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Farmers' Motivation For Implementing A Corn-Cattle Integration System In Alebo Village, Konda Subdistrict, South Konawe Regency

Muh. Dipan C Noer Korowi[1], Hidrawati[2], Samsul Alam Fyka[3]

[1]Alumnus of Agribusiness, Faculty of Agriculture, Halu Oleo University, Kendari City, Indonesia
[2,3]Lecturer, Faculty of Agriculture, Halu Oleo University, Kendari City, Indonesia

Corresponding Author: muhdipancnoerkorowi@gmail.com

Abstract

This study aims to analyze the influence of existence, relatedness, and growth needs on farmers' motivation to implement an integrated corn and cattle farming system. The study was conducted in Alebo Village, Konda Subdistrict, South Konawe Regency. A quantitative approach was used, with data collected via a questionnaire administered to 76 farmer respondents. Data analysis was performed using the Structural Equation Modeling-Partial Least Squares (SEM-PLS) method with the assistance of SmartPLS software. The results indicate that the existence and growth variables have a positive and significant effect on farmers' motivation, whereas the relatedness variable does not have a significant effect. The growth variable is the most dominant factor influencing farmers' motivation. This indicates that farmers' motivation to adopt integrated farming systems is more influenced by the fulfillment of basic needs and opportunities for self-development than by social relationships. The implications of this study highlight the need to enhance support for farmers' basic needs and to strengthen capacity-building programs through ongoing training and extension services. Consequently, it is expected that farmers' motivation to adopt integrated corn and cattle farming systems will increase optimally.

Keyword: ***farmer motivation, corn-cattle integration system, ERG theory, PLS-SEM***

INTRODUCTION

The agricultural sector is one of the strategic sectors that plays a role in food security, the supply of raw materials for industry, job creation, and the improvement of the community's economy. However, this sector still faces various challenges, such as land constraints, high production costs, fluctuations in agricultural commodity prices, and low

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efficiency in resource utilization. These conditions underscore the need to implement agricultural systems capable of boosting productivity while ensuring economic and environmental sustainability (Hamid & Anwar, 2019).

One innovation that has emerged to address these challenges is the *Integrated Farming System* (IFS). This system was first introduced in Indonesia during the Green Revolution as an effort to improve farming efficiency through the integration of various agricultural subsectors (Junaedi, 2020). An integrated farming system combines crop, livestock, aquaculture, and forestry operations into a single unit so that waste from one component can be utilized as an input for another (Pratiwi et al., 2021). This approach has proven effective in increasing land productivity, reducing production costs, minimizing waste, and supporting sustainable agricultural development (Dethan et al., 2024).

One form of integrated farming system with great potential is the integration of corn cultivation and cattle farming. Corn plants produce waste in the form of stalks and leaves that can be used as livestock feed, while cattle manure can be processed into organic fertilizer to improve soil fertility. This reciprocal relationship reduces farmers' dependence on external production inputs, increases farming efficiency, and boosts farmers' household income (Utami & Rangkuti, 2021).

South Konawe Regency is one of the regions in Southeast Sulawesi Province with significant potential for developing integrated agricultural systems. According to data from the Central Statistics Agency (BPS, 2024), the cattle population in South Konawe Regency stands at 53,903 head and continues to grow. Konda Subdistrict is one of the areas with potential for the simultaneous development of corn cultivation and cattle farming. These conditions provide a strong foundation for implementing an integrated corn and cattle system as a strategy to boost agricultural productivity and efficiency.

Despite this great potential, the implementation of the integrated corn and cattle system in Konda Subdistrict remains suboptimal. Most farmers still manage their corn farming and cattle raising separately, resulting in the underutilization of agricultural byproducts as feed and organic fertilizer. On the other hand, some farmers have adopted the integrated system and reaped its benefits. This difference in behavior indicates that farmers' decisions to adopt integrated farming systems are influenced not only by technical and economic factors but also by internal factors, particularly motivation. Motivation is a critical factor because it determines farmers' readiness to embrace innovation and change the farming practices they have long followed.

