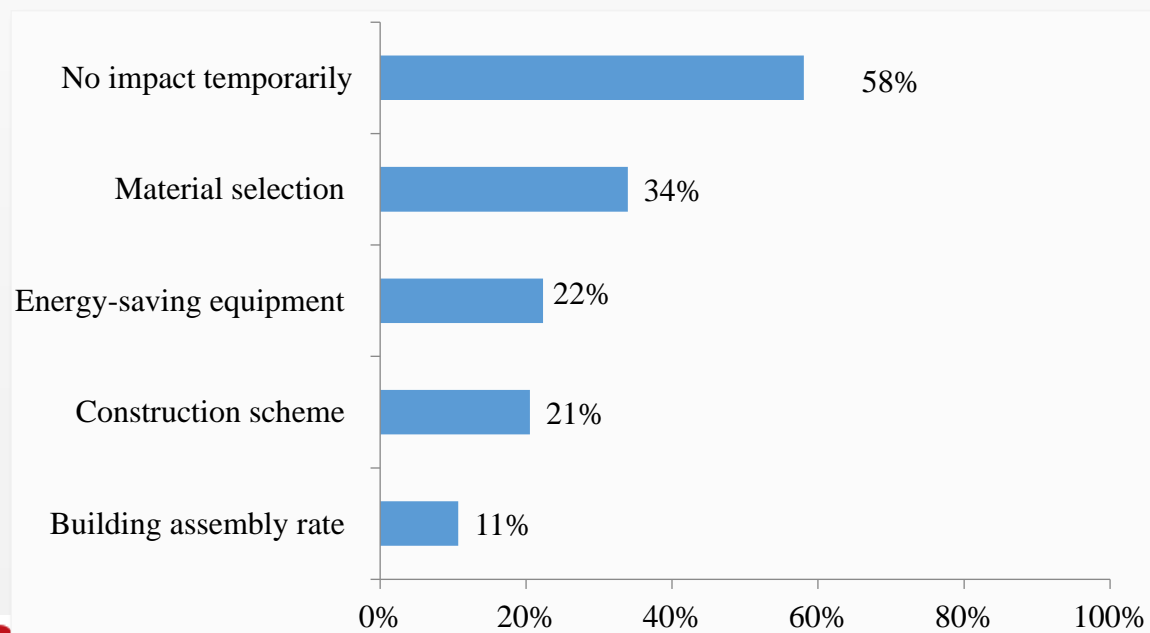
- **Impact of "Carbon Peak and Carbon Neutrality Goals" on construction industry:**
Of 112 interviewees, 58% believed that there would be no impact for the time being, and that it would take time for the policy to be implemented from the central government to the local governments, especially at the moment of epidemic, but at the same time expressed that the impact would be seen in the later stages in terms of material selection, construction scheme, energy saving equipment and other aspects 34% believed that green building materials would be preferred in the current construction market; 22% believed that energy-saving equipment would become more and more popular; 21% said that the current construction scheme should reflect the characteristics of green and energy-saving features; 11% believed that the government is now demanding higher prefabrication rates for buildings.

- **Impact of "Carbon Peak and Carbon Neutrality Goals" on wood construction:**
67 of the 112 samples expressed their views. 37% believed that the characteristics of green wood construction, environmental protection and sequestration carbon were in line with the "Carbon Peak and Carbon Neutrality Goals", and believed that under the influence of policies, more and more buildings with modern wood construction would be built in China. 30% believed that there was no impact; 21% believed that the impact was not significant, that there was a shortage of timber in China with a high import dependence, and difficulties existed in large-scale promotion, and local promotion was feasible. 12% indicated that they were not sure.

Impact of "Carbon Peak and Carbon Neutrality Goals" on Construction

Industry

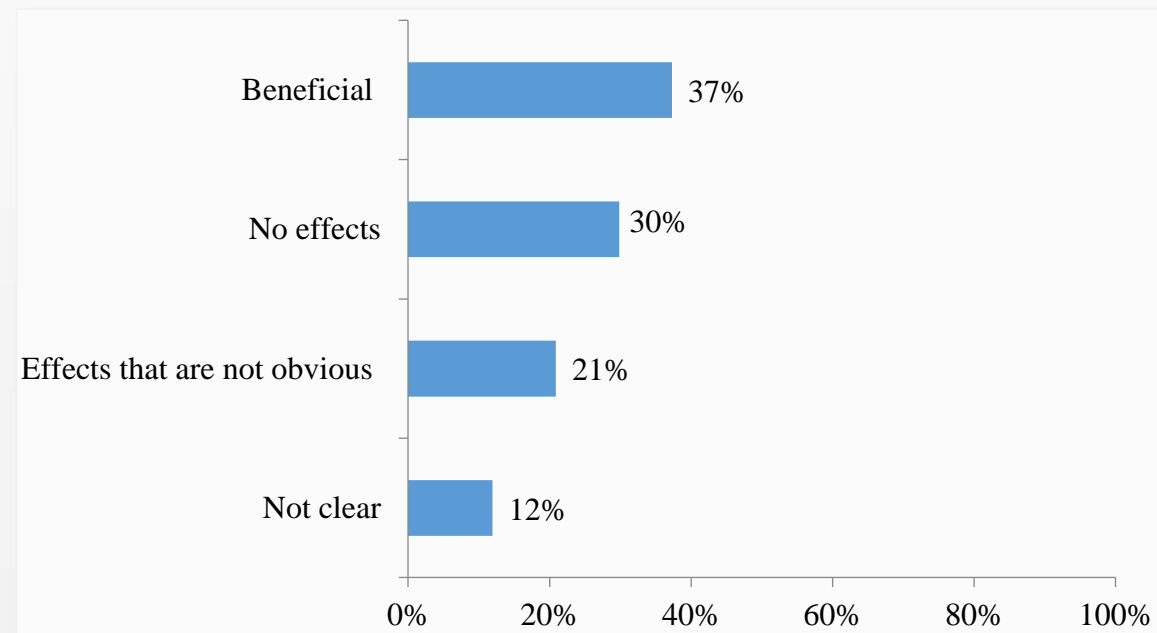
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Impact of "Carbon Peak and Carbon Neutrality Goals" on Wood

