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Identification of Independent Variables to Assess Green-Building Development in China Based on Grounded Theory

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Abstract: *Background*: Development of green building as future buildings has become a trend and played a significant role in changing the general direction of building development and creating an environment for sustainable development 'People-centric' explores the relationship between people and building development. From the perspective of users, what are the influencing factors of green building? What is the relationship between independent variables? The authors link this issue to the development of green building and gaining a clearer understanding and direction. *Methods*: The authors applied grounded theory and intensity sampling to analyse the relationships of independent variables. *Results*: The findings of this study reveal the four core factors affecting how independent variables get to learn about green building, which are 'personal perception elements', 'social elements', 'organisational elements', and 'architectural properties'. *Conclusions*: The authors also analysed the relationships between the independent variables to explore construction theory for helping green building better respond to people's demand and pushing forward its development. In this case, the 'people-centric' green building further improves the urban living environment.

Keywords: green building development; grounded theory; independent variable; influencing factors

1. Introduction

With the rapid growth of China's economy and the advancement of urbanisation, a series of problems due to energy consumption have gradually emerged. Green building is an important factor affecting the development of the construction industry. In accordance with the recent implementation of a comprehensive sustainable development strategy in China, the nature of green building and its associated systems have undergone qualitative changes. From 2000 to 2017, the energy consumption in buildings as a percentage of the total energy consumption fluctuated between 13% and 22%. In 2017, China's total energy consumption in buildings accounted for 21.10% of the total national energy consumption [1]. This number may be seen as an indicator that China's energy-saving technology in buildings is gradually beginning to show results.

In the decades since green building was promoted and put into use, what changes have taken place in users' perceptions, and what factors in their minds affect the development of green buildings? The 14th Five-Year Plan proposed to promote green building construction and harmonious coexistence of man and nature. Based on a 'people-centric' paradigm, green building can further improve the urban living environment [2]. Therefore, the influencing factors of the development of green building have been analysed from the perspective of users, making green building better known and accepted and better promoting their development.

In several previous studies, researchers have analysed and evaluated green building from the perspective of a harmonious and unified relationship between buildings, people, and the environment (both interior and exterior) and discussed the interactions among these entities. Consequently, the future development trend of green building in China can be predicted [3–5]. The researchers involved in these studies used strict quantitative methods to evaluate the performance of buildings themselves, without considering the evaluation of the users. The level of acceptance of buildings by users is a powerful driving force for the market-oriented development of green buildings, and the realisation of sustainable development goals in the construction market depends on market demand and recognition to a certain extent [6]. Edwin analysed how green building can be made more known to the public and discussed the factors that affect the development of green building, government policies being the main factor [7]; Olubunmi used the method of systematic evaluation to obtain a common theme for stimulating green building research, and the results indicate that the effectiveness of promoting the development of the industry is a common research direction for motivating green building construction [8]. Zou pointed out that local economic forms and subsidy-based incentive policies can promote the development and construction of green building by alleviating economic inequality in different regions, establishing market-oriented mechanisms, and raising public awareness [9]. The above research analyses the influencing factors of green building development from different regions and different aspects. However, most of the researches on the factors affecting the development of green building is based on quantitative analysis based on structured questionnaire data. This kind of quantitative research has led to the simplification and fragmentation of research horizons, and a complete framework theory of green building influencing factors has not yet been formed. It is difficult to describe the relationship between independent variables from a macroscopic and overall research perspective.

This study conducted deep theoretical interviews of ordinary people and analysed the independent variables of green building development from the constantly emerging core categories. Therefore, from the perspective of identification of independent variables, a theoretical framework of influencing factors affecting green building development was formed; Its core influencing factors were analysed and their interrelationships explored.

An analysis of relationship between theoretical construction and factors influencing the identification of independent variables of green building would fill a gap in the existing research. The analysis presented here includes the relationships between these influencing factors and relevant interrelationships in green building, with the goal of supporting beneficial, steady, and sustainable development of green building practices. This paper also provides a basic roadmap for the development of green building in China to better serve the public.