One relevant theory for explaining farmer motivation is the *Existence, Relatedness,* and

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Growth (ERG) theory developed by Clayton Alderfer. This theory categorizes human needs into three dimensions: existence needs (*existence*), social connection needs (*relatedness*), and self-development needs (*growth*). Unlike Maslow's hierarchy of needs, which is structured in tiers, the ERG theory allows these three needs to emerge simultaneously; as a result, it is considered more suitable for explaining empirical conditions and human behavior—including farmers' behavior in adopting agricultural innovations (Batubar & Silalahi, 2020).

Numerous studies on integrated farming systems have been conducted, but most still focus on technical and economic aspects. Fyka et al. (2019), for example, found that integrated rice-livestock systems are worth developing because they can improve farming efficiency and farmers' profits. Meanwhile, Trisbyono et al. (2023) demonstrated that farmers' motivation to integrate cattle into oil palm plantation areas is relatively high and is influenced by both internal and external factors. Another study by Khairunnisa et al. (2024), which applied ERG theory to rice farming, showed that farmers' motivation falls into the high category, with the *growth* dimension being the most influential factor in farming success. These research findings indicate that motivation is a key factor in the success of agricultural enterprise development; however, the scope of existing studies remains limited to rice-livestock integration, cattle-oil palm integration, and rice farming.

Based on these previous studies, a *research gap* still exists. First, most research on integrated farming systems continues to focus on economic and technical feasibility, while studies on farmers' psychological factors remain relatively limited. Second, research examining farmers' motivation has generally not specifically applied ERG theory to corn-cattle integration systems. Third, to date, no study has examined farmers' motivations in implementing the corn-cattle integration system in Konda Subdistrict, South Konawe Regency. Although this area has significant development potential, the adoption rate of the integration system remains relatively low.

Based on the above, this study is important to analyze farmers' motivations in implementing the corn-cattle integration system in Konda Subdistrict, South Konawe Regency, using the *Existence, Relatedness,* and *Growth* (ERG) theory framework. The research findings are expected to enrich the study of agricultural innovation adoption behavior and serve as a basis for consideration by the government and stakeholders in formulating strategies to increase the adoption of sustainable integrated agricultural systems.

METHOD

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This study was conducted in Alebo Village, Konda Subdistrict, South Konawe Regency, given that this area is one of the regions that has begun implementing a corn–cattle integration system as an effort to improve land-use efficiency, optimize agricultural yields, and increase farmers' household income. The study lasted four months, from October 2025 to January 2026.

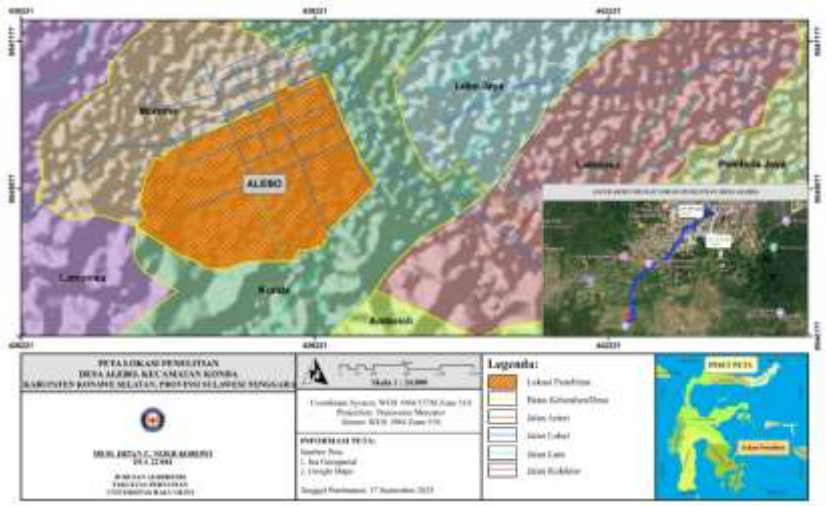


Figure 1. Research Location Map

The population in this study consisted of all farmers implementing the corn–cattle integration system in Alebo Village, with a sample size of 76 farmers selected as respondents. This study utilized two types of data: primary and secondary data. Primary data were obtained directly through interviews with respondents using a structured questionnaire, while secondary data were obtained from various relevant sources, such as related agencies, scientific journals, books, theses, and online media. Data collection techniques included field observations to obtain a realistic picture of the research site conditions and the implementation of the integrated system, as well as structured interviews using a questionnaire to gather the necessary information from respondents

Data analysis in this study employed the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach using SmartPLS 4 software. This approach was chosen because it is suitable for testing relationships among complex latent variables (constructs) and is capable of accommodating relatively small sample sizes and data that are not normally distributed.