Construction

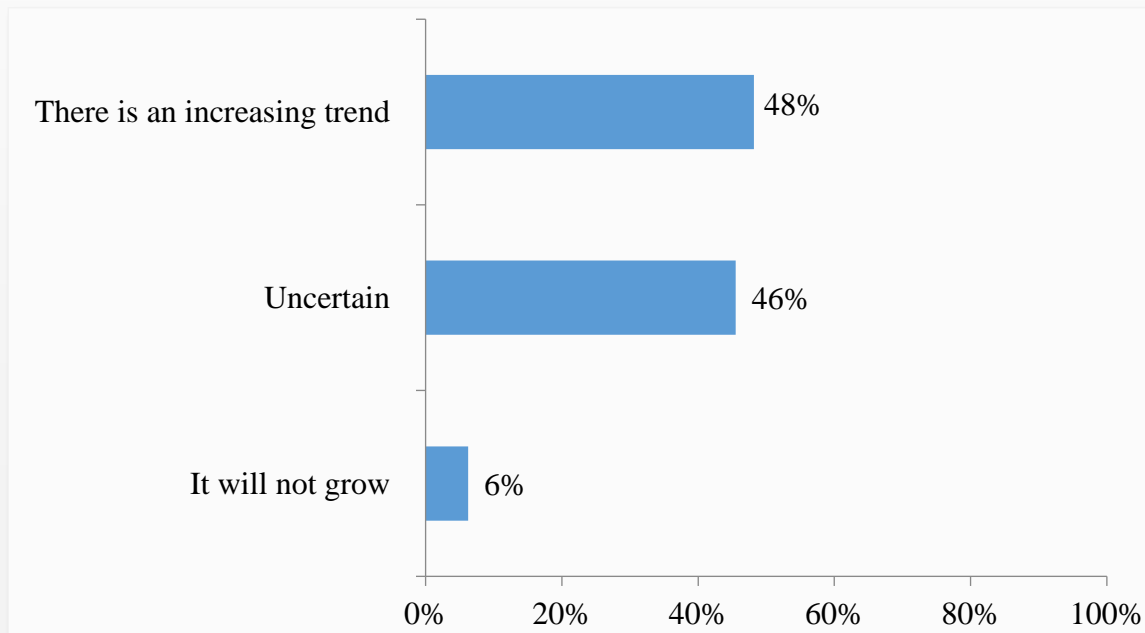
N=67



- Whether the use of wood construction will grow as a result of domestic policy calls for a higher proportion of prefabricated buildings: 48% of 112 interviewees said there was an increase; 46% were not sure; and 6% said that there would be no growth.

The Influence of Prefabricated Policy on Modern Wood Construction

N=112



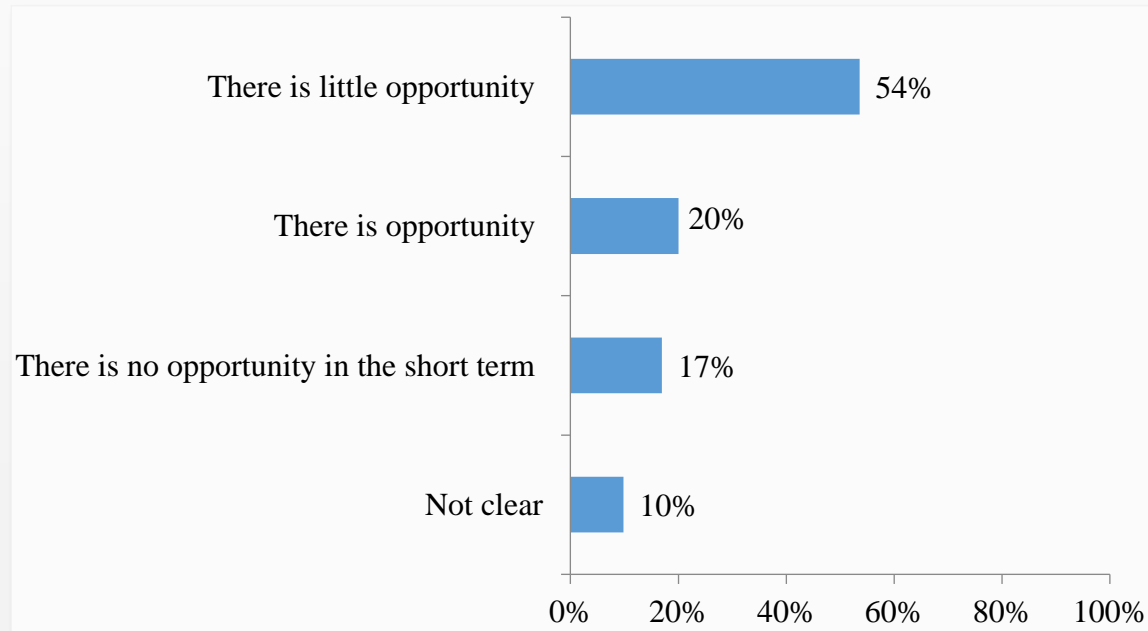
Explanation of Interviewees' Views

- **Growth trend:** Modern wood construction is one type of prefabricated buildings, and modern wood construction has certain advantages in cultural tourism, temporary building. Although the development of the real estate industry has slowed down in the past two years due to the epidemic and state regulations, the culture and tourism industry will recover after the epidemic stabilizes. In addition, in the field of "Beautiful Countryside Planning", modern wood construction also has certain market opportunity.
- **Will not grow:** Interviewees said that, at present, domestic prefabricated buildings are mainly concrete structure and steel structure, but domestic factory prefabrication capacity is limited, transportation is also difficult, the government is pushing prefabrication type, and the actual project implementation only focuses on the floor, part of walls, stairs, while the other main building bodies are still casting on site, so as to meet the requirements of prefabrication rate requirements. However, this is not the real prefabrication type. At present, the prefabrication rate of wood construction is high, which conforms to the policy. But due to the shortage of domestic engineered wood production resources on the one hand, and its higher cost factors on the other hand, the domestic modern wood construction would be difficult to grow in the next few years.
- **Not sure:** Some interviewees did not have an understanding of modern wood construction and weren't able to give their opinions; while others, seeing both good policies and difficulties in promoting modern wood construction in China and were not sure about the future growth.

- The policy has required county-level cities to develop low-density housing, so whether there is and will be market opportunity for modern wood construction: Of 112 interviewees, 54% believed that there was a little opportunity; 20% believed that there was opportunity; 17% believed that there would be no opportunity in the short term (within 3~5 years); 10% said they were not sure.

