



# The Obstacles and Gains of Green Construction Development in China

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## Authors' contributions

The paper was a collaborative effort between the both authors. Both the authors designed, analyzed and interpreted and prepared the manuscript.

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## ABSTRACT

The research embraced the utilization of an irregular overview technique to gather master feelings from green improvement specialists in China. A particular concentration was given to development specialists who have at least 5 years in green improvement, either locally or abroad. The group of stars of the green specialists included yet was not limited to engineers, scene designers, tree huggers, amount surveyors, and temporary workers, to identify the difficulties and advantages of green development compared to traditional buildings.

*Keywords: Green construction; gains; construction management; challenges; environment.*

## 1. INTRODUCTION

China has been experiencing rapid growth economically in the last two decades. Also, its

multidisciplinary construction industry and energy usage are recording unbridled growth [1]. The growth has posed ecological challenges to the Chinese environment. Today, Chinese

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challenges have been cardinally caused by a continued increase of the built area and the use of the heavy energy consuming devices. According to [2], China has been recording an average of 1.8 billion square meters annually. In addition, the Chinese urban centers have a total built area of 20.6 billion meters squared, with the rural regions recording 24 Billion square meters.

The construction of green buildings in China can be part of the overall plan that will cut down the energy usage of buildings and minimize the environmental degradation caused by the expansion of the built area in China. Green buildings are designed to achieve energy efficiency and utilize other resources effectively. Green construction methodology priorities and emboldens the use of recycled, reclaimed and natural construction materials that have reduced the negative impact on the ecosystem [1].

Burnett [3] highlights the features of an ideal green building as follows:

- Effective use of renewable energy and passive energy;
- Optimized use of hydrological cycles;
- A building that has integrated with the local system;
- Implementation of indoor environmental quality measures, and
- Closed loop material systems.

Furthermore, with the increased green floor area in China, it is imperative and paramount to address the inadequacy in the green development professionals and technical skill. The numbers of competent specialized green exports should be increased. The specialized skills would be able to design, oversee construction and operation phases of the green facilities. Thus, dedicated and recognized training programs should be recommended for all the construction stakeholders [3]. In China green development is an integration of sustainable techniques, construction material and technologies. This enhances the environmental performances of buildings. Thus they are sufficient on energy and water use. Also, use of recycled and none-toxic construction materials as they generate little or waste [4].

## 2. RESEARCH DESIGN

The exploration outline utilized as a part of this study was illustrative. A graphic study is a study

with plainly expressed investigative inquiries. The examination objective in an illustrative study is to portray the wonders or qualities connected with a subject populace i.e. The who, what, when, where, and how of a subject are assessments of the extent of the effects of a populace with certain attributes. The disclosure of the relationship among various factors emerged to empower the analyst to reach certain inferences [5]. An elucidating study was advocated as it endeavored to depict the qualities connected with the subject populace and in view of the discoveries of the study; disclosure of relationship among various factors emerged in this way empowering the analyst to reach inferences.

Spellbinding studies/examine as opposed to exploratory studies is more formalized and normally organized with unmistakably expressed speculation or investigative inquiries [5]. The objective of this study was to answer the exploration questions postured and not to create a theory or inquiries for future research assignments. Formal concentrates, for example, graphic concentrates additionally attempt and find the relationship among factors. This is sometimes named correlational study, a subset of elucidating studies [6].

This study utilized cross-sectional research since a few sorts of data once gathered can't be gathered a second time from a similar individual without the danger of inclinations. Longitudinal research is essential and can be utilized as part of this study; however, the limitations of a spending plan and time forced the requirement for cross-sectional investigation.

The needy variable for this study was the selection of IA particular concentration was given to development specialists who have at least 5 years in green improvement while the free factors were (challenges and obstacles of green development rating, gains of green development compared to conventional buildings).

### 2.1 Population

The populace is the whole gathering of people, occasions, or protests having a typically noticeable trademark. The populace speaks to the aggregate number of development specialists, which include 120 development specialists. As indicated by [7], a populace is the gathering the specialist needs, to sum up, or find out about though [8] characterize a populace as

the aggregate of the components whereupon surmising can be made.

A populace along these lines accumulates all components that require several surmises. In this study, the objective populace includes the development specialists [5]. The objective populace in this study were development specialists.