RESULTS AND DISCUSSION

Variable Description

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Analysis The description of the research variables is presented to provide an overview of the trends in respondents' answers for each indicator within each research variable. The interpretation of the mean values is based on the previously established score interpretation criteria. Next, the results of the descriptive statistical analysis for each research variable will be discussed in the following section

Table 1. Description of Factors Influencing Farmers' Motivation to Practice Corn-Cattle Integration in Alebo Village, Konda Subdistrict, South Konawe Regency, 2026

Excistence	STS		TS		CS		S		SS		Total		Average Score	Note
	∑	%	∑	%	∑	%	∑	%	∑	%	∑	%		
$X_{1.1}$	0	0	0	0	10	13,16	45	59,21	21	27,63	76	100	4,14	Agree
$X_{1.2}$	0	0	0	0	9	11,84	51	67,11	16	21,05	76	100	4,09	Agree
$X_{1.3}$	0	0	1	1	11	14,47	48	63,16	16	21,05	76	100	4,04	Agree
Total score													12,28	**Agree**

Source: Processed Primary Data, 2026

Based on Table 1, the *existence* aspect showed an average total score of 12.28 in the "agree" category, indicating that the fulfillment of basic economic needs and livelihood security are important factors in motivating farmers to adopt the corn–cattle integration system in Alebo Village. This finding aligns with the concept of *existence* needs in Alderfer's ERG theory, which emphasizes that individuals are motivated to act when basic needs such as income, economic security, and the availability of resources are met.

Based on the analysis results, the "existence" dimension indicates a high level of motivation in the implementation of the corn-cattle integration system. Indicator $X_{1.1}$, namely that the implementation of the corn–cattle integration system helps meet the family's basic needs, received an average score of 4.14, indicating that the majority of respondents agreed or strongly agreed. This confirms that the integration system is viewed as a strategy capable of supporting the fulfillment of farmers' household basic needs. This finding is consistent with the research by Devendra and Thomas (2002), which states that crop–livestock integration systems contribute significantly to improving the economic resilience of smallholder farmers through the optimization of land resource utilization. Furthermore, indicator $X_{1.2}$, namely that the integrated corn and cattle system provides significant additional income for families, received an average score of 4.09. These results indicate that farmers view integrated systems as an important source of additional income for their households. This finding is supported by

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Herrero et al. (2010), who confirm that integrated farming systems can increase production efficiency and farmers' income, particularly in rural areas. Meanwhile, indicator $X_{1.3}$—that the integrated system enhances farmers' self-reliance by reducing dependence on external fertilizers and feed—received an average score of 4.04. This indicates that farmers perceive the benefits of integration in strengthening the self-reliance of their farming operations through the utilization of local resources. This finding aligns with Pretty's (2008) view, which states that integrated and sustainable agricultural systems can enhance farmers' self-reliance through resource recycling and reduced dependence on external inputs. Overall, these results indicate that meeting basic needs, increasing income, and business self-reliance are the primary factors driving farmers' motivation to adopt the corn–cattle integration system.

Thus, the corn–cattle integration system in household farming operations in Alebo Village has the potential to serve as a model for economically sustainable agriculture. The integrated utilization of local resources can improve production efficiency, reduce costs, and increase income, thereby strengthening the fulfillment of basic needs and the economic resilience of farming households.

