

## Psychological factors affecting farmers' intention to diversify agricultural products (Case study: Khorramabad Township)

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### ABSTRACT

In relation to agricultural development, “diversification” is probably one of the most frequently used terms in the recent decade. Product diversification is often presented as a strategy to improve the sustainability of agricultural production systems, which can lead to a reduction in the use of inputs - pesticides, fertilizers, water and environmental damage - with good management. However, despite the benefits of diversification in terms of environmental and economic sustainability, this type of farming system has not yet been accepted among farmers. The purpose of this study was to investigate the psychological factors affecting farmers' intention to diversify agricultural products. To achieve this goal, the theory of planned behavior was used as the main framework. The statistical population of this study was consisted of all wheat farmers in Khoram Abad Township (N = 17623) that using Krejcie & Morgan table, the sample size was determined (n=375). To collect data, a researcher-made questionnaire was used. Data was analyzed using Structural Equation Modelling (SEM) with AMOS 24 software package. The results showed that attitude, subjective norm and perceived behavioral control have a positive relationship with farmers' intention to diversify agricultural products. In addition, the results showed that the subjective norm had the most direct effect and behavioral beliefs had the most indirect effect on farmers' intention.

**Keywords:** Farmers behavior, attitude, Subjective norm, behavioral control, behavioral beliefs

### Objective

The aim of this study is to investigate the psychological factors affecting farmers' intentions in diversifying agricultural products. Identifying these factors can help develop government strategies and policies to increase diversification in agricultural production and lead to rural development. One of the theories related to the analysis of psychological factors affecting on farmers' behavior and decisions is the theory of planned Behavior developed by Ajzen (2006). This theory has been widely used in the study of farmers' behaviors and decisions (Greiner, 2015; Borges et al., 2014; Lauwere et al., 2012). According to this theory, the decision to diversify agricultural products stems from farmers' intentions, which are influenced by three structures: attitudes, mental norms, and perceived behavioral control. The use of these three structures allows us to identify how farmers evaluate the feasibility of diversifying agricultural products on the farm (attitude), the perceived social pressure to diversify products (social norms), and understand their ability to use this strategy on farms (perceived behavioral control).

## Method

In this research, Theory of Planned Behavior (TPB) has been used to investigate the psychological factors affecting farmers' intention to diversify agricultural products. The statistical population of this study was consisted of all wheat farmers in Khoram Abad Township (N = 17623) that using Krejcie & Morgan table, the sample size was determined (n=375). Simple random sampling was used to select the research sample. The main research tools of the questionnaire included 9 sections: Personal characteristics of respondents (10 items), Farmers' awareness (10 items), Attitude to the diversification of agricultural products (3 items), Mental norms (3 items), Perceived behavioral control (5 items), Intention (4 items), Behavioral Beliefs (7 items), Normative Beliefs (8 items) and Control Beliefs (12 items). For scoring the questionnaire in the awareness section, one score was considered for each correct answer and zero score was considered for each incorrect answer. Questions about attitudes, mental norms, perceived behavioral control, and farmers' intentions were categorized by the five-point Likert scale from strongly disagree to strongly agree. Data was analyzed using Structural Equation Modelling (SEM) with AMOS 24 software package.

## Findings

Findings from Pearson's correlation showed that there was a significant relationship between each of the independent variables of attitude, mental norms, perceived behavioral control, behavioral beliefs, normative beliefs and control beliefs. In addition, there is a significant relationship between each of the mentioned independent variables with the intention of farmers in diversifying agricultural products. According to the findings of path analysis, among the independent variables of the research, mental norms had the most direct and positive effect (0.51) on farmers' intention in diversifying agricultural products. Then, the variables of attitude (0.41) and behavioral control (0.26) had direct and significant effects on farmers' intentions. However, behavioral beliefs have had the greatest indirect and negative effect on farmers' intentions. According to the results of estimating the structural model of the research, Behavioral beliefs will indirectly affect farmers' intentions in diversifying agricultural products through attitude (0.27), mental norms (0.51) and behavioral control (0.31). Normative beliefs will indirectly affect farmers' intentions (0.27) through mental norms (0.27), and controlled beliefs indirectly through mental norms (0.31) and behavioral control (0.24) affects farmers' intentions (0.22). Overall, 44% of changes in farmers' intentions in diversifying agricultural products have been explained by these independent variables. Overall, 44% of changes in farmers' intentions in diversifying agricultural products have been explained by these independent variables.

## Conclusion

In this study, other relationships were identified more than theory of planned behavior. This research highlighted the role and importance of behavioral beliefs in shaping intention to do behavior. Although in Ajzen's model, only behavioral beliefs affect attitude, but in the final research model, behavioral beliefs also affect mental norms and behavioral control. Behavioral beliefs are related to the results of behavior.