

# **A Thesis Submitted in Partial Fulfillment of the Requirement for the Degree of Master of Science in Agricultural Management**

Meysam Alidoost Nia\*,

**In recent years, unnecessary consumption of fossil fuels and environmental concerns have caused the increase in the attitude towards renewable energies. The main goal of this research is to investigate the willingness behavior toward renewable and modern energies by applying typology methods to farmers' communities. To implement the research, we set to use a scrolling method with descriptive-correlation technique to fulfill the research goals. The main tool of the research is the questionnaire that is utilized to investigate narrative and reliability features of the research in face-to-face interview that is done among the statistical sample. Reliability of the research tool is investigated by Cronbach's alpha coefficient. According to the result, it is calculated 0.717 that indicates the reliability of the questionnaire. Exploratory factor analysis shows that these five factors including attitude, environmental concerns, subjective norm, moral norm and perceived behavior control can justify 58.083% of the variance metric in farmers' willingness behavior. To analyze the result, we employ two-step cluster analysis approach for grouping the respondents that is done based on the exploratory factor analysis results. The result reveals that three recognizable clusters can be detected based on the research elements. According to the analysis results of k-means clustering, we observe that the people in the first cluster with about 45% of the entire community believe that two factors including moral norm and attitude are more significant. The second cluster with about 37.5% of the entire community, have more willingness toward utilizing the renewable energies in agriculture section that is confirm based on the center size of the composed factors. In general, we observe that moral norm is the most significant factor in forming all three above-mentioned groups.**

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**Keywords : renewable energies, moral norm, subjective norm, attitude, perceived behavioral control, environmental concerns, clustering analysis**

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