Farmers' Perceptions and Behavior which Affect the Adoption Rate of KUB Chickens

Syarifah I[1*], Sirajuddin SN[2], Baba S[3], Najib M[4]

[1]*Doctoral Program of Development Studies, Graduate School, Hasanuddin University, Makassar, Indonesia*
[2,3]*Department of Social Economics, Faculty of Animal Science, Hasanuddin University, Makassar, Indonesia*
[4,3]*Department of Management, Bogor Agricultural University, Bogor, Indonesia*
**Corresponding author email: iif.syarifah@gmail.com*

(received 21-12-2022; revised 29-01-2023; accepted 31-01-2023)

ABSTRAK

Syarifah I, Sirajuddin SN, Baba S, Najib M. 2023. Persepsi dan perilaku peternak yang mempengaruhi tingkat adopsi ayam KUB. JITV 28(1):84-98. DOI: http//dx.doi.org/10.14334/jitv.v28.i1.3200.

Ayam KUB sebagai bibit unggul yang dihasilkan Badan Penelitian dan Pengembangan Pertanian (Balitbangtan) menjadi salah satu solusi dalam upaya peningkatan kebutuhan protein hewani. Bibit ayam KUB telah berhasil didiseminasikan ke seluruh provinsi di Indonesia. Dengan demikian tingkat adopsi dan perilaku peternak dalam mempertahankan keberlanjutan pemeliharaan ayam KUB perlu dianalisis karena bibit yang didiseminasikan belum tentu berhasil dikembangkan di suatu wilayah. Tujuan dari penelitian ini adalah menganalisis faktor persepsi dan perilaku peternak yang mempengaruhi tingkat adopsi teknologi ayam KUB di Provinsi Jawa Tengah, Indonesia. Penelitian ini akan menggabungkan antara teori "*Theory of Planned Behavior*"(TPB) dan "*Technology Acceptance Model*"(TAM). Teknik sampling ditentukan dengan *multistage sampling* yaitu *purposive sampling* dan *accidental sampling.* Sebanyak 104 sampel diwawancara dan dianalisis dengan analisis jalur (path) dan regresi pada teknik *Structural Equation Modeling* (SEM). Berdasarkan hasil penelitian dapat disimpulkan bahwa variabel persepsi manfaat (25.3%), kemudahan memelihara ayam KUB (23.9%), sikap (21.2%), norma subjektif (16.7%) dan persepsi atas kontrol perilaku (17.3%) berpengaruh positif pada minat mengadopsi Ayam KUB. Selain itu persepsi manfaat (45.8%) dan persepsi kemudahan memelihara ayam KUB (50.1%) sangat berpengaruh positif terhadap variabel sikap peternak. Orang-orang penting termasuk anggota keluarga memiliki peran penting dalam mendukung pemeliharaan ayam KUB, sedangkan penyuluh belum banyak berkontribusi dalam mendukung peternak untuk mengadopsi ayam KUB. Kolaborasi dari kedua teori memiliki hubungan yang saling mempengaruhi khususnya terhadap sikap dan minat mengadopsi ayam KUB yang berefek positif terhadap tingkat adopsi. Tingkat adopsi ayam KUB adalah 3.32 (66.40%). Ini menunjukkan bahwa tingkat adopsi peternak di daerah Jawa Tengah, Indonesia diklasifikasikan sebagai adopsi tinggi.

Kata Kunci: Ayam KUB, Perilaku Peternak, Tingkat Adopsi, TAM, TPB

ABSTRACT

Syarifah I, Sirajuddin SN, Baba S, Najib M. 2023. Farmers' perceptions and behavior that affect the adoption rate of KUB chickens. JITV 28(1):84-98. DOI: http//dx.doi.org/10.14334/jitv.v28.i1.3200.

As a superior breed produced by Indonesian Agency for Agricultural Research and Development (IAARD), KUB chicken becomes one of the solutions to increase the need for animal protein. KUB chicken breeds have been successfully disseminated to all provinces in Indonesia. Thus, breeders' adoption rate and behavior in maintaining the sustainability of KUB chicken rearing needs to be analyzed because the disseminated breeds may need to be successfully developed in a particular area. This research will collaborate with two theories; the "Theory of Planned Behavior" (TPB) and the "Technology Acceptance Model" (TAM). It was conducted in June 2022 in the City of Salatiga, Semarang, and Magelang, Central Java Province. The determination of the research location was based on the consideration that a KUB chicken breeders group already had a KUB chicken breeder association called AnaKUB (KUB Chicken Breeders Association) and a breeding population that met the sampling requirements. This research aimed to analyze the perception factors and breeders' behavior that affect the adoption rate of KUB Chicken Technology in Central Java Province, Indonesia. The combined results of path analysis (path) and regression analysis on the Structural Equation Modeling (SEM) technique, it can be concluded that perceived benefits (25.3%), ease of raising KUB chickens (23.9%), attitudes (21.2%), subjective norms (16.7%) and perceptions of control behavior (17.3%) have a positive effect on the intention to adopt KUB chickens. The perceived benefits (45.8%) and the perceived ease of raising KUB chickens (50.1%) have a very positive effect on the attitude variable of the farmer. Important people, including family members, have an important role in supporting the maintenance of KUB chickens. In contrast, extension workers have yet to contribute much in supporting breeders to adopt KUB chickens. The collaboration of two theories has a mutually influencing relationship, especially towards attitudes and intentions to adopt KUB chickens, which positively affect the adoption rate. The adoption rate of KUB chicken is 3.32 (66.40%); this shows that the adoption rate of breeders in the Central Java region is classified as high adoption.

Key Words: Adoption Rate, Breeder Behaviour, KUB Chicken, TAM, TPB

INTRODUCTION

The adoption of an innovation is a mental process or behavior change in the form of knowledge (cognitive), attitude (affective), and skills (psychomotor) in a person since he knows the innovation (Rogers & Shoemaker 1971; Gebiso 2015). Adopting an invention is an internal process in farmers when they encounter an innovation. A new idea is implemented since it is known or heard until the innovation is implemented (Sirajuddin et al. 2017). Adoption is knowledge, persuasion, decision, implementation, and confirmation. So the speed of the adoption process will depend on the dynamic nature of the target.

The rate of adoption is the relative speed of the adoption of innovation conducted by members of a social system which is generally measured as the number of individuals who adopt the new idea in a certain period (Alomar & de Visscher 2017). The adoption rate is a numerical indicator of the steepness of the adoption curve for an innovation (Emerson 1995 in Rogers 2003). The study of agricultural technology adoption is significant in understanding the factors related to the application of technology (new plants, high superior quality, or new production technologies (Sudrajat 2020). In the history of agriculture, adopting agricultural technology is an essential component of agricultural development (Ghimire et al. 2015; Houeninvo et al. 2020). However, if the conditions of innovation are difficult to be implemented by the breeders and make the innovation hard to be adopted and breeders face various problems in managing their livestock business, which are pretty complex, it can hinder an optimal process of adopting technological innovations (Indraini & Sikombong 2014; Dwi et al. 2016; Baba et al. 2020).

Adopting KUB Chicken business innovations can be accepted quickly depending on the pattern and method of delivering technological innovations and regional situations and conditions. In addition, an essential determining factor is the characteristics of innovation in the KUB Chicken business, which consists of KUB DOC (day-old chicks), feed, cages, medicines, and equipment (Aminawar 2014; Dwi et al. 2016; Astarina 2019).