## 2.2 Sample Design and Sample Size

The essential thought of inspecting is to choose a few components of the populace that will help the scientist to make determinations about a similar whole populace. Inspecting presents benefits. It has the advantages of low research cost, more prominent precision on the outcomes, more noteworthy speed in terms of information-gathering, and accessibility of the required populace components [8].

## 2.3 Sampling Frame

An example casing is the rundown of components from which the specimen is really drawn. Preferably it is a total and right rundown of populace individuals just [5]. The inspecting outline utilized as a part of this study, was a rundown of existing clients of A particular concentration was given to development specialists who have at least 5 years in green improvement, either locally or abroad. The group of stars of the green specialists included yet not constrained to engineers, scene designers, tree huggers, amount surveyors, and temporary workers.

## 2.4 Sampling Technique

Probability sampling depends on the idea of random selection – a controlled method that guarantees that every populace component is given a known shot of choice [5]. There are different methods for probability sampling, these incorporate; stratified sampling, systematic sampling, simple random sampling, cluster or multistage sampling and probability proportional to size sampling.

Simple random sampling was used to expand the factual proficiency of the sample and provide satisfactory information to break down the different subpopulations. A Sample is a littler however ideally illustrative gathering of units from a populace used to decide truths about that

population [9]. Simple random sampling is relevant when the population is homogeneous and promptly accessible.

## 2.5 Sample Size

While the populace is a larger arrangement of perceptions, the little set is alluded to as the specimen. The study determines the substantial specimen size in the populace borders and assesses the accuracy required by the analyst [8]. A specimen size of 120 was selected out of a populace. The specimen components are also 120. They were selected by relying upon their preparedness to take an interest in the exploration.

Improper, insufficient, or unnecessary example sizes can impact the quality and precision of research [10]. The objective of study research is to gather information that is illustrative of a populace. As indicated by [11], one of the genuine focal points of quantitative strategies is their capacity to utilize littler gatherings of individuals to make surmisings about bigger gatherings that would be restrictively costly to think about.

## 2.6 Data Collection Methods

The information was gathered utilizing an overview strategy. A review is a method for scrutinizing a respondent by means of an accumulation for inquiries and instruments for both the respondent and the questioner [5]. The instruments utilized as a part of the study can be either as surveys or meetings. Surveys are for the most part less expensive, less tedious, and significantly less requesting as for such matters, for example, choice, preparing, and supervision of faculty. Being more uniform and institutionalized than meetings, polls are additionally less vulnerable to inclinations because of deviations from directions and strategy for the organization [12]. At long last, privacy and obscurity can be all the more adequately protected using polls.

Surveys can along these lines be utilized for illustrative or logical research. Enlightening examination, for example, the one being attempted utilizing mentality and assessment polls and surveys of hierarchical practices, will empower one to distinguish and portray the fluctuation in various wonders [6].

**Table 1. Number of case-samples held for calibration and validation**

	<b>Overall questionnaire received</b>	<b>Sample (%)</b>
Analysed sample	108	90
Sample Held Back for Calibration and Evaluation	12	10
Total	120	100

**2.7 Research Instruments**

The survey was hence the principal instrument used to gather information for this study. The poll created contained both organized and unstructured inquiries. The survey comprised of two segments: segment one was concentrating on the respondent's demographics; Area two of the poll is intended to rate a few explanations relating to Rethinking the Imperatives of the future of Green Buildings Developments in China.

This exploration is quantitative in nature. The poll is utilized as the information accumulation instrument and is embraced from different analysts who measured the scale in various studies. The poll was received from the past studies. The survey includes 2 areas 1-demographic data 2-Rethinking the Imperatives of the future of Green Buildings Developments in China. Things were measured utilizing 5-point Likert scale (1 is Strongly Disagree to 5 is Strongly Agree).

**2.8 Pilot Test**

The pilot test is led to recognize the shortcomings in plan and instrumentation and to provide intermediary information or determination of a likelihood test [5]. A pilot trial of the poll was done whereby (50) picked aimlessly reacted to the survey. The reason for doing this was to acquire input on any shortcomings and blunders on the surveys. The polls were then audited in light of the remarks and recommendations of the individuals who reacted to the pilot test.

