

# Analysis of Adopting Integrated Fuzzy Decision Making Trial and Evaluation

Laboratory on Technology Acceptance Model

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## Abstract

Traditional Technology Acceptance Model (TAM) concentrates on establishing and verifying the model of causal relationship between variables by factor analysis or structural equation modeling. And some technology is highly complicated, not all respondents have thorough comprehension. Certain variables are not compatible with assumption of independence, and causal relationship cannot be analyzed accurately if mass samplings are difficult to obtain, resulting in mistaken conclusions. This study revises TAM through the Decision Making Trial and Evaluation Laboratory (DEMATEL) method, which considers the influences of inconformity between variables. Respondents may completely understand the technology, but may not adequately express it through limitations of mass sampling. Score quantification through traditional investigation asks respondents to make a choice from limited wordings in order to stress maximum attribution without considering the fuzzy thinking of humans, resulting in an imprecise summary. The study used the case study of Taiwan plasma etching manufacturing industry as the example, adopted fuzzy DEMATEL to calculate the causal relationship and interaction level between

the  
TAM2 variables and establish the TAM of Plasma Etching Technology to  
explain the  
application and effect of this theory which providing administrator  
references to  
improve promotion of new technology to solve complicated and difficult  
problems in  
practice.

Keyword : Technology Acceptance Model (TAM), Decision Making Trial and