Opportunities for Modern wood construction in Low-rise Housing

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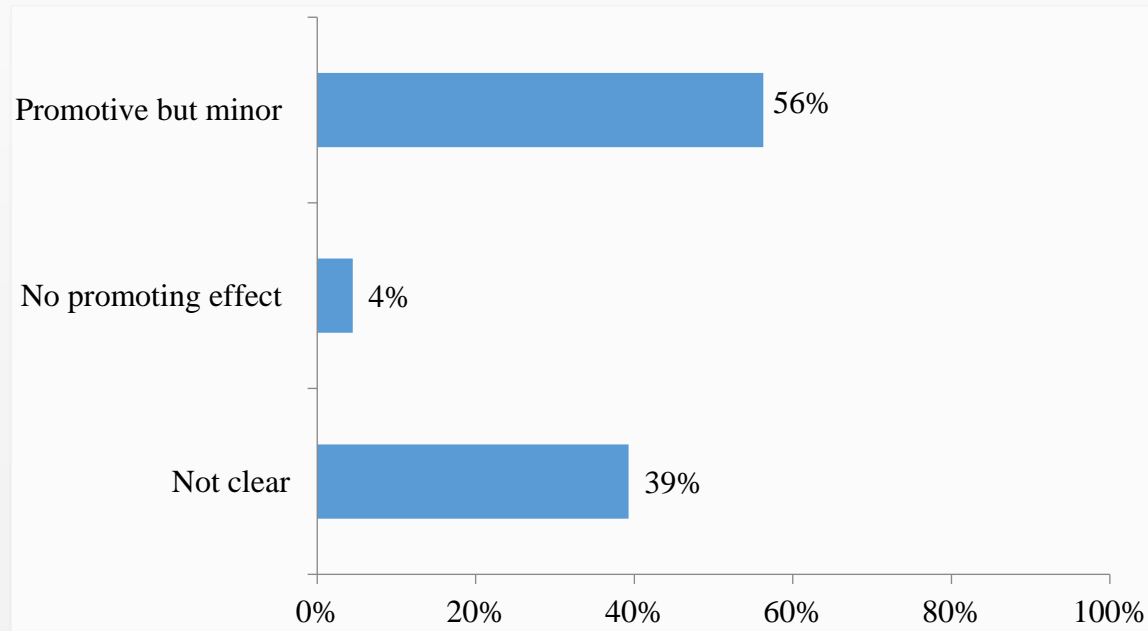
Explanation of Interviewees' Views

- **Good opportunity:** Most interviewees believed that modern wood construction would meet current policy requirements with the features of low carbon and environmental protection, and there would be possibility of being selected in the field of low-density housing; some interviewees believed that the construction of beautiful countryside is generally low-density housing, and there would be opportunities for modern wood construction in economically developed areas such as Jiangsu, Zhejiang, Shanghai, Guangdong, etc.
- **Little opportunity:** The interviewees agreed that the modern wood construction would have opportunities in low-density residential buildings. However, due to the concerns about fire performance, cost and other factors, they believed that the market opportunity would not be significant.
- **No opportunity in the short term:** The interviewees believed that, firstly, the cost of wood construction is high; secondly, although it is possible to achieve 5 storeys in theory, the actual project designers only recognize the safety of modern construction with 3 storeys or below; thirdly, there is a lack of designers and construction personnel in respect of modern wood construction at present in China; and taking into account the various concerns of domestic consumer groups on the performance of wood construction products, they believed that there would be no market opportunity in short term of 3 to 5 years.

- Recently, Jiangsu, Anhui, Hainan and other provinces issued documents requiring the promotion of prefabricated wood construction(bamboo-wood construction), to what extent does this contribute to the domestic application of modern construction : Of 112 interviewees, 56% believed that it had a facilitating effect, but to a lesser extent; 39% of interviewees were not sure or did not give an opinion; and 4% believed that it had no facilitating effect.

Impact of Local Policy of Promoting Prefabricated Wood Structural Construction on Modern Wood Construction

N=112



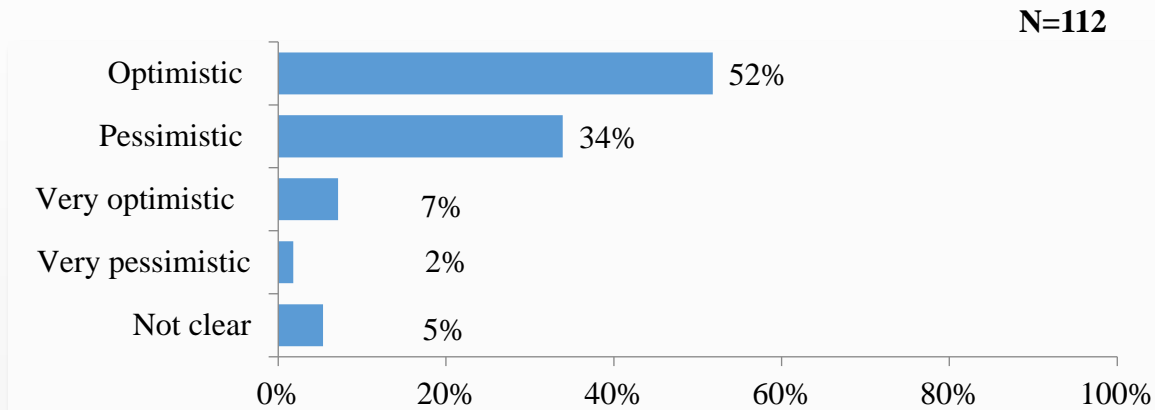
Explanation of Interviewees' Views

- Policy discussion: Some interviewees said that some provincial governments issued documents to promote the development of prefabricated wood construction, indicating that relevant leaders obtain a certain understanding of modern wood construction and advanced consciousness. However, taking into account that domestic wood construction has not formed an industrial scale, and the development situation of each city varies. In addition, some wood construction manufacturers in the domestic market have done some projects with poor quality in order to pursue profits, which has brought bad influence to the public and the government. Therefore, the government did not force the promotion, nor give specific goals, subsidy policies and other implementation details.
- There is facilitating effect, but little: The provincial government documents are not mandatory and do not provide specific annual objectives or subsidy policies on the one hand, and the modern wood construction are expensive and fire protection and other properties cause concerns to the owners on the other hand, so the promotion of policies is limited.
- No facilitating effect: Some interviewees mainly expressed that the documents issued by the provincial government were too general, and only when the government pushes to promote, can the modern wood construction have better development.

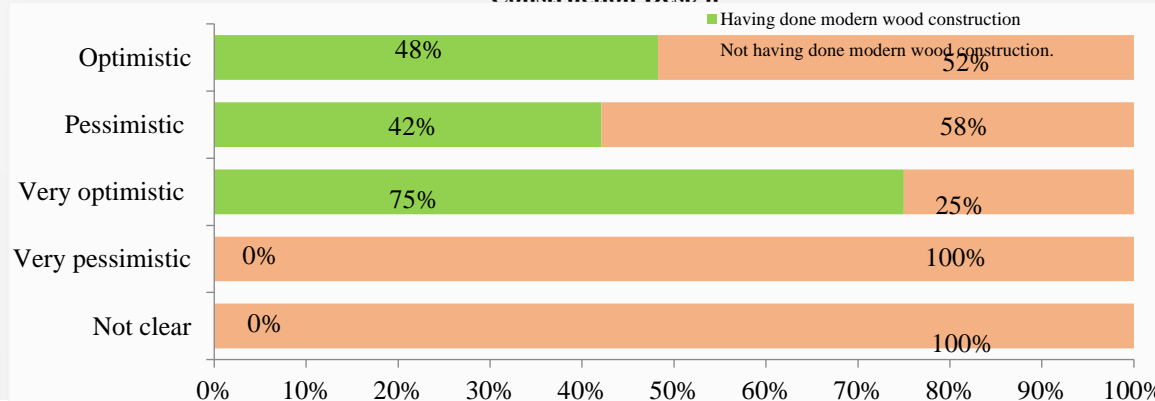
Are you optimistic about the development of modern wood construction in China?