KUB chicken, a superior breed produced by Indonesian Agency for Agricultural Research and Development (IAARD), is one of the solutions to increase the need for animal protein (Hayanti 2014; Winarti 2018). KUB chicken breeds have been successfully disseminated in all provinces in Indonesia. However, the most disseminated breed is based on cooperation agreements with stakeholders or policyholders. Thus it is necessary to know the level of adoption and the behavior of breeders in maintaining the continuity of the KUB chicken business (Cahyono et al. 2020). Furthermore, it must be analyzed because the disseminated breeds may need to be successfully developed in an area.

In this research, a combination of the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM) is used (Borges et al. 2014; Johnson 2014; Ghimire et al. 2015; Borges et al. 2016; Lalani et al. 2016; Nugroho et al. 2018). Several studies on the factors influencing technology adoption related to perception and behavior refer to the Theory of Planned Behavior (TPB) and the Theory of the Technology Acceptance Model (TAM). For example, using TPB, researchers linked the adoption with attitudes toward behavior, subjective norms, and perceptions of behavior control (Ajzen 2005; Ghifarini 2018; Nugroho et al. 2018; Rodi et al. 2019; Ramadhan et al. 2020). In addition, many researchers have developed TAM theory to determine the effect of ease of usage, utility, satisfaction, perceived suitability, and attitudes toward the use (Nah et al. 2004; Ambodo et al., 2017).

In research on the adoption of KUB chickens, only a few discuss the factors that influence the adoption of KUB chickens (Nugroho et al. 2018; Ramadhan et al., 2020; Syarifah et al. 2021). However, several studies have explained the adoption of KUB chicken from individuals' cognitive, attitude, and psychomotor aspects after receiving innovation (Gebiso 2015; Altandjung 2019). In addition, electronic media can be used to analyze KUB chickens' adoption rate (Wahyuningrum & Gunawan 2016).

Research has never been conducted on factors influencing breeders to adopt KUB chickens in Central Java by combining the TAM and TPB theories (Tambunan Tulus 2001; Rauniar et al. 2014). However, as Lalani et al. (2016) and Iskandar (2018) suggested, the combination of the behavior aspects includes the perception of benefits and ease of raising KUB chickens by considering attitudes towards behavior, subjective norms, and perceptions of behavior control need to be assessed.

This research aimed to analyze the perception and behavior of breeders that affect the adoption rate of KUB chicken technology in Central Java Province, Indonesia.

MATERIALS AND METHODS

This research was conducted in June 2022 in the City of Salatiga (34), Semarang (30), and Magelang (40), Central Java Province, Indonesia, with a total sampling of 104 respondents. The research location was chosen due to the KUB chicken group associated with KUB chicken breeders named AnaKUB (KUB Chicken Breeders Association). The breeding population also met the sampling requirements. The research was conducted by interviewing KUB Chicken Breeders and collecting primary data by completing the questionnaires. In this study, the adoption rate of KUB chicken by breeders was examined using descriptive research and a quantitative approach. In addition, data

analysis techniques were utilized to investigate breeders' perceptions and behavior concerning the study's factors/variables. The variables in this study were KUB chicken groups in Central Java regarding the perceived benefits of raising KUB chickens and the perceived ease of raising KUB chickens using the TAM theory by considering the variables: attitudes toward behavior and subjective norms. On the other hand, the TPB theory was used to determine the intention to adopt the innovation and the perception of behavioral control (Ajzen 2006; Borges et al. 2014).

Data collection techniques

The researchers narrow down the population by calculating the sample number, which is done using the Slovin formula as follows:

$$n = \frac{\mathrm{N}}{1 + (\mathrm{N}.\mathrm{e}2)}$$

where n is the number of samples, N is the number of populations, and e is prediction error (10%).

The research sample was determined by multistage sampling using two or more methods. The method used is purposive sampling and accidental sampling. Purposive sampling is a sampling technique with specific considerations. The sample was selected based on the characteristics adapted to the research objectives, namely KUB chicken breeders who are members of AnaKUB. Accidental sampling is a sampling technique based on chances or without planning. Any KUB chicken breeders who meet researchers by chance can be used as samples if the breeders are suitable as data sources.

Data analysis technique

The data was collected for tabulation, analyzed, and concluded to answer the research objectives. Data analysis techniques were carried out in 3 stages, namely: (1) Questionnaire Feasibility Test, and (2) Descriptive analysis to answer the research objective, namely analyzing the rate of adoption of KUB chicken technology in the study area in the form of (a) group approach and (b) individual approach; (3) SEM (Structural Equation Modeling) to answer the research objective, which is to analyze the factors of perception and behavior of breeders that affect the adoption rate of KUB Chicken technology in Semarang, Salatiga and surrounding districts in the form of (a) Making a Path (b) Evaluation of the measurement model is done in three stages, namely convergent validity test, discriminant validity test and reliability test. (c) Structural evaluation of the model is carried out by looking at the value of the coefficient of determination (R2) as well as the value of the path coefficient and the structural model equation, (d) Hypothesis Test

Feasibility test of the questionnaire

A validity Test is an index that shows the extent to which a measuring instrument measures what needs to be measured. The validity of a measuring instrument depends on whether or not the measuring device can precisely achieve the desired measurement objectives (Azwar 2003). One of the approaches used to test the validity of items (statements) is to use the Product Moment correlation equation, as follows:

$$rXY = \frac{\mathrm{N}(\sum \mathrm{XiYi}) - (\sum \mathrm{Xi} \sum \mathrm{Yi})}{\mathrm{N}(\sum \mathrm{XiYi}) - (\sum \mathrm{Xi} \sum \mathrm{Yi})}$$

where rXY is the Product Moment correlation coefficient, X is the item score, Y is the total item score, and N is the number of respondents. The result could be concluded If the rXY count >r table (N-2; 5%), the measurement results are valid, or if the rXY count >0.3, then the item is declared quite valid (Azwar 2003).

Descriptive analysis

Descriptive analysis is a method to answer the research objective: to analyze the adoption rate of KUB chickens and breeders' perceptions. The adoption rate describes the circumstances in which an individual or group member applies a new or recommended technology. This adoption rate measurement uses a weighted value expressed in a percentage. The calculation approach is differentiated according to the target: groups and individuals.

Group approach

The rate of adoption of the group approach is measured by means of a scoring technique based on the value of the score and the percentage of each applied technology component (Santoso 2005):

$$\text{Score value} \frac{\text{x VS}}{\sum \text{VS}}$$

where P is the percentage of farmers who use technology components (%), VS is Value Score, and ∑VS is Total Value Score.

Individual approach

Analyzing the adoption rate for individuals can be done directly by identifying aspects of the technology applied. The formula used is as follows (Hendayana 2014):

$$AR = \frac{FV}{T}\ x\ 100\%$$

where AR is Adoption Rate (%), F.V. is the Factor value from observation of adoption in the field (adoption unit),

Table 1. Variable naming, indicator, and indicator description

No	Variable	Indicator	Indicator description
1	Attitude	X1-X6	X1= better egg production; X2= interested in seeing successful KUB chicken breeders; X3= KUB chicken adoption is very profitable; X4= Raising KUB chickens will increase income; X5= raising KUB chickens will increase the food supply for the family; X6= employ individuals/family members/wife
2	Subjective norms	X7-X13	X7= important people support; X8= some breeders agree that KUB chickens are good; X9= based on the recommendation of a successful breeder; X10= institution can influence; X11= the extension worker inspired me to become a KUB chicken breeder; X12= anaKUB encouraged me to become a KUB chicken breeder; X13= family members support raising KUB chickens
3	Perceptions of behavioral control	X14-X23	X14= sure to adopt KUB chicken; X15= self-control; X16= has resources; X17= has knowledge and ability; X18= has enough experience to raise KUB chickens; X19= if there is a failure in the KUB chicken, I can handle it; X20= has enough time to raise KUB chickens; X21= KUB chicken feed is easy to get; X22= KUB chicken DOC is easy to get; X23= KUB chicken vaccines and medicines are easy to get
4	Interest in adopting KUB chickens	X24-X29	X24= planning to adopt KUB Chicken; X25= committed to adopting KUB chicken; X26= plans to choose to adopt KUB chickens over other chicken breeds to help the financial needs; X27= making KUB chicken raising as the main livelihood; X28= adopt as recommended by AnaKUB or extension workers; X29= all capital is invested in raising KUB chickens
5	Perceived benefits of KUB Chicken	X30-X34	X30 = increase of income; X31= produce superior breeds production; X32= produce a lot of eggs; X33= family consumption; X34= disease resistant
6	Perceived ease of raising KUB chickens	X35-X39	X35= easy maintenance; X36= easy sales; X37= easy to produce a lot of eggs; X38= easy to get the breeds; X39= easy to get the feed