Using the method of grounded theory as a foundation, this study assesses the basic cognition of the concept of green building among people by collecting information gleaned from in-depth interviews and analysing the independent variables. One goal of the study was to establish the factors influencing of green building. A subsequent goal was to explore how green building can better satisfy the needs of the people by analysing the relationships between the influencing factors.

2. Holistic View of Application of Grounded Theory

Most of the current studies on framework establishment or the influencing factors of green building are based on questionnaire surveys or analysing its actual use from actual case studies, etc. There are many ways to study the problem and they each have their own advantages and disadvantages.

Chen introduced the analytic hierarchy process (AHP) to analyse the influencing factors of residential green building in Chengdu from four aspects and built a construct. The advantage of this method is the organic combination of qualitative analysis and quantitative analysis to realize quantitative decision-making [10]. Guo describes the idea of building a model system for building energy efficiency and green building with the help

of model construction, model simulation and model application technologies widely used in scientific research. This method connects the framework theory with actual modeling better [11]. Grounded theory was originally applied to medical research and psychological problems, which has been widely used in architectural research in recent years. Qin used grounded theory to conduct a risk and vulnerability ontology for green building projects, which reveals the influence path and mechanism of vulnerability on project risk, and makes up for the deficiency of neglecting vulnerability in the risk research of green building project at present. The research results can provide a scientific basis for risk management of green building project [12]. Tang studied the social value of the Beizi Temple architectural heritage based on the grounded theory, in which the theoretical model of the social value of Beizi Temple architectural heritage is constructed and analyzed in six aspects to reference the protection of the architectural heritage [13]. Lv carried out research on the driving mechanism of green innovation intention of energy enterprises based on grounded theory, in which the authors conducted grounded theory to construct the driving model of enterprise green innovation intention and extract the five main categories that drive the green innovation intention of new energy enterprises, so as to explore the driving mechanism of green innovation intention of new energy enterprises [14]. Wang Bin conducted the construction of the sound environment perception theory of traffic complex based on the grounded theory, in which the authors conducted an in-depth interview with the interviewer about the feelings in the railway station and other spaces. The authors obtained seven core factors of the perception of the acoustic environment [15].

Rather than beginning a study with a preconceived theory that needs to be proven, we begin with a general area of study and allow the theory to emerge from the data. The basis of the research is to collect and obtain the original qualitative materials, and the use of in-depth interviews can make the original qualitative data more perfect abundant, and the practical operation more flexible, which is helpful to explore the problems in depth [16]. Grounded theory can follow the principles of rigorous and scientific quantitative research of natural sciences, and retain the depth, validity and flexibility of research in the collection of data, but it also has the disadvantage of overemphasizing theoretical construction. we are also based on the characteristics of the method of grounded theory, which is more suitable.

In this research, we select the subject of the study, starting from a few core questions and conducting interviews without other pre-set questions. This is also the difference between grounded theory and other methodologies. The ultimate goal of green building is to better serve its users, so users can express their feelings or ideas in the process of using the building around a central problem, which provides the factors we want to find. We choose people from the general public as interviewees, and try to select a wider range of people to participate in the interview. And the interviewees are not professional technicians, because in our next study we also interview professionals to compare the differences and connections with public people. These interviewees can represent a category of people, and the interview data of an interviewees cannot form a saturated theory. We have to continue the interview (around emerging new categories) until the interview data no longer appear new categories, indicating that the amount of information has reached saturation.

3. Methods and Data Collection

3.1. Research Methods

In 1967, the American sociologists Glaser and Strauss proposed grounded theory as a research method [17]. They intended to build theories from data, theories that are 'grounded on' people's daily experiences and actions. The grounded theory concept includes approaches such as data collection, coding and analytics, and then investigating newly formed themes, collecting more data on original theories, and at the same time comparing insights generated throughout the process. It helps researchers 'discover theories from acquired data' rather than 'verify existing theories'. Corbin and Strauss explained the purpose of this method: the theory built on data is expected to move closer to "reality", compared with theories formed with concepts underpinned only by experience or pure

speculation [18–21]. A conceptual question, rather than 'representativeness' decides what to choose, namely informants, episodes, and interactions. To build a theory, one should explore many factors, such as its different instances, different times, different places, and most importantly different people. One should first take into account the conditions where the theory applies, before spreading the generalization of the research to other scenarios.

