An Analysis of Technology Acceptance in Turkey using Fuzzy Logic and Structural Equation Modeling

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Abstract

Technology is in a constant progress in order to satisfy increasing human needs. This fact will hold true for the years to come. However, the level of adjustment to technological advancements vary greatly across countries. The pace of adjustment is directly proportional to the importance attached to and the funds allocated for this purpose. Despite the abundance of technological investments in Turkey in recent years, there are only a few studies analyzing the current level of individual interest in technology. This study therefore aims to is to determine the technology acceptance of Turkish people by using the Technology Acceptance Model (TAM) developed by Davis (1989) and to demonstrate the reasons to accept or not accept technology departing from the links between dimensions. While accomplishing this aim, Structural Equation Model (SEM) that is a highly strong multivariable analysis technique that makes possible the evaluation of latent structures like psychosocial needs, and the Fuzzy Logic Theorem that provides strong and significant instruments for the measurement of ambiguities and provides the opportunity to meaningfully represent ambiguous concepts expressed in the natural language were used. According to the result of this study, it was determined that the perceived ease of use is more influential in people's acceptance of technology than the perceived usefulness is. It was also found that technology acceptance does not differ significantly at the statistical significance level of 0.05 with respect to the participants' demographic characteristics (age, gender, education level, hometown etc.). In addition, analyses performed to define the relationships between the dimensions of the TAM yielded results that highly supported the TAM. In other words, the dimensions affect technology acceptance to positive and significant degrees.

Keywords: Technology Acceptance Model, Technology, Fuzzy Logic, Structural Equation Modeling