- In generally, whether designers are positive on the development of modern wood construction in China: Of the 112 interviewees, 52% were positive; 34% were negative; 7% were very positive; 2% were very negative, and 5% are not sure.
- Classification comparison: On the whole, the interviewees with experience in modern wood construction design are more positive about the development in China.

Whether the designers are positive about the development of modern wood construction in China?



Breakdown of Development Trends - Perceptions with or without Experience in Modern Wood Construction Design



Explanation of Interviewees' Views

- Positive:
 - Steel-wood hybrid structure has a better market;
 - Cultural tourism and recreation, cultural venues, beautiful countryside areas have good prospects for development, and the culture tourism industry will recover and benefit the development of modern wood construction ing after the epidemic;
 - Wood construction are green, natural and aesthetically pleasing, and in line with "Carbon Peak and Carbon Neutrality Goals", and have development prospect;
 - Interviewees are designers of modern wood construction, with more projects experience and having confidence in the future.
- Negative:
 - Concerns about product durability, fire safety, waterproof, corrosion prevention, etc.;
 - High cost;
 - It is considered that wood construction can not be used for building taller than 3 storeys;
 - At present, the consumer group with economic strength in China is post-60s to post-80s, and the interviewees believed that these generations have a low level of acceptance on the wood construction;
 - The domestic construction is mainly used in the cultural and tourism industry, and affected by pandemic and other factors, the cultural and tourism industry has been depressed over the past two years.
- Very positive: Interviewees mainly believed that the low carbon environmental protection of the wood construction was in line with national policy requirements, while China market is large, modern wood construction occupies a very small share in the industry, there will be better development in the future with some barriers removed.
- Very negative: Mainly due to the shortage of domestic wood, product performance concerns, and high cost of construction.

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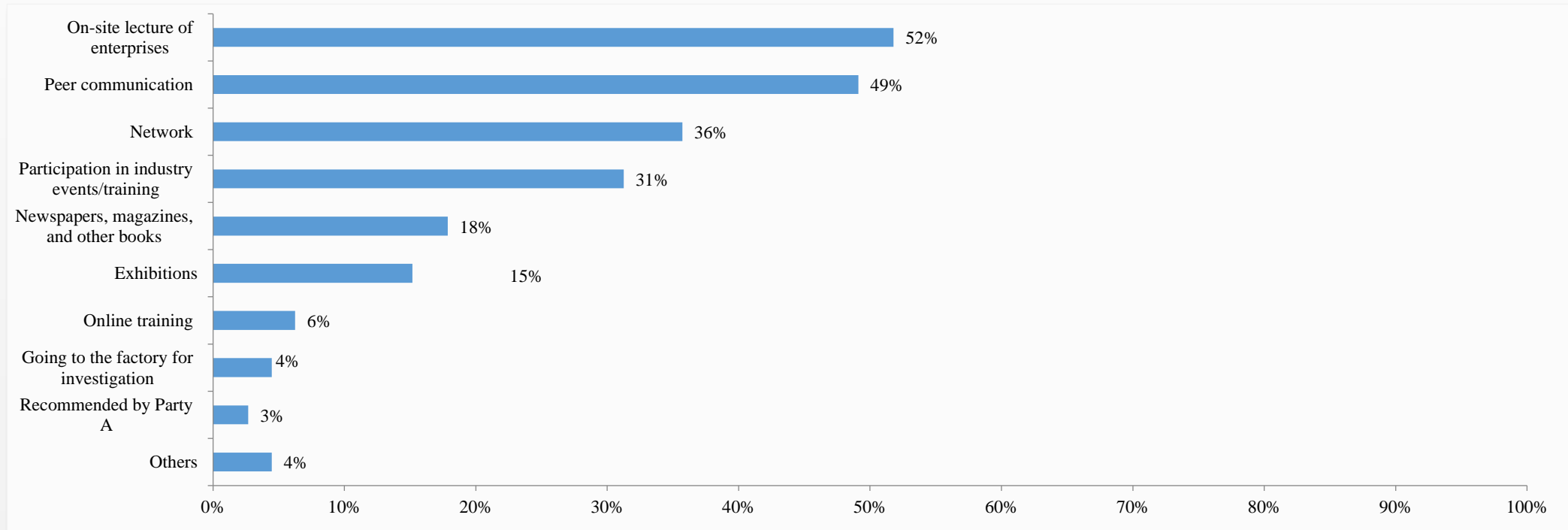
Chapter Summary

- This chapter mainly focuses on understanding how designers access information, trend, new technology, and their preference on the channel, content, length of time and other aspects when they receive information or presentations about modern wood construction.
- Access to obtain new information: Generally speaking, only limited number of traditional domestic design institutes would take the initiative to acquire new information and technology. University design institutes or star design companies would take the initiative to acquire new information and technology. On the whole, the main channels for designers to learn about the new materials are "enterprise door-to-door presentation", "peer exchange" and "internet"; For new information about wood construction, due to the small quantity of domestic wood building manufacturers in China, "internet", "participation in industry activities/training" and "peer exchange" become the main channel for designers to acquire new information.
- Presentation method: For designers who have no or limited experience in wood construction, "online" is more convenient and more popular; while for designers with certain experience, "offline" is more interactive, impressive, and convenient for later contact and networking.
- Presentation length: The individual topics of "On-line" are preferably limited to 1-2 hours, and more recorded sessions are desired; the length of "offline" sessions are preferred to be "half day to 1 day". It is also important to note that there is no limit to the length of a presentation with good content.
- Presentation content: Compared with "market industry trends", designers prefer the presentations of "professional technical information". They hope that the contents of the presentation will be systematized, structured and in-depth, with coverage of researches and case studies.

- **Access for designers to obtain new information:** Of 112 interviewees, 52% of interviewees learned about new information through incoming enterprise visits; 49% through peer exchanges; 36% through industry networks; 31% through participation in industry activities/training; 18% through newspapers, magazines and books; 15% through exhibitions; 6% through online training; 4% said that they would visit the factory for inspection; 3% said that it was recommended by project owners. The other 4% were classified as others, such as through well-known projects and policy guidance, without actively learning about new information.
- According to RCC research, the average university-based design institutes, which have an ambition to enter its projects for awards, will take the initiative to learn about new information and technologies; while traditional design institutes do not actively learn about new materials, and their designers do regular design with traditional materials.

