

**ATTRIBUTES OF INNOVATION INFLUENCING GREENHOUSE  
TECHNOLOGY ADOPTION BY SMALL-SCALE  
HORTICULTURAL FARMERS IN NYERI COUNTY, KENYA**

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Kimathi University of Technology**

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## DECLARATION

I declare that this thesis is my original work and to my knowledge has not been presented for any award in any other university or institution of higher learning.

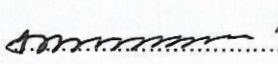
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This thesis proposal has been submitted for examination with our approval as the University supervisors.

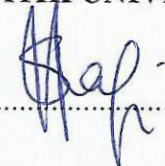
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## ABSTRACT

The current study was conducted to investigate the attributes of innovation (relative advantage, compatibility, complexity, trialability, and observability) influencing greenhouse technology adoption by small-scale horticultural farmers in Nyeri County, Kenya. A quantitative research design was adopted targeting a population of 348 small-scale greenhouse horticultural farmers located in eight sub counties of Nyeri County in Central Kenya. A proportional stratified sample of 30percent of the target population in each stratum was taken in order to pick the specified number of participants for the survey. This was pooled to form a sample size of 106 respondents on which semi-structured questionnaires were administered. Further, Key informant interview was carried out on four experts on greenhouse technology in order to validate the findings of respondents. The primary data from the questionnaires was analysed with the aid of the Statistical Package for Social Sciences (SPSS V20) software to generate pie charts, graphs, frequency tables, mean, and percentages. A regression model was employed to show the relationship between independent and dependent variables. The study found that holding relative advantage, compatibility, complexity, trialability and observability constant, adoption of greenhouse technology was 1.478. The study also revealed that a unit increase in relative advantage caused a .763 increase in adoption of greenhouse technology. One unit increase in compatibility led to an increase by 0.696. A unit increase in complexity led to an increase in adoption of greenhouse technology by a factor of 0.672. Additionally, a unit increase in trialability led to an increase by a factor of 0.588. Finally, a unit increase in observability further led to an increase by a factor of 0.546. Relative advantage contributed the most to the attributes of innovation influencing greenhouse technology adoption, followed by compatibility, complexity, trialability and observability. At 5% level of significance and 95% level of confidence, all five attributes were significant and explained 80.6 percent of the variance in adoption of greenhouse technology. The significance value of the F statistic was 2.687 indicating that all the predictor variables explained a variation in adoption of greenhouse technology and that the overall model was significant. The study also depicts that gender, age of the farmer, level of education, farm size, and purpose of farming and farmers experience influenced adoption of greenhouse technology. The findings were useful for policy formulation and targeting of promotion programmes on greenhouse technology adoption for small-scale farmers in the study area.