After the pilot test, the instruments were tweaked and updated on the premise of the criticism that the analyst got. Substance and rule were embraced. Unwavering quality was considered before the actual research was attempted. The last form of the survey incorporated into the reference section of this report was later regulated to the respondents selected in the example estimate, and barred the respondents who previously participated in the pilot test.

The dependability of the instrument is finished by utilizing Cronbach's Alpha. Cronbach's Alpha

testing is performed because it is considered the most acknowledged test that guarantees unwavering quality to the social analyst. In the Cronbach's Alpha unwavering quality examination, when Cronbach's Alpha is near 1.0, then the inside consistency dependability is high. Cronbach measures the following:

1. Dependability under 0.6 considered poor.
2. Dependability in the range 0.7 is thought to be satisfactory.
3. Dependability more than 0.8 are thought to be great.

In this study, the scientist utilized unwavering quality trial of the variable for measuring the builds, to guarantee that the estimations size of study are very illustrative for every variable, the Cronbach's alpha is utilized. The specialist determined the unwavering quality of five elements. Builds with Cronbach's alpha beneath 0.7 will be erased and the Cronbach's alpha is trying whether the figurings are free from the blunder. The aftereffects of all Cronbach's alpha figurings in regards to the builds are more prominent than 0.7, which implies the develops are with high dependability.

**2.9 Validity**

The idea of legitimacy is that build must measure the expected gauge. In addition, they clarified the legitimacy in quantitative research as "build legitimacy". The build is characterized as the starting idea, speculation, question, or thought that decides the information gathering and technique for information accumulation. The legitimacy of the sizes of estimation indicates that a basic evaluation of the considerable number of builds will be led by scientists by examining the related writing and speculations. The content of each objective build must include either planning new developments or adapting existing scales from literature. Substance legitimacy tests will then be performed.

**2.10 Reliability**

The idea of dependability is used to assess, test, or survey developments in quantitative research. This idea is also utilized as part of a wide range

**Table 2. Reliability (Cronbach's alpha)**

Variables	No of items	Cronbach's alpha	status
challenges and obstacles of green development rating	12	0.873	Good
gains of green development compared to conventional buildings	14	0.891	Good

of inquiries. The unwavering quality can be characterized as consistency among the components of the instrument. Dependability is achieved if the study procedure is predictable and stable across different strategies and specialists. Therefore, dependability can be characterized by how much a poll produces the same results in a similar situation for all specialists. The information must uncover steady and dependable results, and the end goal must be solid.

**2.11 Data Analysis Methods**

A top to bottom quantitative examination of the substance of the reactions will be completed. The organized information was investigated, utilizing Statistical Package for Social Scientists (SPSS) PC programming bundle. From that point, the information was cleaned to guarantee fulfillment of the data acquired. The gathered information was measurably broke down utilizing Microsoft Excel program and the Statistical Program for Social Scientists (SPSS) and exhibited in tables and figures to give an unmistakable photo of the discoveries at look.

**2.11.1 Statistical methods**

1. Frequency and percentage for demographic information
2. Mean and standard deviation for the research variables
3. Cronbach's Coefficient Alpha Reliability Test
4. One Sample T-Test.

Table 3 shows that the highest percentage was (22.0%) for answers (Builder, Quantity Surveyor), while the lowest percentage (7.0%) was for the answer (Other).

The way individuals depict themselves uncovered the point of view of the members to the extent work affiliations are concerned. Every one of the classes was isolated into five primary gatherings to empower the ID of disciplinary aberrations and do the between gathering appraisal among the development specialists.

The "other" alternative was made to oblige those members who fell into the principle five gatherings. Abnormally, seven percent of the "other" choice specialists from the development field reacted. The alternative included maintainability experts, look into advisors, and program engineers among other development authorities. The outline proclamation demonstrated that engineers and scene draftsmen involved comprised approximately 20% of the examined populace, whereas 22% were individuals from the China Builders Association. Then again, sixteen percent (more than a quarter) of the specialists were proficient Chinese Civil architects while the development business Arbitrators had a higher member portrayal. Chinese amount surveyors comprised 22%, whereas the urban architects comprised 13%. The review discussed the viewpoints of the individual specialist considering that each gathering size was almost steady.

