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Research Article

An Empirical Study on to Identify the Factors Which Related to the Farmer's Risk Behavior: An Exploratory Factor Analysis

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Abstract

Risk denotes a situation in which the probabilities are known, whereas uncertainty denotes a situation in which the probabilities are unknown to the decision maker. Agriculture risk differs from farmer to farmer and from farming system to farming system. The study's major goal is to look at the elements that impact a farmer's risk behaviour. Principal Component Analysis was used to examine the scale's eighteen positive and negative items (PCA). These factors account for 19.288, 18.328, 16.284, 8.309, and 5.918 percent of the variation, respectively. After seeing a definite split in the Scree Plot graphical depiction Following the five components, it was agreed to keep the five components for future exploration. The five-component Each item/variable has a considerable loading on each other.

Keywords: Exploratory Factor Analysis, EFA, Risk Behavior, Factors Identification.

I. Introduction

The well-known classic book of by Frank and Knight highlighted a crucial distinction between risk and uncertainty. According to this definition, risk refers to a condition in which the probabilities are known, whereas uncertainty refers to a scenario in which the probabilities are unknown to the decision maker, and most agricultural economic textbooks distinguish between risk and uncertainty. Risk refers to situations in which probability may be attached to the occurrence of events that impact the result of the decision- making process, whereas uncertainty refers to conditions in which assigning probability to the occurrence of an event is impracticable (Ellies, 1993).

Agriculture risk differs from one farmer to the next and from one agricultural system to the next. Climate change, government policy shifts, institutional shifts, and pricing risk are all factors to consider are all frequent risks for most farms. It indicates that agricultural hazards appear to be widespread around the world, and the risk loads on small-holder farmers in underdeveloped nations are higher than in rich nations (Hazell & Norton, 1986)

II. Literature Review (Components/Factors):

a. Farmer's Risk Behavior:

Few academics are focused on a larger idea in decision making. Economic studies emphasise the features and behaviour patterns that farmers typically follow (Ruttan, 1977). Some research have shown the motivations and attitudes of farmers or adaptors and linked them to the selection method. Edinburgh investigates farmers' occupational conduct, with a few research focusing on the fundamental motivations of farmers' decision-making behaviour (Potter, 1986). Farmers need to know whether to seek guidance on decisions and where these decisions effect them in their field and in what dimensions.

Risk Attitude:

Many academics from other disciplines, such as sociologists and economists, have contributed to the conceptualization of individual decision-making acceptance of new creative ideas. The qualities of possible adopted and feeling money lenders, intended adopter recognition on advancement attributes, rates of appropriation of new advances and ideas, and correspondence directs featured in distinct phases of the innovative choice process were all studied by social scientists. (Sarkar, 1998).

Farming Objective:

People's objectives assist to direct their attention and prioritise important information; nonetheless, setting a goal cannot explain motivating occurrences, but it can enable for measurement (Locke et.al, 1981). Along with the aims that are important in farming (Gasson, 1974).

Perceived Risk Exposure:

The notion of planned conduct was added to the Perceived Controlled hypothesis (Ajzen, 1980). Farmers' intentions and decision-making behaviour are strongly influenced by their perception of risk exposure (Ajzen, 1988).

Market Orientation:

Since the previous several decades, there has been a surge in interest in developing market research. According to FAO figures, two-thirds of the world's population lives in rural regions. As a result, more academics and economists are paying attention to and are interested in developing market studies (Burgess, 2006).

Economic Freedom:

In general, the economic freedom index assesses the freedom of individuals to engage in voluntary trades and the rightfully obtained possessions. Economic independence is difficult to quantify since it involves both qualitative and quantitative factors.

III. Research Methodology:

Research Objectives:

The study's major goal is to investigate the elements that impact a farmer's risk behaviour.

Sample:

The sampling methodology 408 non-probability was selected for this inquiry. A self-administered questionnaire has been created for data collection, taking into account the convenience and judgmental sampling techniques chosen for the data gathering procedure. Based on the population characteristics, sample units were chosen from the whole population for investigation. It is the best sampling strategy when the population to be studied is difficult to discover or when a few people are regarded to be better (more educated, more enthusiastic, and so on) than others to meet. This strategy bases the decision on the client's instruction and assistance.

IV. Data Analysis:

a. Reliability Statistics:

The Cronbach's Alpha coefficient of scale value, which is the internal consistency value or dependability value, should ideally be more than 0.70. DeVellis (2003) defines formalised. A Cronbach's Alpha value greater than 0.70 is considered good; nonetheless, a number greater than 0.80 is preferred. The reliability value obtained in this investigation is 0.855, which is superior.

b. Exploratory Factor Analysis:

This research is concerned with a big number of observations made by a big number of persons. It considers the viewpoints and attitudes of a sample of individuals in a range of risk participation issues, as well as the viewpoints and attitudes of major farms. In this scenario, the underlying connection structure in a set of measurements is necessary. Each measure in the total observations reflects something in common and has a low/high correlation with any other measure during the measurement procedure. In order to capture the same collection of underlying structures, the correlation between the data must be examined. It would be predicted that the strongly linked measures comprised of a subset and the unrelated measure from the other subset.

