



**ENGINEERING**

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## **PARTICIPANT INFORMATION SHEET**

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### **Research Project Title: An integrated framework for automated sustainability assessment of infrastructure projects**

You are invited to participate in a questionnaire survey for a research project entitled “An Integrated Framework for Automated Sustainability Assessment of Infrastructure Projects” undertaken at the University of Auckland. This project aims to investigate the feasibility of utilising digital technologies to facilitate the sustainability assessment for infrastructure projects. This study is justified by the need to improve the efficiency and accuracy of sustainability assessments, leading to time and cost savings and ensuring high standards in sustainable infrastructure development.

### **Why and how are you invited in the questionnaire?**

Sustainability assessments for infrastructure projects are crucial for promoting environmentally responsible and socially beneficial development. Traditional assessment methods require additional human resources and lack data support, highlighting the need for more efficient and accurate approaches. Digital technologies (DTs) such as Building Information Modelling (BIM) and Geographic Information Systems (GIS) have demonstrated the potential to enhance the accuracy and efficiency of these assessments. For example, BIM can integrate with various datasets related to building performance and energy use, providing a comprehensive view of a project’s environmental sustainability. Digital technologies in this research refer to the digital tools that are applicable to construction projects.

Despite these advancements, there is a gap in systematically applying these tools to quantify and assess sustainability assessment criteria. This research aims to investigate the use of DTs to assess the criteria within the IS rating scheme, thereby automating the assessment process. By gathering expert insight through an anonymous questionnaire, the study will explore the correlation between sustainability criteria and the utility of digital technologies in their assessment.

To enable us to undertake this research, we need your participation in a questionnaire survey where your responses will be anonymous. Your participation is voluntary and no identifying information will be published in any report.

### **When is the questionnaire happening and how will the questionnaire be conducted?**

The anonymous questionnaire survey is expected to take about 10-15 minutes digitally. It will be held on Qualtrics and allows you to start at any time. Qualtrics is used as an online survey software, it makes data collection easier and flexible. It provides various analysis features for researchers to analyse. The questionnaire is made to be mobile-friendly and can be completed as you wishes. The questionnaire is to be sent following the ethics approval.

Participation is completely voluntary. Due to the questionnaire being anonymous, upon submission, your responses will be saved and cannot be withdrawn as they cannot be traced back to an individual. Submission of the questionnaire will be taken as a consent to participate.

### **What are the benefits of taking part in the questionnaire?**

All participants who complete and successfully submit the questionnaire survey will be eligible for a lucky draw, with a chance to win one of three NZD \$100 gift vouchers. To enter the draw, eligible participants must provide their email address at the end of the questionnaire. To ensure anonymity, email addresses will be collected through a separate exit questionnaire and stored independently from the main questionnaire results. After completing the main questionnaire on Qualtrics, participants will be automatically redirected to the exit questionnaire for email collection. The participants of the questionnaire can request a summary of results by contacting the research team via the email addresses listed below in this form.

### **How is the confidentiality addressed?**

The confidentiality will be addressed in the following ways:

- (1) The questionnaire will be conducted anonymously through Qualtrics. There are no questions that will be asked about personal information or questions directly regarding your lifestyle that can be used as personnel identifiers. Thus does not require to be de-identified or coded as all data is unidentifiable.
- (2) The project results will be published in reports and academic papers, but no identities of the questionnaire participants will be published in any written material as they were not collected.
- (3) The analysis of questionnaire results will be conducted by the researchers only without involvement of a third party.
- (4) All collected data be stored securely online through the University of Auckland's licensed Qualtrics account, which involves strict data protection and privacy standards. Exported questionnaire data will be stored on Research Drive. The access to the questionnaire data is restricted to the Principal Investigator and the researchers. The raw data will be kept for 6 years and destroyed in 2030.

**If you have any queries, please contact:**

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**APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS**

**COMMITTEE ON 11/11/2024 FOR 3 YEARS REFERENCE NUMBER 28352**