**Table 3. Work affiliation**

	Frequency	Percent
Architect	24	20.0
Builder	27	22.0
Engineer	19	16.0
Quantity Surveyor	27	22.0
Urban Designer	15	13.0
Other	8	7.0
Total	120	100.0

- Results related to the first question" What are the challenges and obstacles of green development rating system?

To answer the question, Means and standard deviations were calculated and the One Sample T-test was applied. The results are presented Table 4.

Table 4 shows that mean range between (2.58 – 3.99), being the highest mean for Item (11)" There are no laws and principles in the field of green buildings, leading to financial shortfalls ", but the lowest mean was for Item (10)" There are no guidelines for individuals who want to build

green buildings ",The arithmetic mean for domain reached (3.34).

Table 5 shows that the value (T) of challenges and obstacles of green development rating reached (4.125), which is a statistically significant value at the significance level( $\alpha \leq 0.05$ ) and the standard mark (3), Which indicates the existence of challenges and obstacles of green development rating. The researcher attributes this finding to a set of principles and guidelines on green planning that may help build with regard to environmental protection dimensions. Green and sustainable planning encourages accounting for the life cycle of architecture and its mechanical devices while avoiding the depletion of natural resources through the use of recyclable materials. Green planning takes into account the potential for energy savings for drilling and material transport, increasing the challenges it faces.

- Results related to the second question" What are the gains of green development compared to conventional buildings?

To answer the question, Means and standard deviations were calculated and the One Sample T-test was applied. The results are presented Table 6.

Table 6 shows that mean range between (3.26 – 4.56), being the highest mean for Item (3)" Pollution of drinking water with heavy metals and the most dangerous of these minerals is the lead metal that causes poisoning", but the lowest mean was for Item (14)" Lack of coordination in terms of sizes, writing and colors of paintings, advertisements and banners hanging in the streets and facades of buildings, squares and others", The arithmetic mean for the domain reached (3.87).

**Table 4. Results for “challenges and obstacles of green development rating”\***

No		Mean	Std. deviation	Rank	Degree
11	There are no laws and principles in the field of green buildings, leading to financial shortfalls.	3.99	0.94	1	High
6	The solar plant provides hot water for homes	3.53	0.94	2	Medium
8	There is a lack of public awareness of the benefits and considerations of green buildings	3.50	1.17	3	Medium
5	Storage of heat by water and rock is the best method at present	3.47	1.02	4	Medium
12	The material support provided to traditional building sources does not apply to green building sources	3.43	1.11	5	Medium
9	There is a lack of specialized competencies in green buildings	3.39	1.20	6	Medium
2	Do you see that solar radiation is practical and can be used in green buildings?	3.38	1.08	7	Medium
7	The absence of the appropriate institutional framework is an obstacle to the development of policies and plans for the construction of green buildings	3.35	1.16	8	Medium
3	Do you encourage the establishment of green buildings in your neighborhood?	3.33	1.17	9	Medium
4	Are green building equipment expensive?	3.13	1.06	10	Medium
1	Do you encourage the construction of green buildings?	3.02	1.05	11	Medium
10	There are no guidelines for individuals who want to build green buildings	2.58	1.20	12	Medium
<b>Total challenges and obstacles of green development rating</b>		<b>3.34</b>	<b>0.90</b>		<b>Medium</b>

\* Scales use Likert-Scale with 1- Strongly Disagree and 5- Strongly Agree

**Table 5. Results of a test application (One sample T-test) on a domain "Accounting principles implementation depends largely on the client's needs"**

<b>Second hypothesis</b>	<b>Mean</b>	<b>Std. deviation</b>	<b>Degree</b>	<b>T</b>	<b>Sig.</b>
Challenges and obstacles of green development rating	3.34	0.90	Medium	4.125	0.00