Glaser and Strauss proposed the following methods for continuous comparison in grounded theory: (1) Comparison of data by category of concept: data coded. The data are grouped under as many conceptual classes as possible. The encoded data are placed in the same and comparing different conceptual classes and finding attributes for each conceptual class. (2) Integrate the related concept classes with their attributes, and treat these concepts comparing the genera. Consider the relationships that exist between them, and use them in some way. (3) Sketch out the initial theory and determine its connotation and extension. Return the initial theory to the original data for validation while continuously optimizing and refining the existing theory. (4) State the theory by presenting the information, concepts, and classes. The characteristics of the genus and the relationship between the conceptual genera are described layer by layer to answer research questions.

A grounded theory study bears a hallmark, theoretical sampling, an approach that helps researchers generate new insights or improving the existing ones by choosing more cases to study. Unlike statistical or random sampling, theoretical sampling is an approach commonly used in quantitative studies. Statistical sampling helps represent the population under study, whereas theoretical sampling improves the odds in exploring new concepts. Researchers need to factor in these differences when designing a research project or evaluating its grounds [22].

At present, in scientific research, grounded theory is divided into three different types according to the research method, namely classical grounded theory, programmed grounded theory, and constructed grounded theory. Classical grounded theory adopts the research mode of 'literature collection→problem identification→data collection→data processing→continuous comparison→theoretical construction', which makes the theory contained in the data fully emerge. Therefore, classical grounded theory is more suitable to explore the general public's cognition of green building. Here, we applied grounded theory to form a model for the factors influencing the perception of green building by conducting in-depth interviews with members of the general public to obtain data. We analysis of the original data through open and axial coding and a selective decoding procedure. Figure 1 shows an analysis diagram of the applied process.