Access and Availability of New Construction Materials for Designers

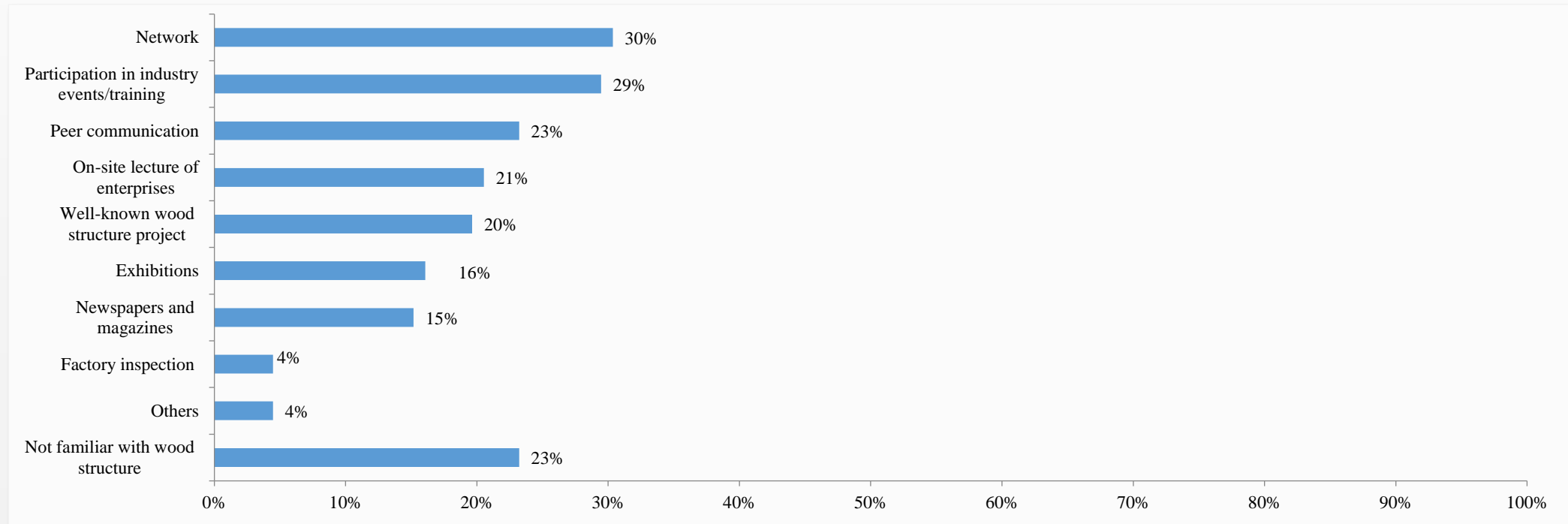
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- **Access and availability of wood construction for designers:** Of 112 interviewees, 30% through industry networks; 29% through participation in industry activities/training; 23% through peer exchange; 21% wood construction manufacturers through incoming visits/presentations; 20% through interview with well-known wood construction projects; 16% through exhibition; 15% through newspapers and magazines; 4% said they would visit the factory; 23% of the interviewees had no knowledge of wood construction; and 4% were classified as other types, such as good cooperation relationship with famous wood construction manufacturers, business trip to abroad and policy guides, etc.
- The interviewees include several designers of modern wood construction expressed that they did not have professional education on wood construction design. They learned from the experienced designer / master on the one hand, and accumulated experience through the internet, by reading professional books, or by visiting some well-known wood construction projects on the other hand. The process of solving problems raised by the project inspectors and auditors is a good way to learn.

Access and Availability of Wood Construction for Designers

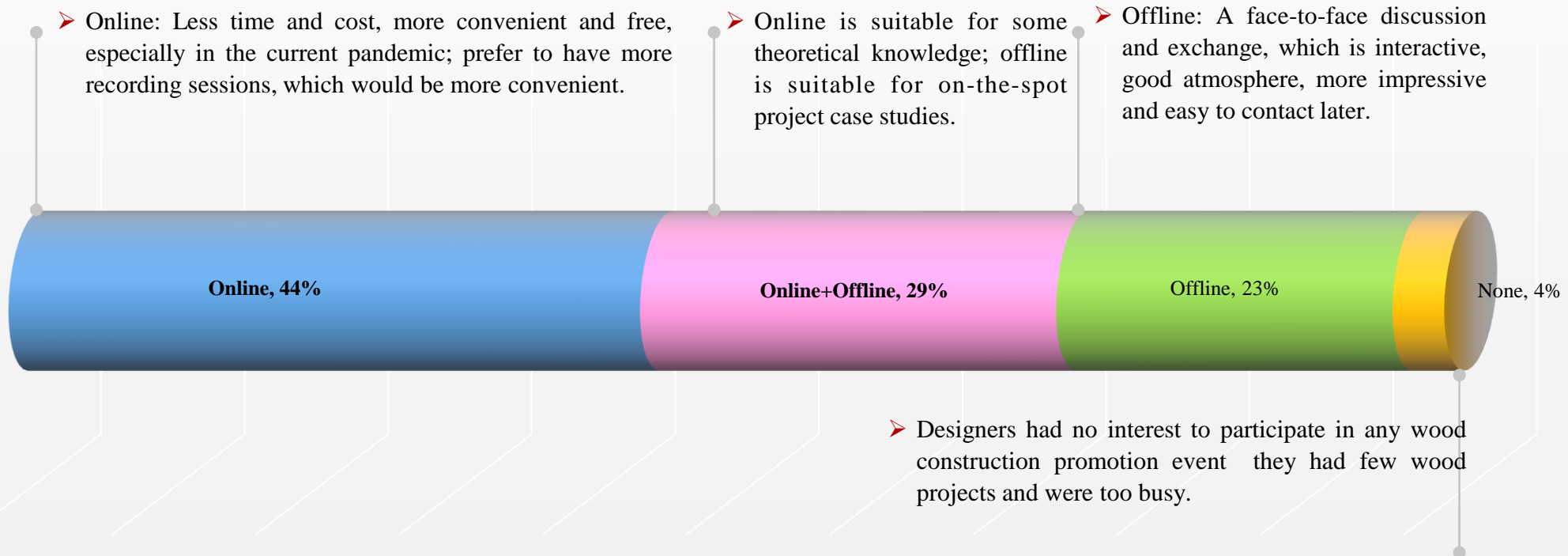
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- **Way to learn wood construction preferred by designers:** 111 interviewees gave their answers out of 112 interviewees; 44% chose online, mainly because of the convenience; 29% chose combination of online and offline, mainly depending on the content of presentation because some topics may be suitable for online and some are not; 23% chose offline, mainly because of good interaction and better atmosphere for learning; 4% didn't want to participate because they were rarely involved wood projects and were too busy to spare time.

