
Supplementary Materials Blank Expert Scoring Questionnaire

Dear Sir / Madam,

Hello! Thank you very much for participating in this academic survey.

With the advent of the era of digital construction, intelligent construction technology has gradually attracted the attention of experts and scholars at home and abroad, and has been applied. This research project was conducted by Northeast Forestry University to explore the important influencing factors driving the adoption of intelligent construction technology by highway construction enterprises. The questionnaire is filled out anonymously, please fill it out according to the actual situation. Your answer is not right or wrong, and I would like to represent your personal opinion. The survey results of this questionnaire are for academic research only and will not be used for any commercial purpose.

Any information about your personal information will be kept strictly confidential and the results of the analysis of the data will only be used for this research.

College of Civil Engineering, Northeast Forestry University

Part I Basic Personal Information

1. Your education

- ☐ Specialist and below
- ☐ Undergraduate
- ☐ Graduate
- ☐ Ph.D. and postdoc

2. Your years of employment

- ☐ 5 years and less
- ☐ 5-10 years
- ☐ 10-15 years
- ☐ 15 years and above

3. Your organization

- ☐ Design unit
- ☐ Construction unit
- ☐ Colleges and universities

4. Your current position

- ☐ Managing director
- ☐ Project manager
- ☐ Chief engineer
- ☐ Department Manager
- ☐ Professor and Associate Professor

5. Your knowledge of smart construction technology

- ☐ Relatively understood
- ☐ General understanding
- ☐ Not quite clear
- ☐ Haven't heard of it at all

Part II Research Questions

Please fill in the following content according to your understanding and experience of intelligent construction technology, each meaning the degree of influence of the topic on each choice, fill in the corresponding option "0-4" score (0: no impact→ 4: have an important impact). Thank you again for your patience and support in this academic research.

1. Technical advantages: The technical advantages brought by enterprises adopting intelligent construction technology.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost
Sustainable development													

2. Cost of technology: The cost of adopting smart construction technology.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical advantages
Corporate Social Responsibility													

3. Complexity: The complexity of the adoption and application of smart construction technologies.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Technical cost	Technical advantages
Complexity													

4. Compatibility: After the enterprise adopts and applies intelligent construction technology, it is compatible with the original data and software.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Complexity	Technical cost	Technical advantages
Compatibility													

5. Corporate culture: refers to the overall values, code of conduct, business characteristics and other traditions and habits of the enterprise.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Compatibility	Complexity	Technical cost	Technical advantages
Corporate culture													

6. Resource readiness: the company's talent, capital, technology and other resource reserves.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Resource readiness													

7. Senior management support: The degree of support from senior management for the adoption of smart construction technologies,

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Senior management support													

8. Employee support: The degree of support from employees for the adoption of smart construction technologies.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Employee support													

9. Market competitive pressure: The competitive pressure that enterprises feel when competitors in the same industry have adopted or are ready to apply new technologies.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Market competitive pressures													

10. Policy environment: mandatory policies or recommendations related to intelligent construction in the local or national area where the enterprise is located.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Policy environment													

11. Economic environment: Includes pressure from customers and partners.

	Sustainable development	Corporate Social Responsibility	Stakeholder engagement	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Economic environment													

12. Stakeholder engagement: Stakeholders understand, familiarize, master and use intelligent construction technology.

	Sustainable development	Corporate Social Responsibility	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Stakeholder engagement													

13. Corporate social responsibility: Enterprises with a better sense of social responsibility are more likely to give priority to the application of intelligent construction technology to build expressways, so as to ensure that the construction period of expressways is not delayed, the quality of the project is high-quality, and the purpose of better serving the society and the people.

	Sustainable development	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Corporate Social Responsibility													

14. Sustainable development: refers to the adoption of smart construction technology by enterprises in order to meet the economic, environmental and social development needs of the present generation without preventing future generations from meeting their needs.

	Corporate Social Responsibility	Stakeholder engagement	Economic environment	Policy environment	Market competitive pressures	Employee support	Senior management support	Resource readiness	Corporate culture	Compatibility	Complexity	Technical cost	Technical advantages
Sustainable development													

If you are interested in this study, please leave your contact information. Once the study is complete, we would love to share the results with you.

Contact: E-mail:

—— This is the end of this survey, thank you again for your help and cooperation! ——