EFA is based on a basic variable model. Within the normal components illustrate, and element of exceptional elements, regular element, and estimation error communicate variables. Normal elements are arrogant toward one or more measured variables, but each fascinating element is arrogant toward one and only measured variable and does not elucidate links between measurements variables. EFA anticipates that any pointer/measured variable may be linked to any element. Because there is no body fixed strategy, EFA necessitates the analyst making a number of crucial decisions on how to conduct the inquiry.

Interpretation of Output:

A large amount of data had been created throughout the analytical procedure. The important bits of output data had been selected for study.

Step 1: In the first step, check to see if the data set is suitable for factor analysis. The criterion for suitability is The Kaiser-Meyar Olkin sample adequacy value is 0.5, and the Bartlett's Test of Sphericity value is significant (less than 0.05). In this research study, the KMO value is 0.809, and the Bartlett's test is significant (p=0.000), suggesting that the data set is eligible for factor analysis.

Step 2: Counting the number of extracted components/factors: Using the Kaiser Criteria, it is determined that components with Eigen values greater than one are only included in the subsequent investigation. To determine how many components match these requirements. This information is shown in the Scree Plot Explained table and the Total Variance Explained table The Scree Plot Table components or having Eigen Value larger than one indicates that the Scree Plot was used to extract 5 factors. The Scree Plot clearly shows an Elbow Shaped line, and the Base Scree Plot shows that Component 1 and Component 2 vary significantly more than the other components.

The third component similarly has a higher variance; however, there is a slight difference between the third and fourth components. The fifth part is small and almost 1 in variance.

The overall variance table also indicated that Eigen values were higher than1 for the first five components. For the first five components the Eigen values are (3.472,3.299,2.931,1.496,1.065). The component variances are (19.288,18.328,16.284,8.309,5.918). Based on the cumulative percent column, these five components explain 68.127 percent of the total.

Step 3: Un-rotated loading of each Item: The Component Matric displays each item's un-rotated loading, whereas the table displays the loads of each item with high loadings. The component loadings are judged to be more than 0.5. The components are more suited to explaining farmer attitudes and behaviour.

Step 4: The total number of factors is the conclusion in the factor analysis, and the pattern matrix displays a five-factor answer. According to it, the first component/factor has four items, the second component contains four items, the third component contains four items, and the fifth component has three items, all of which have a higher loading. Three or more items in each loading are preferable; here, three components have four items each, and two components have three items each, therefore the component solution is perfect.

V. Findings, Conclusion:

The SPSS 20 version was used to analyse the scale's eighteen positive and negative items using Principal Component Analysis (PCA). The correlation matrix reveals that the items' correlation co-efficients are greater than 0.3. The Kaiser-Meyer-Olkin value was 0.809, which was higher than the acceptable 0.6 (Kaiser, 1970). (Kaiser, 1974).

The factor analysis is supported by the Bartlett's Test of Sphericity Value. The examination of principal component analysis reveals that the Eigen Value of five components is more than one. These factors account for 19.288, 18.328, 16.284, 8.309, and 5.918 percent of the variation, respectively.

After seeing a definite split in the Scree Plot graphical depiction after the five components, it was decided to preserve the five components for future examination (Catell's, 1966). Each item/variable has a considerable loading on the five-component variable.

References:

[1] Ajzen, I. (1981). The theory of planned behaviour. Organizational Behaviour and Human Decision Process 50, 179–211.

[2] Ajzen, I., Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior. Prentice-Hall, Englewood Cliffs, NJ.

[3] Burgess, Steven M. and Jan-Benedict E.M. Steenkamp (2006), "Marketing Renaissance: How Research in Emerging Consumer Markets Advances Marketing Science and Practice," International Journal of Research in Marketing, 23 (December), 337-356.

[4] Ellis, A. (1993). Reflections on rational-emotive therapy. Journal of Consulting and Clinical Psychology, 61(2), 199–201.

[5] Gasson, R. (1973). The goals and values of Farmers. Journal of Agricultural Economics 24.pp 521–542.

[6] Hazell & Norton (1986), "Mathematical Programming for Economic Analysis in Agriculture"

[7] Knight, Frank H. (1921), "Risk, uncertainty and profit". Boston, New York, Houghton Mifflin Co., 1921 (OCoLC)586064205

[8] Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance 1969–80. Psychological Bulletin, 90, 125–152

[9] Potter, C. (1986). Processes of countryside change in lowland England. Journal of Rural Studies 2, 187–195.

[10] Ruttan, V.W., 1977. The green revolution: seven generalizations. In international Development Review 19, 116–133.