3.2. Problem Generation

In recent years, green building development has seen a gradually rising trend in China. However, contradictions remain in the use, promotion, and other aspects of green building. A more informed understanding of the perceptions and preferences of the general public in relation to green building would be of value in guiding the future development of green architecture. The interviewees included here were interviewed around this central aspect. Before the interview, the interviewees were required to explain the meaning of green building and provide examples thereof to ensure that their understanding of green building was not mistaken. Subsequently, they were asked questions starting with 'Are you aware of green building?' 'What do you think of the use of green building?' 'Would you prefer to live in a green building?' 'Are you aware of the regulations of the national government to promote green building?' and proceeding to other general questions. Following this initial round of questions, the participants proceeded to the next interview, wherein they were asked to express their thoughts and feelings regarding green buildings based on their personal feelings or experiences.
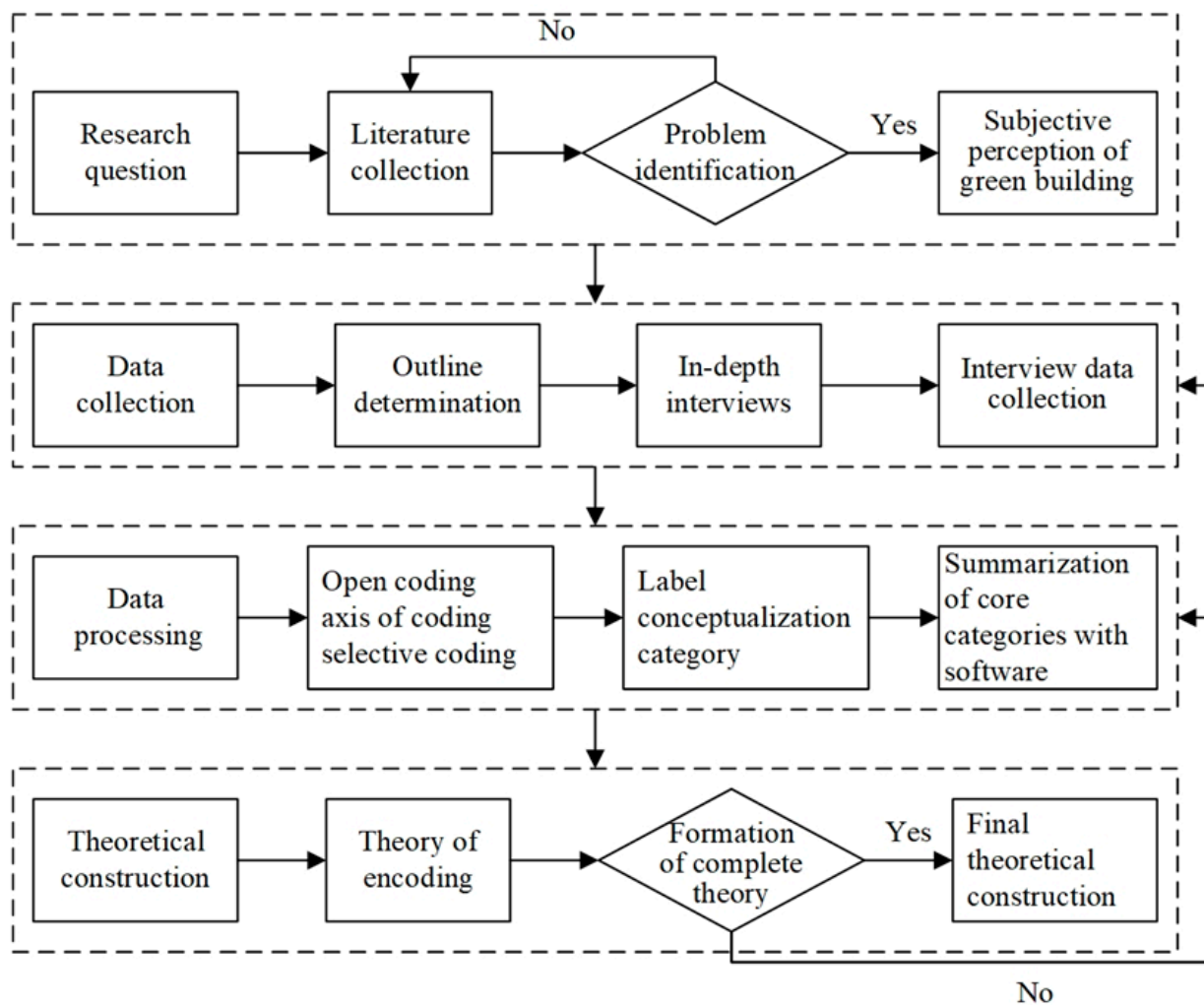
Figure 1. Analysis diagram of the research process.

3.3. Collection and Sorting of the Original Data

The difference between grounded theory and empirical research on the selection of the research object is as follows. Grounded theory is based on chosing to interview a category of people, and the interview data of an interviewees is gradually enriched until the interview data no longer appear new categories, indicating that the amount of information has reached saturation. In grounded theory, the study's object is generally selected via purposeful sampling. Our study is to select public people with experience of green building to express their experience of contacting or using green building (around some questions). According to the study's purpose, we conduct in-depth interview, keeping the core category of interview materials adequate. We suppose to use the method of grounded theory to better promote the positive development of green building in these factors, which we can get through the continuous in-depth interview. When the data we get in the process of continuous data analysis and separation of concepts are repeated, which means that these concepts can be included in the several core categories we have listed, it proves that the core concepts we have reached are saturated. In the process of doing qualitative research, the interviewer we choose allows us to find and interpret concepts from the interview data, which is universal. For concepts, we are looking for changes, because of the changes are especially important in the construction of a theory, which can increase the breadth of the category and the scope of the theory [18].

