A dataset of factors influencing intentions for organic farming in Vietnam

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\textbf{A B S T R A C T}

This paper presents a survey dataset on factors influencing farmers' intention to produce organic farming in Hanoi, Vietnam. The survey was designed based on the theoretical integration model of theory of planned behavior (TPB) and norm activation model (NAM) including 7 factors, 33 items inherited from previous studies to collect information of the respondents and 5 other items used to find out the respondent's characteristic include: gender, age, educational qualification, farming experience and farming annual income. Questionnaires were sent directly to farmers at their home or farm in October 2019. 318 valid questionnaires were collected for the study of intentions for organic farming. The dataset was obtained as a reference source for later studies on organic farming development and organic farming production intent/behavior promotion.

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Specifications Table

| Subject                  | Agriculture                                      |
|--------------------------|--------------------------------------------------|
| Specific subject area    | Organic farming, intention of farmer, theory of  |
|                          | planned behavior, norm activation model          |
| Type of data             | Table                                            |
| How data were acquired   | Questionnaire                                    |
| Data format              | Raw                                              |
| Parameters for data collection | Participants who farmers in the Hanoi, Vietnam are practicing conventional farming, decided to participate in the survey voluntarily |
| Description of data collection | Data were collected through direct distribution and collection from farmers in Hanoi, Vietnam in October 2019. The data set includes 318 valid responses. |
| Data source location     | Region: Asia                                     |
|                          | Country: Vietnam                                 |
|                          | Latitude and longitude: 21.028511, 105.804817    |
| Data accessibility       | Data with the article                            |

Value of the Data

• The dataset describes the assessment of farmers in Hanoi, Vietnam on organic farming production based on seven factors from the TPB-NAM integrated model including: intention, attitude, subject norms, perceived behavioral control, personal norm, awareness of consequences and ascription of responsibility. At the same time, the dataset also includes 5 characteristics of the respondent: gender, age, educational qualification, farming experience and farming annual income.
• The data set explores factors influencing the intentions of organic farming of farmers in Hanoi, Vietnam.
• The dataset is the source of reference for state management agencies in making policies to promote organic farming production, contributing to building a sustainable national agriculture in developing countries like Vietnam.

1. Data Description

Organic farming increases farmers’ income, while also helping to protect environmental pollution by avoiding harmful chemicals and fertilizers [12]. Organic farming is an important tool for achieving green yields and reducing the negative effects of conventional farming by removing synthetic chemical inputs during production [1]. Therefore, developing countries like Vietnam are trying to come up with policies to promote organic farming intentions of farmers. The dataset collected farmers’ opinions based on seven factors from the TPB-NAM integration model. In particular, TPB has been accepted and widely used in studies with the purpose of predicting individual intentions and behavior, empirical studies have shown the relevance of this theory in the study of farmers’ intentions/behavior [3,5,6,8,11]. NAM is derived from a pro-social context and has been widely used in many studies to explain not only pro-social intentions/behavior but also pro-environmental intentions/behavior in a wide range of contexts [2,4,7,9,14].

The data set was collected through a 2-part survey: the first part explores the respondents’ characteristics including: gender, age, educational qualification, farming experience and farming annual income (Table 1); the second part explores respondents’ consent to statements related to factors affecting the intention to produce organic agriculture (Table 2); Table 3 shows more detailed results between the variables. It took the farmer about 20 minutes to complete the entire survey. Valuable responses were obtained in 318 questionnaires. The questionnaire and answers were shown in the supplementary files.
The dataset includes: the respondent’s characteristics (Table 1) and seven factors: (1) intention; (2) attitude; (3) subject norms; (4) perceived behavioral control; (5) awareness of consequences; (6) ascription of responsibility; (7) personal norm (Table 2).

2. Experimental Design, Materials and Methods

The survey was conducted directly at the farmer’s residence or farm in October 2019. The survey team received the support from Department of Science and Technology in Hanoi to list and approach the target farmers. Respondents were farmers who were practicing conventional farming in Hanoi, Vietnam. Respondents were selected at random but still ensured their representativeness in some regions that were promoting the conversion to organic farming such as Soc Son, Chuong My, Ba Vi, ... in Hanoi. Each farmer participating in the survey received a support of 2 US dollar after completing all the contents of the questionnaire which were distributed directly and collected by the survey team.