Table 2. Adoption Rate Variable

Adoption rate variable	Measuring instrument
Type of Livestock (T1)	1= breeding; 2= hatching; 3= raising; 4= breeding; hatching; 5= breeding to raising
DOC source (T2)	1= self-production without clear marriage; 2= other products with unknown origin; 3= production between breeders; 4= production of AnaKUB; 5= BPTP/license of ministry of agriculture
Feed (T3)	1= finished/commercial; 2= family waste; 3= from agricultural waste; 4 = mixture of commercial and waste; 5 = AnaKUB feed
Local wisdom (T4)	1= not; 2= if someone offers; 3= sometimes; 4= partially used; 5= used
Utilization type (T5)	1= bran; 2=corn/oilcake/bran; 3= bran and corn/oilcake; 4= bran, corn, oilcake; 5= various kinds, not only bran, corn, and oilcake
Number of deaths (T6)	1= more than 50; 2= 26-50; 3= 20-25; 4= 11-20; 5= 1-10
Treatment (T7)	1= left alone; 2= self-medication; 3= using traditional medicine; 4= paid medical veterinary/vet treatment; 5=assistance from the local health post/livestock service
Vaccine (T8)	1= no; 2= Vaccines are only given early; 3= if there is assistance from the department only; 4= vaccines but not periodically; 5= periodic vaccines independently
Livestock manure (T9)	1= not managed; 2= Manure is placed in the space provided; 3= Manure treated; 4= manure is used in own garden; 5= sold
Land ownership (T10)	1= no owner; 2= workers; 3= profit sharing, 4= rents; 5= private property

Table 3. The structural model equation

Endogenous variables	Equation
Adoption Rate	γ 1.1 adoption interest+ ζ_1
Adoption Interest	γ 2.1 Attitude + γ 2.2 Subjctive norm+ γ 2.3 behavior control + γ 2.4 benefit + γ 2.5 ease+ ζ_2
Attitude	γ 3.1 Benefit + γ 3.2 ease + ζ_3

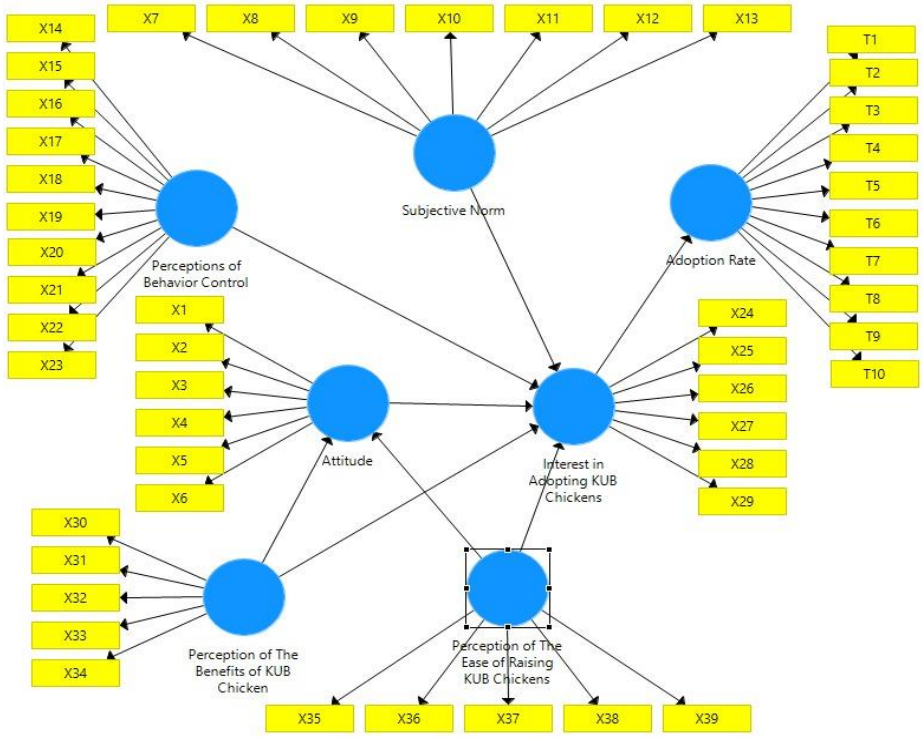

Figure 1. Research path diagramand

T is the Total recommended technology components (units). There are 5 classes of adoption level classification used, namely: (a) 0.00%–20.00% means very low adoption classification; (b) 20.01%–40.00% means low adoption classification; (c) 40.01%–60.00% means moderate adoption classification; (d) 60.01%–80.00% means high adoption classification; and (e) 80.01%– 100.00% means very high adoption classification.

Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) combines path analysis and regression analysis, allowing researchers to simultaneously examine a series of interrelated relationships between measured variables and latent constructs (Latan 2015). SEM is a complex multivariate analysis because it involves many independent and dependent variables that are interconnected to form a model. In SEM it cannot be said that there are independent variables and dependent variables because an independent variable can be a dependent variable in another relationship.

Creating path diagrams

In this study, there were 6 latent variables, namely 1) Attitude, 2) Subjective norms, 3) Perceptions of behavioral control, 4) the benefits of raising KUB chickens, 5) Perceived ease of raising KUB chickens, and 6) Interest in adopting KUB chickens. Each variable has an indicator as a measuring tool to analyze descriptively and hypothetically, as listed in Table 1. In addition, there is 1 adoption rate variable, which has an indicator as a measuring tool to analyze descriptively and hypothetically as listed in Table 2.

Creating this path diagram is in accordance with the hypothesis and research model; latent variables are divided into 2 types: endogenous and exogenous. Endogenous variables where the values are influenced by other variables, while exogenous variables are variables in which other variables do not affect the values. Therefore, exogenous variables are also called independent variables.

Endogenous variables are Attitude Productivity, Interest in Adopting KUB Chicken, and KUB Chicken Adoption Rate. In comparison, the exogenous variables

are subjective norms, the perception of behavior control, the perception of the benefits of KUB chickens, and the perception of the ease of raising KUB chickens. The structural model equation can be seen in Table 3 to form a Path Diagram, as shown in Figure 1.

RESULTS AND DISCUSSION

Descriptive analysis results

The interview results (104 respondents) on the research variables and an empirical description of the data used in the research in a statistically descriptive manner using the minimum value, maximum value, average value, and Deviation Standard of each indicator of every variable can be seen in Table 4. Through this description, the respondents' perceptions of the indicators of each variable in the study will be known to what extent.

Table 4 shows that the variable with the largest average successively is 1) Perception of the Ease of Raising KUB Chickens (4.11); 2) Attitude (4.10); 3) Perception of the benefits of KUB chickens (4.09); 4) Perception of behavior control (4.05); 5) Interest in adopting KUB Chicken (4.01); and 6) Subjective Norms (3.97) (Borges et al. 2016). So the highest average variable is the ease of raising KUB chickens, and the lowest is the subjective norm variable. Meanwhile, the indicator with the highest average is that breeders are interested in seeing successful KUB chicken breeders on the attitude variable. The lowest average is the extension workers inspired me to become a KUB chicken breeder on the subjective norm variable.