There are also differences between grounded theory and empirical research in terms of the selection of the number of research objects. Empirical research, to maximize the

promotion of research results, often pursues large samples. Grounded theory must have a deeper and more detailed understanding of the research object; thus, the number of selected research objects is generally relatively small. Although the selection of the research object of rooted theory is to select the most abundant information according to the principle of purposeful sampling, the 'most abundant information' is an uncertain standard, which is difficult to grasp in the actual operation process. Therefore, in the process of grounded theory research, we should regard the purpose of the research as not only a product in the process of formation but also a dynamic process of change.

Before the interviews, 36 interviewees were selected. Every interviewee was a member of the general public but did not major in green building at a tertiary institution nor worked in related fields, but they all had the experience of using green building. We chose interviewees of different ages, family incomes, educational levels, and occupations. Table 1 presents the basic information distribution of the interviewees. Each interviewee was interviewed in depth for 0.5–1 h, and the interviews were audio-recorded. The interview was conducted like a daily-life conversation, emphasizing the natural expression of personal thoughts. The relevant concepts and main categories in the interview data were determined through coding analysis.

Table 1. Basic information of interviewees.

Classification Categories	Classification Basis	Number
Gender	Male	17
	Female	19
Age (in years)	20–35	15
	36–50	12
	50–60	9
Family income	<50,000	1
	50,000–100,000	3
	100,001–300,000	24
	>300,000	8
Education	College degree and below	1
	Undergraduate	14
	Master's degree and above	21
Occupation	School student	6
	Scientific and technical person (non-green building related majors)	11
	Corporate officials or managers (non-green building field)	7
	Business, service industry, individual workers and others	12

The interview data were sorted and categorised into 36 effective interview data units, from which 32 samples were randomly selected for grounded analysis. The remaining four samples were tested and analysed for grounded theory saturation until no new concepts and categories appeared, i.e., the theory reached saturation. In other words, this shows that the in-depth interview data of 36 interviewees could reach theoretical saturation.

4. Data Processing

Following the collection and sorting of the effective interview data, substantive coding, processing, and analysis of the influencing factor data were performed to make a conceptual summary of the influencing factors in the general public's perception of green building. This process facilitates the continuous organisation and stimulation of new and broader perspectives in green building. The conceptualisation of categories, feature points, and data leads to the exploration of unknown problems. This cycle of processing was repeated

to construct the theory and foundation for the three steps of open, axial, and selective coding [23].

4.1. Open Coding

Open coding is a process of coding the original data sentence by sentence and conceptualising and abstracting it level by level. The procedure consists of labelling the frequency of recurring words, analysing the abstracted data, and recombining and abstracting the conceptualisation and categories. Many repeated data and labels appear in this process. Here, a total of 196 labels were assigned, 92 concepts were formed, and 20 categories were refined. Table 2 shows an example of the open coding process of selected interview materials, and Table 3 shows an example of the conceptualisation and the conceptual categories.

Table 2. Interview material text and labelling examples (partial content).

Interview Data Text (Partial)	Label
Interviewee A: Now that the issue of environmental protection is so popular, it is publicised in the news on TV every day. I also hope that I and my family can live in a good environment, having a good ecology, living more comfortably. In my opinion, the resources the architecture can be continually recycled. I don't know what a green building is. I think it's more environmentally friendly and more comfortable to live in.	Publicise environmental protection. Not sure what green building is. Environmentally friendly and comfortable. Economical. Reasonable plan.
Interviewee B: When I went to Beijing the year before last year, the shopping mall was the green shopping mall, that is the environment was comfortable between the floors and elevators, and the lighting is very comfortable, making one want to stay there for a while. In places like Beijing, sometimes in the winter, the haze is very serious. When the mall has a fresh air system letting air into the mall, one does not feel choked, and shopping becomes more comfortable. Decorate the material that is used with more environmental protection, this should be the trend henceforth.	I don't know much about green building. Green shopping malls feel comfortable. Good air environment. Advocate the concept of environmental protection.

Table 3. Open coding of interview data on the influencing factors of the general public's cognition of green building.