**Table 6. Results for "gains of green development compared to conventional buildings"**\*

<b>No</b>		<b>Mean</b>	<b>Std. deviation</b>	<b>Rank</b>	<b>Degree</b>
3	Pollution of drinking water with heavy metals and the most dangerous of these minerals is the lead metal that causes poisoning	4.56	0.73	1	High
5	Use modern scientific methods to control agricultural pests	4.54	0.74	2	High
2	Disposal of the remnants of industrial facilities, hospitals and others	4.30	0.94	3	High
1	Use of water tanks in houses, schools, restaurants and others	4.13	0.86	4	High
13	Set up buildings to obscure landscapes	4.13	1.11	4	High
4	The existence of desertification phenomenon	4.08	1.23	6	High
6	Reduction of vegetation degradation and desert encroachment through the conservation and conservation of pastures	3.80	1.45	7	High
9	The waste of open garbage, or around the container in its forms of pessimism	3.65	1.37	8	Medium
10	Different colors of building facades, and installation of various air conditioners in the facades	3.61	1.45	9	Medium
7	Poor urban planning of some buildings in terms of their construction	3.58	1.48	10	Medium
11	Spreading houses and buildings around the areas allocated for the graves	3.56	1.52	11	Medium
12	The new parts are not in harmony with the old ones	3.55	1.49	12	Medium
8	Poor urban planning of some buildings in terms of their construction	3.46	1.55	13	Medium
14	Lack of coordination in terms of sizes, writing, and colors of paintings, advertisements and banners hanging in the streets and facades of buildings, squares and others	3.26	1.46	14	Medium
<b>Total" gains of green development compared to conventional buildings "</b>		<b>3.87</b>	<b>0.99</b>		<b>High</b>

\* Scales use Likert-Scale 1- Strongly Disagree and 5- Strongly Agree

**Table 7. Results of a test application (One sample T-test) on domain "gains of green development compared to conventional buildings"**

	<b>Mean</b>	<b>Std. deviation</b>	<b>Degree</b>	<b>T</b>	<b>Sig.</b>
Gains of green development compared to conventional buildings	3.87	0.99	High	9.615	0.00

Table 7 shows that the value (T) of gains of green development compared to conventional buildings reached (9.615), which is a statistically significant value at the significance level ( $\alpha \leq 0.05$ ) and the standard mark (3), Which indicates the gains of green development compared to conventional buildings.

The researcher attributed this result to the fact that environmental pollution is one of the most important problems facing modern man as a result of the various in industrial revolutions and expansion in the industrial sector, which has become an important pillar in the economy of countries and plays a major role in development strategies. And thus reduce the incidence of pollution with sufficient types, which contributed to the protection of the ecosystem of humans in particular and other organisms in general, The researcher attributed this result to the fact that the trend towards sustainable building contributes to the environmental and health damage to human, material and private and public property, such as various diseases such as chronic asthma, respiratory infections and allergies, and the economic costs borne by society. As well as the cost of treatment, as well as the decline in the productivity of agricultural land, and the recklessness of buildings and historical and technical monuments near these industrial facilities.

## 4. DISCUSSION AND CONCLUSIONS

### 4.1 Summary of the Findings

After the statistical analysis of the respondents' responses, the following results were obtained:

1. There are well-known local rating systems such as MOHURD in China, which are constantly evolving to meet the new market requirements and comply with new regulations and future plans for energy and sustainability.
2. The green building is the building that takes environmental considerations into account at every stage of the construction, namely design, implementation, operation, and maintenance. The main considerations considered are vacuum design Systems can help improve indoor air quality by capturing all vacuumed dirt, dust and allergens with no recirculation of particles back into the living area, energy and water efficiency, resource efficiency, quality of the building's internal environment and the

overall impact of the building on the environment. The main difference between green buildings and traditional buildings is the concept of integration. A multidisciplinary team of construction professionals works together from pre-design to post-housing to improve the environmental sustainability of the building, improve performance and save costs.

3. There is a range of green development gains compared to traditional buildings from the point of view of the sample.
4. Challenges and constraints related to the classification of green development from the point of view of the sample.

## 5. CONCLUSION

Green buildings offer many advantages to many construction industry stakeholders, including residents of buildings and society as a whole. Green buildings usually include better air quality, abundant natural lighting, availability of views and noise control that benefit occupants of the building, making these buildings a better place to work or live.

A key feature of green buildings is to emphasize the protection of existing environmental balance and to improve environments that may have been damaged in the past. Green buildings are usually built-in environmentally sensitive lands, taking measures to restore plant life. Green buildings also benefit from as little material as possible, through good design and attention to removing unnecessary materials in finishes. In addition, the construction of these buildings guides the use of materials and works on water recycling.