The Attitude Variable has an average of 4.10. The indicator that has the highest average is X2, with an average of 4.28, which means that "Breeders are interested in seeing successful KUB chicken breeders ." While the X1 indicator means that " Breeders like to adopt KUB chickens because their egg production is better, " the indicator with the lowest average is 3.99 (Borges et al. 2014; Ambodo et al. 2017). On average, breeders also show that "Raising KUB chickens can increase the food supply for families and family income," with an average value of 4.12. Therefore, it can be assessed that most breeders adopt KUB chickens because they see successful KUB chicken breeders and believe that raising KUB chickens can function as a food provider and can increase family income. But for breeders, KUB chicken egg production cannot guarantee that it is better than other eggs.

The average of the statements in the Subjective Norm Variable is 3.97. The indicator with the highest average is X7, with an average of 4.17, meaning that "Important people support adopting KUB Chickens ." The X13 indicator has a significant average value of 4.11 means that "Family members support the maintenance of KUB chickens." Meanwhile, the X11 indicator means that "Extensions inspire to become KUB chicken breeders" is the indicator with the lowest average, which is 3.64. It suggested that family members have an important role in supporting the maintenance of KUB chickens. In contrast, extension workers have yet to contribute much in supporting breeders to adopt KUB chickens (Iskandar 2018).

The Perception Variable of Behavior Control averages 4.05 (Makkonen et al. 2016; Rodi et al. 2019). The indicator that has the highest average is X22, with an average of 4.11, which means that "KUB chicken DOC is easy to get." While indicators X18, X19, and X23 of 4.02 represent "having experience in raising KUB chickens, being able to handle KUB chickens when there is a failure, and ease of getting vaccines and medicines", respectively. Thus, in terms of perceptions of behavior control, most breeders stated that DOC breeds were easy to obtain. Still, only a few had experience in raising KUB chickens, including handling if there was a failure in raising KUB chickens. Apart from that, the problem for breeders is challenging to get vaccines and medicine programs so that the maintenance of KUB chickens is raised naturally without the help of complete vaccines.

The KUB Chicken Adoption Interest Variable has an average of 4.01. The indicator with the highest average is X26, with an average of 4.08, which stated, "Plans to choose to adopt KUB chickens over other chickens to help financial needs". While the X29 indicator, which stated that "I will invest all my capital in raising KUB chickens," has the lowest average, 3.90. Another average with a significant value of 4.07 is "Committed to adopt KUB chickens and will adopt KUB chickens as recommended by AnaKUB", meaning that most breeders will choose KUB chickens over other chickens to help family needs according to AnaKUB's recommendations. Still, not all capital will be invested by breeders to raise KUB chickens.

The average of the statements in the Variable Perceived Benefits of KUB Chicken is 4.09. The highest indicator is X33, with an average of 4.14, which states that "Raising KUB chickens is beneficial for family consumption". Another average that has a significant value is 4.09, which states that "The benefits of KUB chickens are increasing income and producing lots of eggs." Meanwhile, the X34 indicator stated that “Raising KUB chickens is disease-resistant” was the indicator with the lowest average, which was 4.05. Thus, the perception of the benefits of KUB chicken for most breeders in Central Java is that it benefits family consumption, increases income, and produces lots of eggs.

The Perceived Variable of Ease of Raising KUB Chickens is 4.11. The highest average indicator is X39, with an average of 4.17, meaning that "KUB chickens are easy to get the feed". Another average value of 4.16 "Easy to get KUB chicken seeds". Meanwhile, the X37

Table 4. Variable descriptive analysis

Indicator Code	Min	Max	Average	Deviation Standard
X1	3	5	3.99	0.45
X2	3	5	4.28	0.51
X3	3	5	4.07	0.32
X4	3	5	4.05	0.40
X5	4	5	4.12	0.32
X6	3	5	4.12	0.40
Att	3.33	5	4.10	0.31
X7	3	5	4.17	0.43
X8	3	5	4.03	0.33
X9	2	5	4.05	0.40
X10	2	5	3.92	0.46
X11	2	5	3.64	0.65
X12	2	5	3.89	0.54
X13	3	5	4.11	0.48
SN	2.43	5	3.97	0.36
X14	4	5	4.10	0.30
X15	3	5	4.04	0.31
X16	3	5	4.06	0.31
X17	3	5	4.05	0.26
X18	3	5	4.02	0.34
X19	3	5	4.02	0.31
X20	3	5	4.09	0.40
X21	3	5	4.06	0.31
X22	4	5	4.11	0.31
X23	3	5	4.02	0.31
PBC	3.50	5	4.05	0.26
X24	3	5	4.01	0.45
X25	3	5	4.07	0.35
X26	3	5	4.08	0.39
X27	3	5	3,93	0.63
X28	3	5	4.07	0.29
X29	3	5	3.90	0.66
IAKC	3.33	5	4.01	0.36
X30	3	5	4.09	0.37
X31	3	5	4.08	0.33
X32	3	5	4,09	0.37
X33	3	5	4.14	0.40

Indicator Code	Min	Max	Average	Deviation Standard
X34	3	5	4.05	0.40
PBKC	3.00	5	4.09	0,32
X35	3	5	4.05	0.32
X36	3	5	4.12	0.47
X37	3	5	4.04	0.46
X38	3	5	4.16	0.40
X39	3	5	4.17	0.45
PERKC	3.40	5	4.11	0.33

Att = Attitude, SN= Subjective Norms, PBC= Perception of Behavior Control , IAKC=Interest in Adopting KUB Chickens, BKC=Perception of the Benefits of KUB Chickens, PERKC=Perception of the Ease of Raising KUB Chickens

Table 5. Variable descriptive analysis of KUB chicken adoption rate

Indicator Code	Min	Maks	Average	Deviation Standard
T1	2	5	3.58	0.97
T2	3	5	4.15	0.68
T3	2	5	3.73	1.14
T4	2	5	3.64	1.08
T5	3	5	4.24	0.94
T6	3	5	4.40	0.76
T7	1	4	2.74	0.85
T8	1	4	1.79	1.18
T9	1	4	2.13	1.44
T10	2	3	2.76	0.43
KUB Chicken Adoption Rate	2.10	4.5	3.32	0.73

indicator, which stated that "Raising KUB chickens produces a lot of quality eggs," has the lowest average, 4.04. Thus the perception of the ease of raising KUB chickens is easy to get the feed and the breeds.

Table 5 shows that the average in the KUB Chicken Adoption Rate Variable is 3.32 means that the adoption rate of breeders in the Central Java region reveals a high adoption classification (66.40%). On the other hand, the indicator with the highest average is T6 (4.40), with the average number of livestock deaths reaching only 11-20 heads. Meanwhile, the T8 indicator, which is about the vaccination program carried out by breeders in controlling diseases, which was only carried out at the initial purchase of DOC that the seller had vaccinated, was an indicator with the lowest average (1.79). As a general description, most livestock types developed are raised by taking DOC sources from the AnaKUB livestock association. The feed is primarily agricultural waste and commercial feed mixtures. Although in terms of utilization of local wisdom, some still use it occasionally, the feed used is bran, corn, and oilcake.

Regarding treatment for KUB chickens, they usually use traditional medicine if they get sick. Most manure needs to be appropriately managed; it is only placed in the storage area. In terms of land ownership, most farmers use private land or sharecropping.

Evaluation of the measurement model

Evaluation of the measurement model is carried out in three stages, namely (1) convergent validity test, (2) discriminant validity test, and (3) reliability test.

