

INFORMATION ON THE NOVEL CONTRIBUTIONS OF THE DOCTORAL DISSERTATION

Doctoral Candidate: **Nguyen Thi Phuong**

Tên đề tài luận án: **Risk Management in High-Rise Apartment Building Investment
Projects in Hanoi Using Structural Equation Modeling (SEM)**

Major: **Urban and Infrastructure Management**

Major Code: **9580106**

Supervisors: **Prof. Dr. Dinh Tuan Hai**

Assoc. Prof. Dr. Nguyen Thi Tuyet Dung

Training Institution: **Hanoi Architectural University**

1. Applying the Structural Equation Modeling (SEM) approach to clarify the impact structure of risk groups in high-rise apartment construction investment projects in Hanoi. The research results quantify the degree of influence of each risk group and identify both direct and indirect relationships among the risk groups.
2. Developing a measurement scale system comprising 43 observed variables across six risk groups characteristic of high-rise apartment projects. The measurement scale system is validated through Cronbach's Alpha, Exploratory Factor Analysis (EFA), assessment of the measurement model in PLS-SEM, and evaluation of the goodness of fit of the Structural Equation Model (SEM), thereby ensuring its reliability and validity for both research purposes and practical risk management.
3. Proposing a six-step procedure for applying Structural Equation Modeling (SEM) in risk management research for high-rise apartment construction investment projects. This procedure follows a clear sequence, is aligned with the actual research process, and can serve as a reference framework for similar studies in the field of risk management for construction investment projects.

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