The survey team designed a survey of 38 items, of which 5 were about respondents’ characteristics, the remaining 33 items, are designed on a 5-point Likert scale (1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree; 5: Strongly agree), focus on 7 factors: intention, attitude, subject norms, perceived behavioral control, personal norm, awareness of consequences and ascription of responsibility. All items in the survey are inherited from previous studies [10,13] and the replying is complete mandatory to ensure that the collected data does not contain missing data. The questionnaire did not use the reverse question, which was conducted directly by the survey team, with detailed observations and assisting farmers in the answer process. All responses of the respondents were imported into Excel software before importing to SPSS 22. Before the analysis, the variables were encoded (Tables 2 and 3) and the data were checked to ensure the validity of each questionnaire. After discarding invalid questionnaires, the final dataset contained 318 questionnaires.
Table 2
Descriptive results of participants’ responses

| Variables                                      | N   | Min | Max | Mean | Std. Deviation |
|-----------------------------------------------|-----|-----|-----|------|----------------|
| **Intention (IN) (Cronbach’s Alpha = 0.782)** |     |     |     |      |                |
| IN1 I intend to practice organic farming in my farm over the next year. | 318 | 1   | 5   | 3.09 | 1.121          |
| IN2 I will expend effort in organic farming in my farm over the next year. | 318 | 1   | 5   | 3.60 | 1.178          |
| IN3 I am planning to practice organic farming in my farm over the next year. | 318 | 1   | 5   | 3.06 | 1.076          |
| **Attitude (AT) (Cronbach’s Alpha = 0.804)** |     |     |     |      |                |
| AT1 Quality of product from organic farming is better than conventional farming. | 318 | 1   | 5   | 3.44 | 1.279          |
| AT2 Organic farming is good for farmers and the health of family members. | 318 | 1   | 5   | 3.36 | 1.391          |
| AT3 The products from organic farming are good for the consumer’s health. | 318 | 1   | 5   | 3.44 | 1.228          |
| AT4 The products from organic farming are good for the environment. | 318 | 1   | 5   | 3.29 | 1.324          |
| **Subject norms (SN) (Cronbach’s Alpha = 0.870)** |     |     |     |      |                |
| SN1 Other farmer neighbors will change to organic farming. | 318 | 1   | 5   | 3.48 | 1.094          |
| SN2 Family members need the farmers to transform to organic farming. | 318 | 1   | 5   | 3.37 | 1.210          |
| SN3 Introduction and news releases from media, such as television, radio, or newspapers leads to organic farming. | 318 | 1   | 5   | 3.45 | 1.160          |
| SN4 Farmer groups on organic farming are better for exchanging information, production, and marketing. | 318 | 1   | 5   | 3.40 | 1.146          |
| SN5 Farmer groups on organic farming are better for exchanging information, production, and marketing. | 318 | 1   | 5   | 3.46 | 1.125          |
| SN6 Farmer groups on organic farming will influence others to join. | 318 | 1   | 5   | 3.47 | 1.139          |
| **Perceived behavioral control (PBC) (Cronbach’s Alpha = 0.861)** |     |     |     |      |                |
| PBC1 Farmers know the difference between organic farming and conventional farming. | 318 | 1   | 5   | 3.52 | 1.240          |
| PBC2 Farmers know the processes and techniques of organic farming. | 318 | 1   | 5   | 3.69 | 1.189          |
| PBC3 Farmers have the self-confidence to carry out organic farming. | 318 | 1   | 5   | 3.56 | 1.274          |
| PBC4 Farmers have the self-confidence to receive an organic certificate. | 318 | 1   | 5   | 3.62 | 1.214          |
| PBC5 Farmers have the self-confidence to control productivity with organic farming. | 318 | 1   | 5   | 3.63 | 1.210          |
| **Awareness of consequences (AC) (Cronbach’s Alpha = 0.861)** |     |     |     |      |                |
| AC1 Organic farming prevents pests and reduces beneficial insects. | 318 | 1   | 5   | 2.84 | 1.437          |
| AC2 Organic farming minimize soil contamination and erosion and improve fertility. | 318 | 1   | 5   | 3.09 | 1.427          |
| AC3 Organic farming help to minimize ground and surface water contaminations. | 318 | 1   | 5   | 3.09 | 1.427          |
| AC4 Organic farming prevent or reduce potential human health problems. | 318 | 1   | 5   | 2.96 | 1.400          |
| AC5 Organic farming help to improve environmental air quality. | 318 | 1   | 5   | 3.07 | 1.377          |

(continued on next page)
| Variables                              | N  | Min | Max | Mean  | Std. Deviation |
|----------------------------------------|----|-----|-----|-------|----------------|
| **Ascription of responsibility (AR) (Cronbach’s Alpha = 0.822)** |    |     |     |       |                |
| AR1 I feel responsible for the problems of not using organic agricultural practices. | 318 | 1   | 5   | 3.49  | 1.278          |
| AR2 I provoke environmental problems if I do not use organic farming in my farm. | 318 | 1   | 5   | 3.53  | 1.214          |
| AR3 I believe that every farmer must take responsibility for organic farming. | 318 | 1   | 5   | 3.50  | 1.263          |
| AR4 All farmers are responsible for human health hazards by pesticide overuse. | 318 | 1   | 5   | 3.64  | 1.228          |
| **Personal norm (PN) (Cronbach’s Alpha = 0.812)** |    |     |     |       |                |
| PN1 I feel morally obliged to practice organic farming in my farm. | 318 | 1   | 5   | 3.36  | 1.277          |
| PN2 Organic farming is consistent with my moral principles, values, and beliefs. | 318 | 1   | 5   | 3.35  | 1.212          |
| PN3 I would feel guilty about not using organic farming in my farm. | 318 | 1   | 5   | 3.45  | 1.216          |