Convergent validity evaluation

Convergent validity is related to the principle that the manifest variables of a construct should be highly correlated (Kartika et al. 2022); convergent validity is assessed based on the loading factor and the Average Variance Extracted (AVE) value. The rule of thumb in the convergent validity test is that the loading factor

Table 6. Loading Factor Analysis

Indicator Code	AR	Att	SN	PBC	IAKC	PBKC	PERKC
T1	0.797	0.407	0.238	0.296	0.400	0.438	0.391
T2	0.761	0.285	0.199	0.229	0.293	0.337	0.358
T3	0.739	0.209	0.148	0.143	0.278	0.292	0.248
T4	0.775	0.257	0.109	0.160	0.262	0.297	0.314
T5	0.780	0.309	0.134	0.216	0.283	0.318	0.319
T6	0.741	0.320	0.270	0.205	0.345	0.356	0.331
T7	0.791	0.264	0.187	0.208	0.277	0.293	0.301
T8	0.821	0.456	0.332	0.350	0.435	0.425	0.525
T9	0.738	0.217	0.092	0.153	0.216	0.241	0.308
T10	0.735	0.193	0.142	0.087	0.221	0.254	0.177
X1	0.346	0.719	0.495	0.584	0.602	0.636	0.653
X2	0.550	0.714	0.570	0.465	0.642	0.659	0.658
X3	0.177	0.815	0.580	0.766	0.742	0.630	0.671
X4	0.142	0.753	0.566	0.703	0.675	0.568	0.546
X5	0.292	0.848	0.672	0.688	0.768	0.726	0.760
X6	0.373	0.831	0.586	0.578	0.728	0.691	0.666
X7	0.301	0.735	0.776	0.549	0.668	0.611	0.611
X8	0.199	0.614	0.773	0.714	0.607	0.536	0.529
X9	0.202	0.592	0.819	0.581	0.602	0.479	0.482
X10	0.173	0.518	0.817	0.476	0.501	0.415	0.386
X11	-0.014	0.346	0.705	0.412	0.442	0.279	0.324
X12	0.113	0.437	0.711	0.456	0.482	0.293	0.346
X13	0.326	0.649	0.780	0.513	0.654	0.583	0.550
X14	0.306	0.647	0.588	0.801	0.702	0.562	0.657
X15	0.254	0.666	0.545	0.872	0.727	0.648	0.596
X16	0.216	0.658	0.567	0.893	0.709	0.558	0.618
X17	0.248	0.689	0.617	0.884	0.716	0.651	0.642
X18	0.195	0.591	0.530	0.793	0.604	0.534	0.629
X19	0.134	0.663	0.518	0.795	0.621	0.621	0.653
X20	0.270	0.687	0.713	0.708	0.654	0.563	0.557
X21	0.178	0.619	0.545	0.813	0.624	0.555	0.579
X22	0.285	0.784	0.605	0.811	0.761	0.672	0.695
X23	0.221	0.590	0.462	0.819	0.621	0.621	0.561
X24	0.477	0.608	0.524	0.614	0.761	0.657	0.595
X25	0.422	0.669	0.514	0.705	0.786	0.747	0.620
X26	0.216	0.798	0.645	0.652	0.791	0.662	0.681
X27	0.254	0.622	0.570	0.515	0.715	0.511	0.625
X28	0.249	0.737	0.621	0.769	0.790	0.711	0.692

Indicator Code	AR	Att	SN	PBC	IAKC	PBKC	PERKC
X29	0.250	0.660	0.578	0.519	0.761	0.547	0.678
X30	0.312	0.780	0.533	0.695	0.766	0.862	0.671
X31	0.361	0.646	0.494	0.682	0.697	0.854	0.554
X32	0.372	0.752	0.576	0.623	0.761	0.886	0.685
X33	0.425	0.745	0.577	0.549	0.717	0.827	0.681
X34	0.384	0.542	0.358	0.499	0.543	0.757	0.550
X35	0.250	0.609	0.525	0.718	0.692	0.625	0.777
X36	0.354	0.686	0.461	0.526	0.656	0.530	0.776
X37	0.413	0.687	0.483	0.612	0.671	0.707	0.724
X38	0.348	0.695	0.571	0.582	0.669	0.570	0.817
X39	0.377	0.639	0.371	0.525	0.614	0.521	0.831

AR = Adoption Rate, At = Attitude, SN = Subjective Norms;PBC= Perception of Behavior Control; IAKC=Interest in Adopting KUB Chickens, PBKC= Perception of the Benefits of KUB Chickens, PERKC=Perception of the Ease of Raising KUB Chickens

Table 7. AVE Value Research Model

Variable	AVE
Interest in adopting KUB chickens	0.590
Subjective norm	0.593
Perceptions of behavior control	0.673
Perception of ease of raising KUB chickens	0.618
Perception of benefits of KUB chicken	0.703
Attitude	0.611
Adoption rate	0.590

AVE= Average Variance Extracted

Table 8. Cronbach's Alpha Value and composite reliability research model

Variable	CA	CR
Interest in adopting KUB chickens	0.861	0.896
Subjective norm	0.886	0.910
Perceptions of behavioral control	0.946	0.954
Perception of ease of raising KUB chickens	0.844	0.890
Perception of benefits of KUB chicken	0.894	0.922
Attitude	0.871	0.904
Adoption rate	0.923	0.935

CA= Cronbach's Alpha, CR= Composite Reliability

value is more significant than 0.7, and the AVE value is greater than 0.5 (Smith 2003; Latan 2015; Sons 2016; Ma et al. 2020); indicating shows that all indicators in the research model have a loading factor that meets the criteria. So the next step is to evaluate the AVE value for each latent variable. Table 7 shows that all latent variables in the research model already have an AVE value >0.5. The variable with the smallest AVE value is the Interest in Adopting KUB Chicken and the Adoption Rate (0.590). In contrast, the variable with the highest AVE value is the Perception of the Benefits of KUB Chicken (0.703).

Reliability evaluation

Reliability evaluation was carried out using Cronbach's alpha and composite reliability values. According to (Ghozali 2012), a latent variable must have

a Cronbach's alpha value greater than 0.7 or composite reliability greater than 0.7. Cronbach's alpha (C.A.) value and composite reliability (C.R.) research model can be seen in Table 8.

Table 8 shows that all latent variables in the research model already have Cronbach's alpha values and composite reliability greater than 0.7. The variable with the lowest value is the Perceived Ease of Raising KUB Chickens, with a Cronbach's alpha value of 0.844 and a composite reliability of 0.890. In comparison, the variable with the most significant value is the Perception of Behavior Control, with a Cronbach's alpha value of 0.946 and a composite reliability of 0.954. It means the variables in the questionnaire are reliable.

Discriminant validity evaluation

The discriminant validity test relates to the principle that different construct measurements (manifest variables) should not be highly correlated. Correlation testing between latent variables was carried out using the Fornel Lacker Criterion. A construct is valid by comparing the root value of the AVE (diagonal Fornell-Larcker Criterion) with the correlation value between latent variables. The AVE root value must be greater than the correlation between latent variables. Following are the results of the Fornel Lacker Criterion for the discriminant validity test of the research model following are the results of the Fornel Lacker Criterion for the discriminant validity test of the research model.

The Forner-Lacker Criterion is shown in Table 9. The test results show that all the roots of the AVE (Fornell-Larcker Criterion) for each construct are more significant than their correlation with other variables. Discriminant validity can also be assessed based on cross-loading. The rule of thumb used in the discriminant validity test with a cross-loading value greater than 0.7 (Latan 2015). Furthermore, the Cross Loading value for the research model shows that each indicator with its latent variables is more fantastic than those with other latent variables. So it is concluded that Discriminant Validity met the requirements.