Choice of Way to Learn Wood Construction

N=111



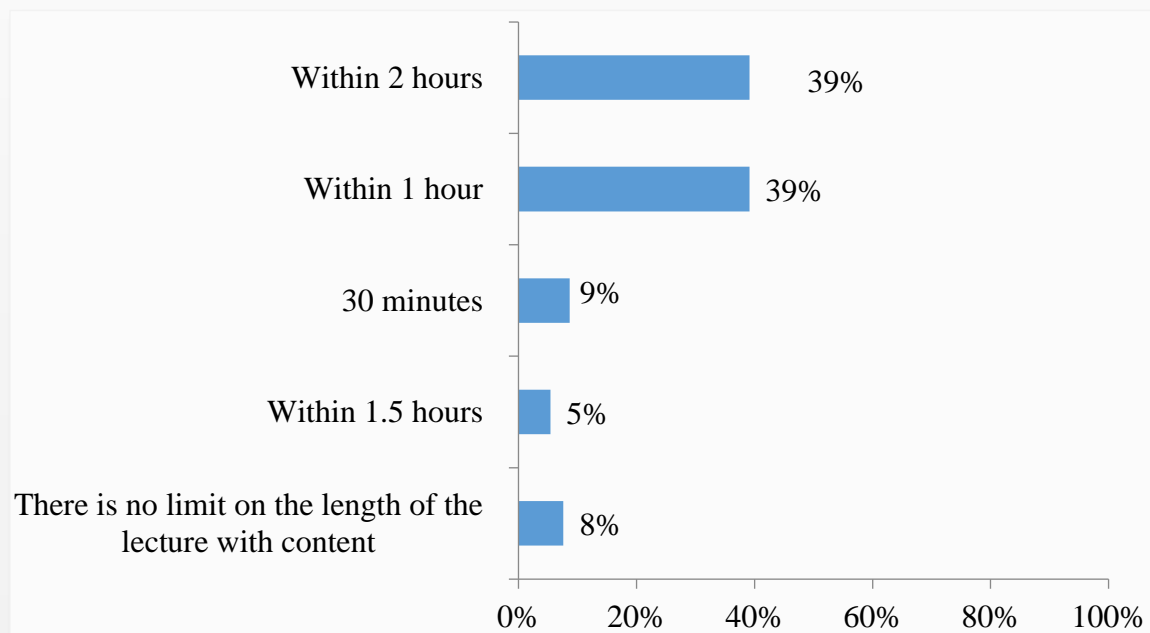
Choice of Presentation Length

- **Choice of online presentation length:** Of the 92 valid samples, 39% preferred to keep the time within 2 hours; another 39% preferred to limit within 1 hour; 9% preferred to limit within 30 minutes; 5% preferred to limit within 1.5 hours; and 8% said there could no time limit if the presentation was of high quality.
- Interviewees suggested it would be preferable to have more record presentation so that designers can effectively learn at any time, regardless of the length of time.

- **Choice of offline Presentation length:** Of 64 valid samples, 28% preferred to the duration of the presentation within half a day; 23% chose within 1 day; 19% chose within 2 hours; 11% chose within 2 days; 9% chose within 3 days; 3% chose within 5 days; 2% limit within 1-2 hours; and 5% said that if the project is onsite visit, the time may not be limited and can be arranged according to the situation.
- Interviewees suggested that the offline event should not exceed 2 hours, and it should come with more interactive session, and the schedule is expected to be arranged in the weekends.