Table 3
Correlations between variables and intention of farmers to produce organic farming.

| Variable                              | Intention |
|----------------------------------------|-----------|
|                                        | IN1       | IN2       | IN3       |
| **Respondent characteristic**          |           |           |           |
| RC1 Gender                             | 0.011     | 0.009     | -0.071    |
| RC2 Age                                | -0.043    | -0.031    | -0.101    |
| RC3 Educational qualification          | -0.002    | 0.082     | 0.003     |
| RC4 Farming experience                 | -0.027    | -0.024    | -0.109    |
| RC5 Farming annual income              | -0.054    | -0.012    | -0.128*   |
| **Attitude**                           |           |           |           |
| AT1 Quality of product from organic farming is better than conventional farming. | 0.241**   | 0.132*    | 0.156**   |
| AT2 Organic farming is good for farmers and the health of family members. | 0.246**   | 0.139*    | 0.223**   |
| AT3 The products from organic farming are good for the consumer’s health. | 0.225**   | 0.193**   | 0.217**   |
| AT4 The products from organic farming are good for the environment. | 0.256**   | 0.124*    | 0.199**   |
| **Subject norms**                      |           |           |           |
| SN1 Other farmer neighbors will change to organic farming. | 0.039     | 0.038     | 0.055     |
| SN2 Family members need the farmers to transform to organic farming. | 0.147**   | 0.168**   | 0.090     |
| SN3 Introduction and news releases from media, such as television, radio, or newspapers leads to organic farming. | 0.141*    | 0.124*    | 0.106     |
| SN4 Farmer groups on organic farming are better for exchanging information, production, and marketing. | 0.153**   | 0.167**   | 0.184**   |
| SN5 Farmer groups on organic farming are better for exchanging information, production, and marketing. | 0.165**   | 0.115*    | 0.182**   |
| SN6 Farmer groups on organic farming will influence others to join. | 0.090     | 0.079     | 0.107     |

(continued on next page)
Table 3 (continued)

| Variable | Intention | IN1     | IN2     | IN3     |
|----------|-----------|---------|---------|---------|
| **Perceived behavioral control** |           |         |         |         |
| PBC1     | Farmers know the difference between organic farming and conventional farming. | 0.222** | 0.178** | 0.273** |
| PBC2     | Farmers know the processes and techniques of organic farming. | 0.206** | 0.183** | 0.221** |
| PBC3     | Farmers have the self-confidence to carry out organic farming. | 0.183** | 0.174** | 0.214** |
| PBC4     | Farmers have the self-confidence to receive an organic certificate. | 0.160** | 0.152** | 0.215** |
| PBC5     | Farmers have the self-confidence to control productivity with organic farming. | 0.172** | 0.168** | 0.200** |
| **Awareness of consequences** |           |         |         |         |
| AC1      | Organic farming prevents pests and reduces beneficial insects. | 0.170** | 0.156** | 0.212** |
| AC2      | Organic farming minimize soil contamination and erosion and improve fertility. | 0.170** | 0.117*  | 0.124*  |
| AC3      | Organic farming help to minimize ground and surface water contaminations. | 0.211** | 0.223** | 0.252** |
| AC4      | Organic farming prevent or reduce potential human health problems. | 0.147** | 0.121*  | 0.209** |
| AC5      | Organic farming help to improve environmental air quality. | 0.069   | 0.070   | 0.155** |
| **Ascription of responsibility** |           |         |         |         |
| AR1      | I feel responsible for the problems of not using organic agricultural practices. | 0.220** | 0.225** | 0.175** |
| AR2      | I provoke environmental problems if I do not use organic farming in my farm. | 0.238** | 0.244** | 0.250** |
| AR3      | I believe that every farmer must take responsibility for organic farming. | 0.195** | 0.170** | 0.167** |
| AR4      | All farmers are responsible for human health hazards by pesticide overuse. | 0.240** | 0.203** | 0.250** |
| **Personal norm** |           |         |         |         |
| PN1      | I feel morally obliged to practice organic farming in my farm. | 0.202** | 0.090   | 0.215** |
| PN2      | Organic farming is consistent with my moral principles, values, and beliefs. | 0.239** | 0.145** | 0.280** |
| PN3      | I would feel guilty about not using organic farming in my farm. | 0.195** | 0.164** | 0.195** |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Based on the data set, further studies can study the relationships between the factors in the TPB-NAM integration model or separate each theory to find the factors that influence intentions to produce organic farming by farmers.

**Ethics Statement**

The authors kept to all ethical concerns during the data gathering process. The authors got the consent of the respondent when conducting surveys and ensured that all information was used for research purposes and was absolutely confidential.
Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have, or could be perceived to have, influenced the work reported in this article.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2020.106605.

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