Evaluation of structural models

The structural model is evaluated by looking at the coefficient of determination (R2), the value of the path coefficient, and the structural model equation.

Coefficient of determination

The results of calculating R2 for each endogenous latent variable are in Table 10. According to (Sarstedt 2014), the range of R2 values is from 0–1, with a higher rate indicating better predictive accuracy. R2 is considered weak, moderate, and vital if it shows a value of 0.19, 0.33, and 0.67 (Chin 1998). Table 10 indicates that the Adoption Rate Variable is weak because it is below 0.19. At the same time, the Interest in Adopting KUB Chicken and Attitude variables are classified as vital because it is above 0.67. The meaning of this value is that the exogenous variable that affects the Interest in Adopting KUB Chicken in the tested model represents a 0.870 probability of interest in adopting KUB chicken, which influences attitude in the tested model, representing a 0.806 probability of attitude. Meanwhile, at the Adoption Rate, it seems that many other variables can affect it because the R2 is only 0.168.

Path Coefficient (β) and Structural Model Equations

The path coefficient value (path coefficient) shows how strong the influence of a variable is on other variables (Wong 2013). The higher the path coefficient value, the stronger the effect is. The path coefficient value (β) is standardized from -1 to +1. A coefficient closer to +1 indicates a strong and positive relationship. While the coefficient is close to -1, it shows a strong negative relationship (Sarstedt 2014).

Calculating the path coefficient in the research model in Table 11 shows that all latent variables have positive coefficient values. Based on the results of calculating the path coefficient value, the structural model equation is in Table 12. ζ_1, ζ_2, and ζ_3 Variables represent variables not included in the study. The path coefficient difference can also be used to sequence variables based on their most substantial influence, not only to know which variables influence the dependent variable. The values in Table 12 show that the variable with the most impact on Adoption Interest is the Perceived Benefits of KUB Chicken. While the variable that has the most influence on attitude is the perceived ease of raising KUB chickens (Ammar 2016; Tan 2016; Putri et al. 2021).

Hypothesis test

This stage was carried out after the structural model evaluation stage was established and purposed to determine whether the research hypothesis proposed in this model is accepted or rejected. The hypothesis is accepted if the t-statistics are above 1.96 and the path coefficient is above 0.1 (Ghozali 2012). The results of the hypothesis test can be seen in Table 13.

The estimated standard coefficients are presented in Table 13. shows the direct effect of each variable attitude, subjective norm, perceptions of behavioral control, perceived benefits of KUB chickens, perceived ease of raising KUB chickens, interest in adopting KUB chickens, and adoption rate of KUB chickens (Yazdanpanah et al. 2015). It is proved that the variable perception of the benefits of KUB chicken has a positive

Table 9. Research Model Forner-Lacker test results

	IAKC	SN	PBC	PERKC	PBKC	Att	AR
IAKC	0.768						
SN	0.748	0.770					
PBC	0.826	0.696	0.821				
PERKC	0.843	0.616	0.756	0.786			
PBKC	0.839	0.614	0.731	0.754	0.838		
Att	0.889	0.742	0.807	0.846	0.835	0.782	
AR	0.410	0.259	0.284	0.445	0.439	0.400	0.768

AR= Adoption Rate, At= Attitude , SN= Subjective Norms, PBC= Perception of Behavior Control, IAKC=Interest in Adopting KUB Chickens, PBKC=Perception of the Benefits of KUB Chickens PERKC=Perception of the Ease of Raising KUB Chickens

Table 10. R2 value of research model

Endogenous Variables	R-Square
Adoption Rate	0.168
Interest in Adopting KUB Chickens	0.870
Attitude	0.806

Table 11. Path coefficient value

Path	β
Benefits -> Attitude	0.458
Ease -> Attitude	0.501
Attitude -> Adoption Interest	0.212
Subjective Norm -> Adoption Interest	0.167
Behavior Control -> Adoption Interest	0.173
Benefits -> Adoption Interest	0.253
Ease -> Interest in Adoption	0.239
Adoption Interest -> Adoption Rate	0.410

Table 12. Structural Model Equation

Endogenous Variables	Equation
Adoption rate	0.410*Adoption interest +ζ_1
Adoption interest	0.212*Attitude + 0.167*Subjective Norm + 0.173*Behavior Control+ + Ease+ζ_2,
Behavior control	0.458*Benefit + 0.501*Ease+ζ_3

and significant effect on farmer attitudes (β =0.458, P-Value <0.000). Thus the H1 hypothesis in this study states that an increase in the perception of the benefits of KUB Chicken can increase the farmer's attitude by 45.8% (Burhansyah 2013; Afolami et al. 2015). The perceived ease of raising KUB chickens positively and significantly affects farmer attitudes (β =0.501, P-Value <0.000). Thus the H2 hypothesis in this study states that increased perceived ease of raising KUB chickens can increase attitudes by 50.1%. The farmer's attitude variable positively and significantly affects the interest in adopting KUB chickens (β= 0.212, P-Value <0.049). Hypothesis H3 in this study shows that an increase in attitude can increase in attitude can increase the interest in adopting KUB chickens by 21.2%. The subjective norm positively and significantly affects the interest in adopting KUB chickens (β= 0.167, P-Value <0.011). So the H4 hypothesis in this study states that an increase in subjective norms can increase the interest in adopting KUB chickens by 16.7%.

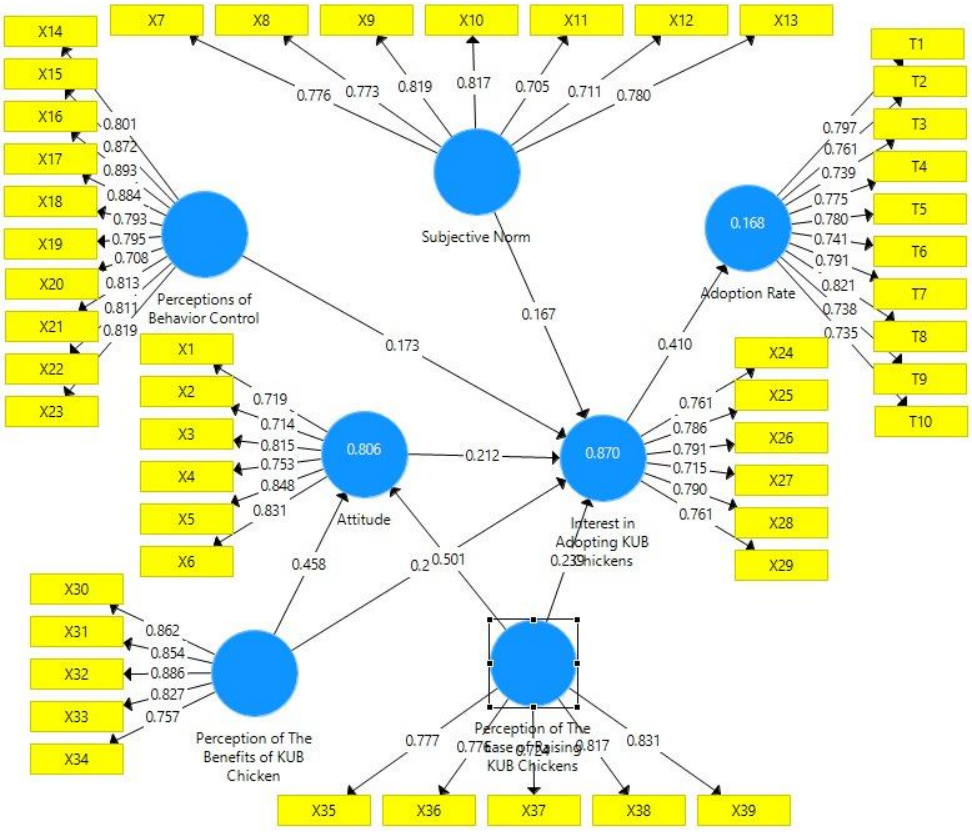

Figure 2. Results of the PLS Algorithm on the Path Model

Table 13. Hypothesis test

Hipotesis	Path	β	T-statistics	P-value	Remark
H1	Benefits -> Attitude	0.458	3.643	0.000	Significant
H2	Ease -> Attitude	0.501	3.917	0.000	Significant
H3	Attitude -> Adoption Interest	0.212	1.973	0.049	Significant
H4	Subjective Norm -> Adoption Interest	0.167	2.557	0.011	Significant
H5	Behavior Control -> Adoption Interest	0.173	2.504	0.013	Significant
H6	Benefits -> Adoption Interest	0.253	2.502	0.013	Significant
H7	Ease -> Adoption Interest	0.239	3.607	0.000	Significant
H8	Adoption Interest -> Adoption Rate	0.410	5.203	0.000	Significant