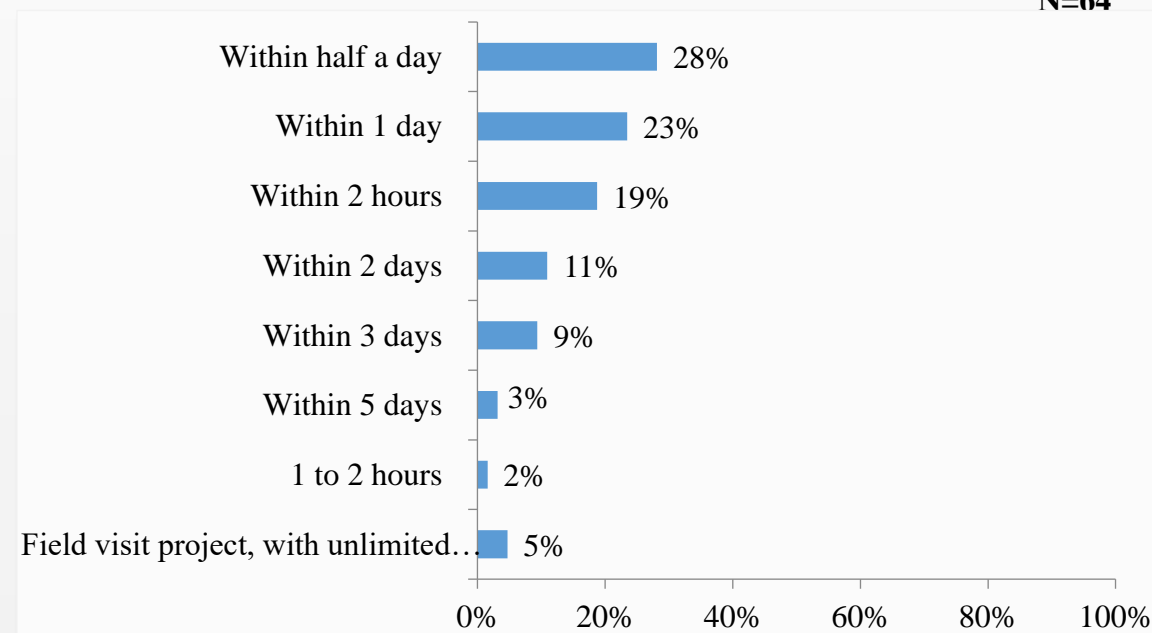
Choice of Online Presentation Length

N=92



Choice of Offline Presentation Length

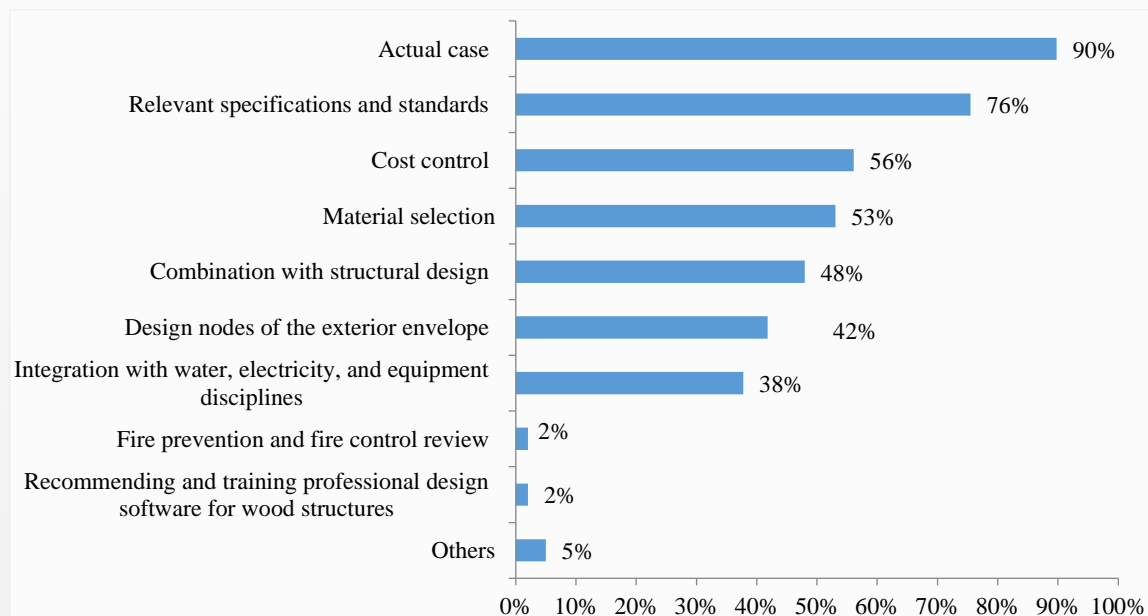
N=64



- **Choice of presentation content:** Of 108 valid samples, 60% focus on professional technology and market trends; 33% focus on professional technical information; 7% chose market industry trends.
- **Professional Technical Information:** Of the 98 valid samples, the project case study were most popular, accounting for 90%; followed by related specifications and standards, accounting for 76%; cost control accounted for 56%; material selection accounted for 53%; combination with structural design accounted for 48%; design exhibition of peripheral protection nodes accounted for 42%; combination with water, electricity and equipment accounted for 38%; fire prevention and fire protection review accounted for 2%; the percentage of those who would like to be recommended and trained in professional design software for wood construction accounted for 2%; while others accounted for 5%, including pay attention to the differences between processing process, new house type and new model, design standards at home and abroad; conflicts between technical specifications of wood construction and mandatory specifications, etc.
- **Market dynamics:** Of 72 valid samples, 89% chose case study presentations; 79% chose industries sharing; 68% chose policy interpretation; and the others accounted for 6%, mainly referring to project visits, latest project trends, future development direction of wood construction, etc.

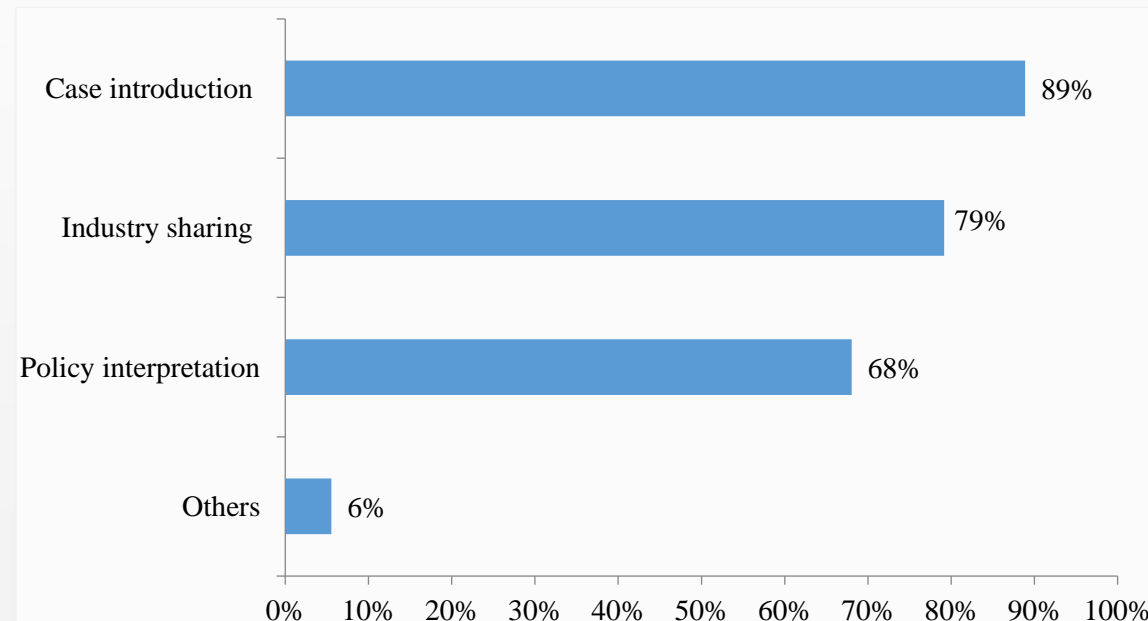
Choices of Professional Technical Information

N=98



Choice of Market Industry Dynamics.

N=72



Professional Technical Information+Market Industry Trends, 60%

Professional Technical Information, 33%

Market industry dynamics, 7%

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Chapter V

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Chapter Summary

- The first part of this chapter introduces relevant policies or plans from four fields related to modern wood construction: real estate, new infrastructure, culture and recreation, and Beautiful Countryside Planning. They provides policy environment for developing modern wood construction in China; The second part summarizes interviewees' overall views on the development of modern wood construction in China.
- In addition, some designers with experience in modern wood construction have given some suggestions from macro and micro aspects to its development in China, and put forward some comments.

- In recent years, the state has successively issued relevant policies or plans in some fields related to wood construction, such as real estate, new infrastructure, cultural tourism, recreation, Beautiful Countryside Planning, etc.

01 Real estate



- In recent years, the state has gradually strengthened the regulation and control of the real estate industry and issued a series of policies. In recent two years, the policies such as “three red lines” and “centralized control of real estate loans” have been introduced. In addition, the impact of the pandemic has led to a stagnation of the real estate market, especially for cultural tourism real estate.
- In August 2020, the central government proposed "three red lines" for financing, which will be implemented from January 1, 2021. Supervisory authority require pilot real estate enterprises to achieve, First red line is, after deducting pre-sale funds, the asset-liability ratio is greater than 70%; Second, the net debt ratio is greater than 100%; Third, the cash to short-term debt ratio is be less than 1. Any developers who step on all three red lines would not be allowed to expand existing borrowing; If step on two, annual growth of the developer’s interest-bearing debt scale should not exceed 5%; If step on one, the annual growth of debt should not exceed 10%; Annual growth of interest-bearing debt shall not exceed 15% even if no red line is crossed.
- At the beginning of 2021, the government issued the Notice on Establishing the Real Estate Loan Concentration Management System for Banking Financial Institutions, requiring that the proportion of real estate loans of the six major banks + CDB shall not exceed 40%, and the proportion of other banks shall not exceed 27.5%.

- In December 2018, the central government put forward “New infrastructure“ for the first time, which is to focus on new infrastructure construction at the end of science and technology, with digitalization as the core, mainly including 5G, ultra-high voltage transmission, inter-city high-speed railway and rail transportation, new energy vehicle charging pile, large data center, artificial intelligence and industrial Internet and other seven major areas, involving industries such as communication, electrical power, transportation, education and medical treatment, of which transportation accounts for a relatively large proportion.
- By the end of February 2022, 2022 Major Projects Investment List has been issued in many places, with a total investment of more than RMB 25 trillion. Transportation, energy and supporting facilities in the park will be the investment priorities of all regions.