Interview Data	a Label	aa Conceptualization	A Category
Now the news promotes the awareness of environmental protection every day.	a1 Publicity of environmental protection	aa1 Environment protection	A1 Consciousness of environmental protection
I would certainly prefer the environment to be protected. Resources are limited, and waste of resources is the same as waste of life.	a2 I prefer a good environment. a3 Resources can't be wasted.		
		aa2 Environment and resources	
I don't really care which building is a green building.	a25 Ambiguous distinction	aa11 Unclear concept	A2 Autognosis
Not quite clear about the green building rating.	a26 The evaluation criteria are not clear.		
I don't know what the concept of green building is.	a27 Poorly defined		
		aa12 Knowledge is not enough.	

Table 3 shows that the interview data were analysed in combination with the conversation content and labelled as A1–A3. The concept 'A1 environmental protection' was abstracted from this type of label, and this concept belonged to the same attribute as that of the concept of 'environmental resources'. These similar concepts were grouped into the same category, i.e., 'A1 environmental awareness'. This process was repeated to generate other categories.

4.2. Axis of Coding

Axial coding is performed on the basis of the conceptualisation and the labels attached to the categories in the open coding stage and reaching the category level of further development, finally summing up the core category. In the process of open coding, it was found that categories such as "environmental awareness" and "self-knowledge" had obvious correlations with the code of "personal perception elements". This concept was observed repeatedly, representing the perception pattern of most visitors to green buildings. Therefore, this concept can be identified as the core category of "personal perception elements". In the process of exploring the core category, to form a concept or category with convergence, this study uses the Canon coding pattern of "situation-cause-action or strategy-phenomenon-influencing factors" to fully extract the theories contained in the data [24,25]. As presented in Table 4, the classical logical model was used to conduct axial coding and establish connections between the categories. Four core categories finally emerged, namely "personal perception elements", "social elements", "organisational elements", and "architectural properties".

Table 4. Axial coding of interview data on the cognitive influencing factors of green building based on interviews with the general public.

Core Category	Category	Category Meaning
AA1 Personal perception elements	A1 Consciousness of environmental protection	People's attention and awareness of environmental protection issues
	A2 Autognosis	The public's understanding and knowledge of green buildings
	A3 Economic cognition	People's attention to the bright spots of green building comfort, cost utilisation, resource conservation, etc.
	A4 Value orientation	People's own views on the value of green buildings, attitudes, etc.
	A5 Maintenance risk	The public's trust in the technical aspects of green building maintenance and operation
	A6 Implementation	The public's implementation of the policies issued by relevant government departments in green building management
AA2 Social elements	A7 Individual attributes	Individual differences, social attributes, and group attributes
	A8 Group perception	How people are affected by the benefits of using green buildings
	A9 Environment perception	How people are affected by public opinion and propaganda
AA3 Organisational elements	A10 Government policy support	Policy support for the benefit of the people from relevant national departments
	A11 Rules and regulations	Restrictions and support stipulated by relevant laws and regulations of the state
	A12 News media propaganda	News media and other advertising
	A13 Developer propaganda	Marketing publicity of related corporate estate and other brand marketers
AA4 Architectural properties	A14 Star indicators	Green building star rating indicators, such as certification
	A15 Green technology content	Application of green technology
	A16 Green operation	Mid- and post-maintenance of green technology use
	A17 Design team	Public recognition of green building design organisations
	A18 Regional conditions	Differences in the conditions of green buildings in the region

4.3. Selective Coding

Selective coding is a process of refinement and classification, subsequent to core coding. At this stage, it is necessary to verify the universal connections between the core categories from the determined core categories and to code the categories to summarise the overall theoretical framework. By repeatedly comparing the data, the steps from theoretical sampling to selective coding were repeated for the nine reserved data samples, and the theoretical saturation test was performed. No new category emerged; thus, showing that the four core categories determined in the previous stage were all saturated after being selectively coded.