β= path coefficient

Further results show that the variable perception of behavioral control has a positive and significant effect on the intention to adopt KUB chickens (β= 0.173, P-Value <0.013) (Nugroho et al. 2018; Mahardika et al. 2020). Hypothesis H5 in this study shows that increased perceptions of behavior control can increase the interest in adopting KUB chickens by 17.3%. Furthermore, the perceived benefits of KUB chicken have a positive and significant effect on the intention to adopt KUB chicken (β= 0.253, P-Value <0.013). Thus, the H6 hypothesis in this study states that the perception of the benefits of KUB chicken has a positive and significant effect on the interest in accepting KUB chicken. Therefore, it can conclude that the perception of the benefits of KUB chickens can increase the interest in adopting KUB chickens by 25.3%. Furthermore, the perceived ease of raising KUB chickens positively and significantly affects the interest in adopting KUB chickens (β= 0.239, P-Value <0.000).

Thus the H7 hypothesis in this study states that the perceived ease of raising KUB chickens has a positive and significant effect on the interest in adopting KUB

chickens being accepted, meaning an increase in the perceived ease of raising KUB chickens can increase the interest in adopting KUB chickens by 23.9%. Furthermore, in the coefficient variable, interest in adopting KUB chicken has a positive and significant effect on the adoption rate of KUB chicken (β= 0.410, P-Value <0.000). Thus the H8 hypothesis in this study states that an increase in interest in adopting KUB chickens can increase the adoption rate of KUB chickens by 41.0% (Sirajuddin et al. 2017; Astarina 2019).

CONCLUSION

The adoption rate of breeders in Central Java, Indonesia, is classified as high to adopt KUB Chicken, which is influenced by the intention and attitude of adopting KUB chickens. Based on the results of this descriptive study, the variable with the most significant influence is the perceived ease of keeping KUB Chicken. In comparison, the lowest variable is the subjective norm variable. The combined results of path analysis (path) and regression analysis on the Structural Equation Modeling (SEM) technique suggested that the TAM and TPB theories both have variables of a positive effect on the interest in adopting KUB chickens. In addition, the perceived benefits and ease of raising KUB chickens on the TAM theory positively affect the attitude variable on the TPB theory. Important people, including family members, have an important role in supporting the maintenance of KUB chickens. In contrast, extension workers have yet to contribute much in supporting breeders to adopt KUB chickens.

REFERENCES

Afolami CA, Obayelu AE, Vaughan II. 2015. Welfare impact of adopting improved cassava varieties by rural households in South Western Nigeria. Agric Food Econ. DOI:10.1186/s401 00-015-0037-2

Ajzen. 2005. Attitudes, personality, and behavior. 2nd edition. NewYork (USA): Open University Press.

Ajzen. 2006. Constructing a theory of planned behavior questionnaire: Conceptual and Methodological Considerations. New York (USA): Open Univesity Press

Alomar MA, de Visscher C. 2017. "Which factors can affect e-public procurement adoption by private firms? the case of Belgium." Academic Conferences International Limited. Electron J E-Government. 15:103.

Altandjung H, RI. 2019. Determinasi Peluang Adopsi Teknologi Budidaya Ternak Ayam KUB di Papua Barat. J Pengkaj Pengemb Teknol Pertanian. 22:201- 212.

Ambodo BS et al. 2017. Testing of technology acceptance model on core banking system: a perspective on mandatory use. J Dinamika Akuntansi. 9:11–22. DOI: 10.15294/jda.v9i1.12006.

Ammar A, Ahmed EM. 2016. Factors influencing sudanese microfinance intention to adopt mobile banking. In: McMillan E by D, editor. Cogent Bus Manag. Vol. 3. 3: 1154257. DOI: 10.1080/23311975.2016.1154257.

Astarina R, Rosnita, Kusumawaty Y. 2020. Tingkat Adopsi Peternak dalam Penerapan Inovasi Ayam Kampung Unggul Balitbangtan (KUB) di Kabupaten Kampar. IJAE. 11:118-135.

Azwar S. 2003. Sikap manusia, teori dan pengukurannya. Yogyakarta (Indones): Pustaka Pelajar. p.5-24

Baba S, Sirajuddin AN, Abdullah A, Aminawar M. 2014. Hambatan adopsi integrasi jagung dan ternak sapi di Kabupaten Maros, Gowa, dan Takalar. JTP. 3:114-120.

Borges JAR, Lansink AGJMO, Ribeiro AM, Lutke V. 2014. Understanding farmers' intention to adopt improved natural grassland using the theory of planned behavior. Livest Sci. 169:163–174. DOI:10.1 016/j.livs ci.2014.09.014

Borges JAR, Lansik AGJMO. 2016. Identifying psychological factors that determine cattle farmers' intention to use improved natural grassland. J Environ Psychol. 45:89–96. DOI: 10.1016/j.jenvp.2015.12.001.

Burhansyah R. 2013. Faktor-faktor yang mempengaruhi adopsi inovasi pertanian pada Gapoktan PUAP dan Non PUAP di Kalimantan Barat (Studi kasus di Kabupaten Pontianak dan Landak). J Inform Pertan. 23:65–74. DOI:10.21082/ip.v23n1.2014.p65-74.

Cahyono A, Haryono P, Munier FF. 2020. Motivasi rumah tangga dalam usaha budidaya ayam KUB di kabupaten sigi propinsi Sulawesi Tengah. Yunandar DT, Lutfaji B, Wati SI, Timur NPV, Herawati M, Bachtiar EE, Masriani, Budicahyono ME, editors. Prosiding Seminar Nasional Pembangunan dan Pendidikan Vokasi Pertanian. Manokwari (Indones): Pondok Ilmu Press. 1:20–29. DOI:10.47687/s nppvp.v1i1.122.

Despotovic J, Rodic V, Caracciolo. 2019. Factors affecting farmers' adoption of integrated pest management in Serbia : An application of the theory of planned behavior. J Cle Pro. 228:1196–1205. DOI:10.1016/j.jclepr o.2019.04.149.

Gebiso T. 2015. Adoption modern bee hive in Arsi Zone of Oromia Region: determinants and financial benefit. Agric Sci. 6:382-396 DOI: 10.4236/as.2015.63038.

Ghifarini AF, Sumarwan U, Najib M. 2018. Application of theory of planned behavior in shrimp consumer behavior analysis. 9:984–1001. DOI:10.14807/ijmp.v9i3.705.

Ghimire R, Wen-chi H, Shrestha RB. 2015. Factors Affecting Adoption of Improved Rice Varieties among Rural Farm Households in Central Nepal. Rice Sci. 22:35–43. DOI:10.1016/j.rsci.2015. 05.006.

