



## **Necessity of Applying Fuzzy Thinking in Technology Management (Emphasis on the Diffusion and Adoption of Agricultural and Rural Innovations)**

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According to Diffusion Theory, new technologies can make changes and reactions in farming and rural communities. Rogers, believe that we more than ever live in an era of change but the predominant social structure is often the main obstacle of innovation diffusion. He said, process of social change consists of three consecutive stages 1) invention 2) diffusion 3) consequences and four constituent elements of diffusion are: 1) innovation that by 2) specially communication channel, 3) along with other members of the, 4) social system is shared. Meanwhile Rogers was divided adopters of innovations into 5 groups named: innovators, early adopters, early majority, late majority and laggards. So, this paper is writing with the documentary method by using domestic and foreign resources. The main questions are that if process of social change, constituent elements of diffusion, and also grouping of adopters based on accepting are enough clear and transparent? Or simply as a series of space between 0-1 this process is delimited with certainty? Now here a multi-valued concept and vagueness that in the recent scientific literature named “fuzzy sets” appear. Fuzzy logic discusses about the values that are between “zero-one” that are usual among classical sciences and open a new sight for the world of science. Because fuzzy logic can clear blurring the air and use the floating or infinite numbers that are from zero to one. Fuzzy logic goes forward from “accept” or “reject” to new value “May accept” or “I accept If” for derive and applies. There is an obvious fact that, the innovations are not accepted according to o-1logic. As a result, in this case the approach leads to change and move towards being in Fuzzy method and new conditions that are more suitable phased approach to serious issues to find innovation issues and its scope be extended. This paper will answer the prior questions with fuzzy approach, so that at the end we will reach this conclusion that there is no clear boundary between concepts and that reason in the humanity and social sciences we less encounter with ratio scale so this approach (Fuzzy Logic) is needed more. Also elements of innovation, change and innovation process with fuzzy logic will be explain in the framework of this paper.

**Key Words:** Agriculture, Approach, Fuzzy logic, Innovation, Rural.