5. Theory Construction

Because of the coding process described in the previous sections, four core categories were found to reach saturation. Through logical analysis and comparison of the four categories, it was found that organisational and social elements, as well as building properties, encompassed the external factors as independent variables to assess the green building, whereas personal perception elements encompassed the internal factors. The core 'storyline' links all aspects of the factors influencing the general public's cognition of green buildings. All the data, labels, and concepts were ultimately linked to these core categories, which constituted the proposition of the crucial factor theories for the general public's perception of green building. These four core elements were both meaningful and closely related to each other (see Figure 2).
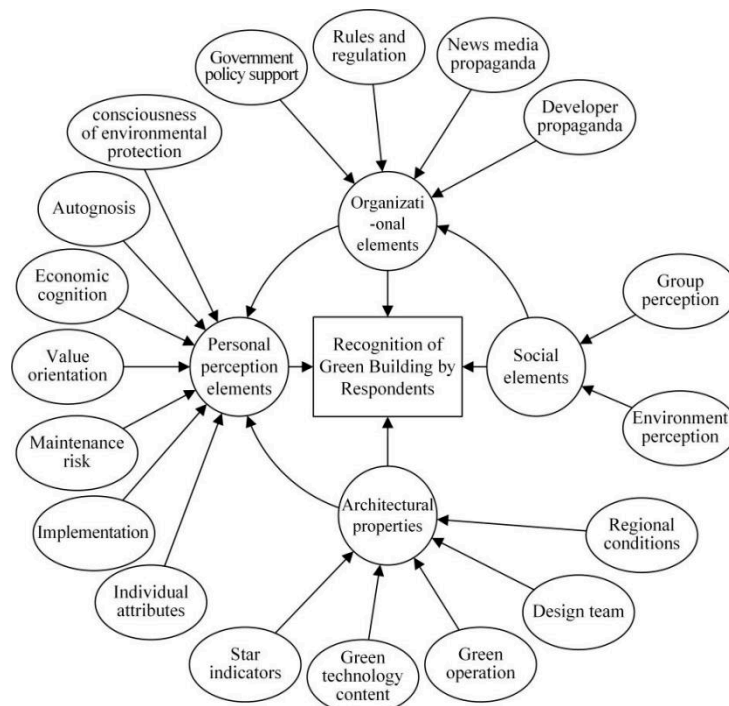
Figure 2. Theoretical construction of factors influencing the development of green building.

5.1. Personal Perception Elements

Personal perception elements includes seven aspects, which are consciousness of environmental protection, autognosis, economic cognition, value orientation, maintenance risk, implementation, individual attributes. Both public buildings and civil buildings are designed to satisfy users' functions. People enter green buildings with a certain purpose, such as working, shopping, or living. In this process, they exhibit different feelings regarding their use. Different individuals' ages, genders, personal psychologies, and their sense of belonging to groups have different influences on the respective individuals, resulting in different individuals in the same environment generating different feedback with respect to their feelings. The respondents were affected by their regional environment, economic factors, and other differences. However, the label of environmental awareness was reflected in all the interview data, mirroring an internal consciousness among the respondents. It was found in the interviews that most interviewees talked about this awareness but did not have a deeper understanding of green building, resulting in a limitation of their recognition of the nature of green building.

The factor termed "implementation" represents the public's recognition of the completion rate of the implementation of green building-related policies issued by government departments. "Economic cognition" represents the respondents' trade-off between the

costs and benefits of green building. "Maintenance risk" represents the respondents' fact that China's green building is still in the early stage of development and that the degree to which green technology and associated systems are perfect is still viewed with uncertainty in respondents' mind. All these factors become influencing factors in the development of green building. "Individual attributes" of respondents refer to the differences in social characteristics, group characteristics, and psychological characteristics of individuals, which also have otherness on green building.

5.2. Social Elements

Social factors include group perception and environment perception. Social factors are external factors that affect individual will or behaviour. These factors influence the cognition of green building via the information feedback of the group and the perception feedback obtained from the overall environment. It is in the interest of citizens of the country that there should be social trust and rapid dissemination of information, that people feel at home in society, and that they live in an equal environment. The successful presentation and marketing of green building cases can render a positive connotation with green building in peoples' minds, thus placing a healthy engagement with users at the centre of the green market enterprise and enhancing the comprehensive benefits associated with green technology. The high standards associated with green environmental protection is expected to facilitate the evolving transition of China's economic and social development from the pursuit of basic functions to a high quality of life for all its citizens.