Hardiyani E, Baba S, Nurlaelah S, Sohrah S. 2020. Tingkat partisipasi kelompok tani/ternak dalam tahapan perencanaan dan pelaksanaan penyuluhan. J Peternak Lokal. 2:30-38. DOI: 10.46918/peternakan.v2i2.968.

Hayanti S. 2014. Petunjuk teknis budidaya ayam kampung unggul (KUB) Badan Litbang Pertanian di Provinsi Jambi. Jambi (Indones): AIAT Jambi.

Hendayana. 2014. Persepsi dan Adopsi Teknologi. Bogor (Indones): AIAT.

Houeninvo GH, Quenum CVC, Nonvide GMA. 2020. Impact of improved maize variety adoption on smallholder farmers' welfare in Benin. Econ Innov New Technol. 29:831–846. DOI:10.1080/104 38599.2019.1669331

Sikombong I. 2014. Pengaruh karakteristik peternak terhadap adopsi pemanfaatan limbah tanaman pangan sebagai pakan ternak sapi potong di Desa Samangki Kecamatan Simbang Kabupaten Maro (Thesis). Makassar (Indones): Hasanuddin University.

Iskandar A, Saragih R. 2018. The Influence of attitude toward the behavior, subjective norms, and perceived behavioural control on whistleblowing intention and behavior of CPNS. J Tata Kelola Akuntabilitas Negara. 63-84.

Kartika I, Sulistyowati S, Septiawan B, Indriastuti M. 2022. Corporate governance and non-performing loans : The mediating role of financial performance. Corporate governance and non-performing loans : The mediating role of financial performance. Cogent Bus Manag. 9. DOI:10.1080/23311975.2022.2126123.

Latan H, Ghozali I.. 2012. Partial least squares: konsep, teknik dan aplikasi menggunakan program SmartPLS 2.0 M3. Semarang (Indones): Badan Penerbit Universitas Diponegoro.

Lalani B, Dorward P, Holloway G, Wauters E. 2016. Smallholder farmers' motivations for using Conservation Agriculture and the roles of yield, labor, and soil fertility in decision-making. Agric Syst. 146:80–90. DOI:10.1016/j.agsy.2016.04.002.

Latan H, Ghozali I. 2015. Konsep, teknik, aplikasi menggunakan Smart PLS 3.0 untuk penelitian empiris. Semarang (Indones): Diponegoro University

Ma L, Cao Y, Jiang D, Gao Y, Du X. 2020. Does ethics really matter to the sustainability of new ventures ? The relationship between entrepreneurial ethics, firm visibility, and entrepreneurial performance. 15:e0226920 DOI:10.1371%2Fjournal. pone.0226920

Mahardika PC, Giantara IGAK. 2020. The effect of behavioural intention and perceived risk to adopt mobile banking using utaut model (Study at Bpd Bali Klungkung Branch in Semarapura Cit). American Internat J Bus Manag. 3:106–115.

Makkonen H, Johnson WJ, Javalgi RG. 2016. A behavioral approach to organizational innovation adoption. J Bus Res. 69:2480–2489. DOI:10.1016/j.jbusres.2016.02.017.

Nah F, Tan X, The SH. 2004. An Empirical investigation on end user' acceptance of enterprise systems. Inf Resour Manag J. 17:32-53. DOI: 10.4018/irmj.2004070103.

Nugroho A, Najib M, Simanjuntak M. 2018. Factors affecting consumer interest in electronic money usage with Theory of Planned Behavior (TPB). 3:15–27. DOI: 10.29244/jcs.3.1.15-27.

Putri CA, Yahy ES, Kania R. 2021. Sikap dan niat perilaku generasi milenial dalam adopsi platform telemedicine untuk layanan konsultasi kesehatan mental. Aripin, Mariam, Fulazzaky MA, Karyasa IW, Juliana, Subekti A, Alkadri H, Sutjiredjeki NC, Sumeru, Najib MF, Ruhadi, Muflih M, Raharjo P, Hidayat S, Setiyawan A, Budiastuti H, Andrijanto, Ludiyati H, Carolina, Suhartanto D, Syakran N, Merawati MVJ, Rahmani A, Triyono B, Novianty I, Mitrakusuma WH, Shoelarta S, Astor Y, Rouly AV, Amalia D, editors. Peosiding 12th Industrial Research Workshop and National Seminar. Bandung (Indones): Politeknik Negeri Bandung. p.4–5.

Ramadhan Y, Najib M, Sarma M. 2020. The Application of planned behavior theory on millennial generation behavior in purchasing organic vegetables. 17:117–127. DOI: 10.17358/jma.17.2.117.

Rauniar R, Rawski G, Yang J, Johnson B.Johnson. 2014. Technology acceptance model (TAM) and social media usage: an empirical study on Facebook. Journal of Enterprise Information Management, 27, 6-30.

Rogers EM., Shoemaker FF. 1971. Communication of Innovation: A cross-cultural approach. 2nd Edition. The New York (USA): Free Press.

Santoso. 2005. Metodologi penelitian kualitatif dan kuantitatif. Jakarta (Indones): Prestasi Pustaka.

Sarstedt M, Ringle CM, Smith D, Ream R, Hair Jr. JF. 2014. Partial Least Squares Structural Equation Modeling (PLS-SEM): A useful tool for family business researchers. J Fam Bus Strateg. 5:105-115. DOI: 10.1016/j.jfbs.2014.01.002.

Sekaran U, Bougie R. 2016. Research methods for business: a skill-building approach. 7th Edition. Chichester (UK):Wiley & Sons, West Sussex: 8:50-53

Sirajuddin SN, Siregar AR, Mappigau P. 2017. Adoption rate of beef breeders technology following partnership system in Barru regency. 11:31–34.

Smith D. 2003. Five principles for research ethics. APA. 34:34:56.

Sudrajat E, Baba S, Amraway AA. Factor analysis in the adopting of utilization of rice straw waste as feed in South Bontonompo district, Gowa regency. Postgraduate. 2020. The 2nd International Conference of Animal Science and Technology. IOP Publishing. 492:012144. DOI:10.1088/1755-1315/492/1/012144.

Syarifah I, Sirajuddin SN, Baba S, Najib M. 2021. Factors analysis affecting breeders ' interest in adopting KUB Chicken for Sustainable farming. 2021(ICoGOIA).

Tambunan Tulus. 2001. Perekonomian Indonesia. Jakarta (Indones): Ghalia Indonesia. 21-20

Tan. 2016. Behavioural Intention to Adopt Mobile Banking Among The Millennial Generation. 17(1):18–31. DOI: 10.1108/YC-07-2015-00537.

Wahyuningrum RD, Gunawan. 2016. Pendekatan analisis jalur untuk percepatan adopsi ayam KUB melalui media elektronik. Inform Pertan. 25:61-68. DOI:10.21082 /ip.v25n1.2016.p61-68.

Winarti E dan BS. 2018. Introduksi pemeliharaan ayam KUB mendukung pengembangan pertanian perdesaan. Yogyakarta (Indones): AIAT Yogyakarta.

Wong KKK. 2013. Partial Least Squares Structural Equation Modeling. In: Homburg C, Klarmann M, Vomberg AE, editor. Handbook of market research. Berlin (DE): Springer. 1-47. DOI:10.1007/978-3-319-05542-8_15-2.

Yazdanpanah M, Feyzabad FR, Forouzani M, Mohammadzadeh S, Burton RJF. 2015. Predicting farmers' water conservation goals and behavior in Iran: A test of social cognitive theory. Land Use Policy. 47:401–407. DOI:10.1016/j.landusepol.2015.04.022.