02 New Infrastructure



03 Culture and Recreation



- In December 2021, the State Council issued the 14th Five-Year Plan for Tourism Development, requiring that by 2025, culture and tourism would be deeply integrated, and a batch of world-class scenic spots and resorts rich in cultural deposits would be built, a batch of national tourism and leisure cities and blocks with distinctive cultural characteristics would be built, and the development of red tourism and rural tourism would be accelerated.
- In January 2022, the Forestry Bureau issued the Forest and Grass Industry Development Plan (2021-2025), requiring the establishment of a batch of forest health-care bases and the promotion of a batch of forest health-care brands. As of 2025, the total Qty. of people served by forest recreation service would exceed 600 million; annual Qty. of tourists received by ecotourism tourists would reach 2.5 billion, and the total mileage of national forest trails would exceed 35,000 km.

04 Beautiful Countryside Planning



- In September 2018, the Central Committee issued the Strategic Plan for Rural Revitalization (2018-2022), requiring the development of characteristic towns with distinctive features, integration of industries and cities and full of charm based on local conditions; to preserve natural and cultural environment and to develop rural tourism by fully maintaining the original ecological appearance of village houses and preserving the characteristics of the rural landscape.
- During the “13th Five-Year Plan” period, the characteristic towns of China had experienced the stages of frenzied construction, calm rectification and stable development, and the momentum of cultural tourism town continues unabated after entering the “14th Five-Year Plan”. At present, in “Beautiful Countryside Planning”, the government requires careful planning and precise efforts based on actual conditions.

➤ In this context, the interviewees also have outlined the main advantages and barriers to the development of modern wood construction in China:

Advantages

- The natural eco-friendly, liveable and comfortable nature of the wood is its most important features; its unique modeling is favored by owners seeking differentiation; the good thermal insulation, low-carbon energy-saving properties also fit in with the current "Carbon Peak and Carbon Neutrality Goals" policy of the government.

Barriers

“High cost of modern wood construction”, "concerns about product performance", "lack of design and construction capability, imperfection of codes & standards” are the three biggest barriers to the development of modern wood construction in China.

➤ However, wood gives people a feeling of natural affinity, which cannot be replaced by any other building material at present. In practice, modern wood construction has been widely used in cultural tourism and recreation, and there are some well-known cases of public buildings such as public buildings in cultural venues; along with the development of "Beautiful Countryside Planning" some designers interviewed have already implemented some projects in the construction of new rural areas. Therefore, most designers believed that, with the end of the pandemic, cultural and tourism industry would recover, and with the continuous improvement of relevant standards and specifications for modern wood construction, they are positive about the development of modern wood construction in China.

- Some interviewees gave their suggestions on how to promote modern wood construction better in China. From macro-level perspective, it is necessary to change the mindset from “product-oriented” to “market-oriented”, that is, while introducing the advantages of modern wood construction, more emphasis shall be placed on grasping the actual demands of domestic market and promoting based on the demands; in addition, the promotion extend from wood structure to upstream and downstream value chain. The supply chain including design, construction, material supply, etc. shall be constantly improved to reduce costs and enhance the competitiveness. At a micro level, the promotion can be summarized as below:

Categories				Related Content
Promotional targets	Government Departments			<ul style="list-style-type: none"> With the opportunity of carbon emission control by the government, the promotion can focus on strengthening the communication with the Ministry of Housing and Urban-Rural Development and other relevant governmental bodies. And promotion can be held in economically developed areas such as East China, Southwest China and South China to make more local governments understand the modern wood construction and learn its advantage of meeting "Carbon Peak and Carbon Neutrality Goals".
	Designers	Future Designers		<ul style="list-style-type: none"> It can be considered to engage with leading architectural design colleges in China to make some small wood demo projects on campus, so that the future designers can personally experience the performance of wood. When they encounter suitable projects in their design careers after graduation, they may give priority to modern wood construction.
		Master-level Designer		<ul style="list-style-type: none"> Master-level designers have a lot of influence, Canada Wood may consider engaging with them in promotional activities.
		Mature Designer	Non-wood construction Designer	<ul style="list-style-type: none"> Some lectures/trainings can be conducted from simple to in-depth. For large / influential design institutes, seminars can be jointly organized. For example, during the visit, Arup hopes that Canada Wood can jointly carry out seminars on related wood construction with them.
			Wood construction Designer	<ul style="list-style-type: none"> It would be preferable to organize small-scale lectures or workshops to discuss common problems and issues encountered in wood projects, Also, organize visits to good modern wood projects to share solutions to design difficulties such as structural connection designs.
	Selected Owners	Project owners in Culture and Tourism Industry		<ul style="list-style-type: none"> Seek for opportunities to collaborate on projects as well as promotion.
		Private project owners in rural areas of economically developed regions		<ul style="list-style-type: none"> Make videos and advertisements to expand attention; grasp public perceptions, be careful with wording, e.g. “modern light wood frame structure” may not be correctly understood by general public. People may subjectively believe that “light” means cheap and non-durable.

Promotion methods and contents	Categories	Related Content
	Training and presentation	<ul style="list-style-type: none"> Online presentation: There should be more recorded courses, so that designers can use piecemeal time to learn; broadcast can be controlled within 1-2 hours for individual subjects. The content should be structured and systematic from simple to in-depth, also it is preferable to invite some foreign wood designers to share their project experience.
		<ul style="list-style-type: none"> It is better to place offline presentations in the weekends, among which the explanation part should not exceed 2 hours, with more interaction, and the overall length should ideally limit within 1 day.
	Prestigious wood construction Project	<ul style="list-style-type: none"> The publicity effect of prestigious projects is good. Canada Wood can actively participate in some well-known public wood projects, such as the Winter Olympic Games; Designers would have strong willingness to visit prestigious wood projects, especially to understand the problems and solutions encountered in the design stage of the projects. Canada Wood may consider combine offline presentations with project visits if possible.
	Exhibitions	<ul style="list-style-type: none"> Display project models in exhibition, which will be more intuitive and more effective.
	Promotional materials	<ul style="list-style-type: none"> It would be preferable to have promotional materials with information about different building design and layouts.
	Short Videos and WeChat Groups	<ul style="list-style-type: none"> Produce some interesting short videos of modern wood construction; create a Wechat group for relevant designers to enhance interaction.

Others	Categories	Related Content
	Needs of design software	<ul style="list-style-type: none"> There is a lack of calculation software for modern wood construction engineering in China, and many designers calculate by manually, it would be preferable for Canada Wood to conduct training and promotion.
		<ul style="list-style-type: none"> It is hoped that the calculation software of carbon emission abroad can be localized for China. In this way, designers can intuitively show that the wood construction of the same size emits less carbon than alternative structure.
	Hybrid structure wood construction	<ul style="list-style-type: none"> Hybrid steel-wood structure; concrete and wood hybrid structure will have better development opportunities. It would be preferable to have some training on design of structure and connections.



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Thanks for your attention!