5.3. Organisational Elements

The role of organisational elements is to promote the development of green building by deepening and extending its scope and guiding the general direction of its development. The standards, systems, economic incentives, and other policies issued by Chinese government departments to promote green building have a direct impact, thus affecting the degree of cognition among the users. In the interviews conducted in this study, some interviewees repeatedly mentioned that the government and other media could achieve efficient publicity by promoting the concept of green building technology in public resources, thus improving trust and awareness among the entire citizenry to a large extent.

5.4. Architectural Properties

Architectural properties included star indicators, green technology content, green operation, design team and regional conditions. The architectural properties addressed in this study do not imply the traditional meaning related to the structural nature and usage of buildings; rather, this core category may be summed up in the following five categories drawn from grounded theory: the green technology used in the building, post-maintenance in the use of the building, star rating of the building and other properties of the building, its design team, and conditions of the area where the building is located. Buildings with more mature energy-saving technologies will give respondents a more comfortable sense of use, making users more willing to this type of building. Factors such as the star rating obtained, technical level of the operation team, and overall situation of the scheme design affect people's perception of the use of green buildings. In turn, this affects the direct feedback on the use of green buildings. In addition, the adaptability of green buildings to local conditions has an impact on the comfort of people and on the long-term operation of the building.

6. Discussion

This paper conducts in-depth interviews with 36 respondents through grounded theory, which starts interviews around several central issues, and continues to summarize the interview data until no new categories appear, which proves that the new theory has reached saturation. We construct the theory construction of factors influencing the development of green building and analyse the relationship between independent variables.

The scientific, efficient, and reasonable development of green building is related to people's well-being and livelihood. This may be inferred from the theoretical construction of factors influencing green building. In the respondents' mind, the four core categories that affect green building are "personal perception elements", "social elements", "organisational elements", and "architectural properties". These independent variables exist in juxtaposition with other related aspects. The different perceptions of these independent variables lead to different attitudes to green building in the minds of the users.

In the process of conducting the interviews, differences in personal perception factors determine the degree of acceptance of green building. Social elements, organisational elements, and architectural properties are the external variables that affect the perceptions of the respondents. These factors complement and influence each other and interact with each other to produce differences of green building. Personal perception elements are influenced by external variables. If the role of social norms and the mutual influence between groups is emphasised, people themselves will also have an intensified sense of the concepts. Formal procedures aimed at promoting the positive role of group dynamics may create a positive perception of green building in the social environment and enhance public awareness of green building.

The article created the theoretical construction through in-depth interview, but the actual effect of the factors is difficult to predict, in the quantitative weight or priority. All these influencing factors theoretically are key factors, which are quantified, but the weight of the important degree is worth entering the next step. Hence, this step deserves an in-depth study of its own, as a follow-up to the study presented herein.

7. Conclusions

Through in-depth interviews, this study achieved a theoretical construction of the independent variables to assess the green building development. This construction produced four core categories and 18 subcategories, in which we could find the correlation and inclusion relationships between these independent variables. This study's results indicated that the internal influencing variables were affected by factors involving personal perception, while the external influencing variables were affected by social and organisational factors, as well as building properties.

People are generally aware of environmental protection, but the level of understanding and trust towards green building is still insufficient. Corresponding incentive policies should be formulated for users, and the long-term development of green building should be considered in combination with the natural and social environment, economic conditions, and other factors to transform the organisational elements that affect the general public. These actions promote the cognition of green building and produce desirable social effects to support its positive development. The results illustrate that the existing influence factors of green building have been supplemented from the perspective of users, and the theoretical framework between them has been established. It is also worth implementing grounded theory on the experts and designers of green building to compare the theoretical frameworks derived from different aspects, collecting their differences in future research.

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