Energy efficiency is one of the most important factors in the design of green buildings. From a careful check of windows, good insulation to maintain air temperature, insulation of air conditioning pipes, to the proper placement of steam and air condensers, and the use of clean energy in heating and cooling. All these factors make the building more energy efficient. The use of renewable energy, such as the wind, solar or bioenergy, to meet energy needs significantly reduces the carbon footprint of these buildings.

Greenhouses emphasize the conservation of water using more efficient systems for water pumping and reuse, as water conservation is another characteristic of green buildings that help reduce the harmful effects of water use on the



surrounding environment such as marine environments.

The increase in respiratory diseases, allergies and chemicals that release gasses into the air has raised awareness about the importance of indoor air. Green buildings also focus on reducing respiratory diseases and allergies by improving air quality in homes by controlling, minimizing and eliminating sources of pollution through filtration and filtration.

There is a unique set of challenges, especially in the area of environmental sustainability. The construction process uses large amounts of energy, water and raw materials, tends to generate a lot of waste and harmful emissions, and it consumes a lot of lands that may be green fields or agricultural land.

Solid and non-porous surfaces in buildings affect the amount and speed of runoff of rainwater, which is a major burden on rainwater drainage networks and increases the impact of the heat burden in the area.

In order to reduce the negative effects of the construction process, the concept of the green building, which has become widely popular throughout the world, has been created. The green building is the building that takes environmental considerations into consideration at every stage of construction: design, implementation, operation and maintenance. Green buildings do not require complex operations or expensive mechanisms, and their benefits are not only environmental but also economic and social; long-term operating costs are reduced by rationalizing energy and water consumption, reducing emissions, maintaining temperature and reducing waste. Avoiding the use of scarce natural resources such as water and the selection of recycled resources can reduce construction costs by an estimated 10%.

Energy efficiency is one of the most important factors in the design of green buildings and has a significant impact on reducing the carbon footprint of these buildings. These include careful selection of windows, good insulation to maintain air temperature, insulation of air conditioning pipes, use of intelligent lighting systems, and use of renewable energy such as the wind, solar and bioenergy. The use of water recycling and rainwater storage systems will significantly reduce the problem of water scarcity. As for

renewable energy, the solar resource is huge; it has 333 solar days, equivalent to 8 sun-hours per day per year, so solar heating systems used in green buildings will be successful and efficient.

On the economic side, green construction stimulates the manufacture of new materials and technologies that are needed for construction, which may provide jobs for many citizens. Oil prices are likely to rise in the future and will help green buildings reduce consumption and reduce electricity and fuel costs.

China has made progress in the field of green buildings; there are institutions and organizations working continuously to firmly establish and apply the concept of green building.

## 6. RECOMMENDATIONS

We can promote the concept of green building by the imposition of official laws on the special construction of green buildings and raising awareness about building a green society and its importance to the individual and society.

Assistance in the provision of raw materials, spaces, and other means that promote easy application of the concept of green building and develop capabilities to support green building projects are significant.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Kubba S. Green construction project management and cost oversight: Butterworth-Heinemann; 2010.
2. MOHURD. Green building action plan. MOHURD; 2013.
3. Burnett J. City buildings-Eco-labels and shades of green!. Landscape and Urban Planning. 2007;83:29-38.
4. Crea J. Heading back to China. USGBC; 2013. Available:[www.usgbc.org/articles/heading-back-china](http://www.usgbc.org/articles/heading-back-china) (Retrieved July 12, 2016)
5. Cooper DR, Schindler PS, Sun J. Business research methods; 2003.
6. Saunders A. Financial institutions management: A modern perspective. McGraw-Hill College; 2000.

7. Tull D, Hawkins D. Marketing research: Measurement and method. A text with cases; 2008.
8. Cooper J, Schindler M. Perfect sample size in research. ed: Macmillan. New Jersey; 2008.
9. Field AP. Is the meta-analysis of correlation coefficients accurate when population correlations vary?," ed: American Psychological Association; 2005.
10. Baxter J, Bartlett PL. Infinite-horizon policy-gradient estimation. Journal of Artificial Intelligence Research. 2001;15: 319-350.
11. Holton E, Burnett M. Qualitative research methods. Human resource development research handbook: Linking research and practice. San Francisco: Berrett-Koehler Publishers. 1997;43-47.
12. Schindler PS, Cooper P. Business research methods: McGraw-Hill; 2005.

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