Table *2.* Description of Relatedness to Farmers' Motivation for Implementing the Corn–Cattle Integration System in Alebo Village, Konda Subdistrict, South Konawe Regency, 2026

Relatedness	**STS**		**TS**		**CS**		**S**		**SS**		**Total**		**Average Score**	**Note**
	∑	%	∑	%	∑	%	∑	%	∑	%	∑	%		
$X_{2.1}$	0	0	3	3,95	15	19,74	49	64,47	9	11,84	76	100	3,84	**Agree**
$X_{2.2}$	0	0	3	3,95	7	9,21	52	68,42	14	18,42	76	100	4,01	**Agree**
$X_{2.3}$	0	0	1	1	7	9,21	47	61,84	21	27,63	76	100	4,16	**Agree**
Total Score													12,01	**Agree**

Source: Processed Primary Data, 2026

Based on the average score, the indicator of feeling valued and recognized when exchanging experiences with fellow farmers ($X_{2.3}$) had an average score of 4.16. This finding suggests that the social interactions fostered within the integrated system provide farmers with positive social recognition. The next indicator is the sharing of information and experiences among farmers ($X_{2.2}$), with a score of 4.01. Although it ranks lowest, this score still falls within the "agree" category, indicating that the exchange of information among farmers continues to function effectively in the implementation of the corn–cattle integration system. Meanwhile, the indicator with the lowest average score—support and encouragement from

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farmer groups in implementing the corn–cattle integration system ($X_{2.1}$)—showed the highest value, at 3.84. This indicates that farmers perceive the role of farmer groups as very important as a source of social support and motivation in implementing the integration system.

Overall, the differences in values among the indicators show that support from farmer groups is the most dominant social aspect, followed by social recognition, while information exchange still has room for improvement to strengthen social relationships among farmers.

Table 3. Growth Analysis of Farmers' Motivation to Implement the Corn–Cattle Integration System in Alebo Village, Konda Subdistrict, South Konawe Regency, 2026

Growth	STS		TS		CS		S		SS		Total		Average Score	Note
	∑	%	∑	%	∑	%	∑	%	∑	%	∑	%		
$X_{3.1}$	0	0	1	1,32	2	2,63	37	48,68	36	47,37	76	100	4,42	Agree
$X_{3.2}$	0	0	1	1,32	1	1,32	42	55,26	32	42,11	76	100	4,38	Agree
$X_{3.3}$	0	0	1	1,32	0	0,00	35	46,05	40	52,63	76	100	4,50	Agree
Total Score													13,30	Agree

Source: Processed Primary Data, 2026

Based on Table 3, the indicator with the highest average score was farmers' level of confidence in making decisions related to farm management ($X_{3.3}$), with a score of 4.50, which falls into the *agree* category. This indicates that farmers' confidence in decision-making has begun to strengthen in tandem with increased knowledge and motivation to learn. In other words, the integrated system can make a positive contribution to building farmers' confidence in determining farm management steps based on their experience and understanding.

The next indicator is the improvement in farmers' knowledge and skills in managing their farms through the implementation of the integrated corn and cattle system ($X_{3.1}$), with a score of 4.42, falling into the "*agree*" category. This high score indicates that the integrated system is perceived as an effective learning tool for farmers. Through direct involvement in managing corn crops and cattle, farmers gain practical experience that fosters improved technical and managerial skills in running their farms in an integrated manner. Meanwhile, the indicator with the lowest average score was farmers' motivation to participate in training or learning activities related to the integrated system ($X_{3.2}$), with an average score of 4.38, which falls into the *agree* category. These results indicate that farmers have an internal drive to continuously develop their capacities through learning activities. The corn–cattle integration

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system is viewed not only as a production activity but also as an opportunity to broaden their horizons and expand their knowledge through training and other development activities.

Overall, the total score for the *growth* variable was 13.30, falling into the *agree* category, indicating that farmers' needs for self-development are relatively met through the implementation of the corn–cattle integration system. Self-confidence in decision-making emerged as the most prominent aspect, followed by motivation to learn and the enhancement of knowledge and skills. These findings confirm that the integrated system not only impacts production aspects but also serves as a means for the sustainable capacity development of farmers

Factors Influencing Farmers' Motivation to Implement the Corn–Cattle Integrated System

In this stage, motivation will be analyzed using the PLS-SEM approach with the SmartPLS4 V.4.0.9.9 *software*. Two model evaluations will be conducted: the *outer model* and the *inner model*. The *outer model* focuses on the validity and reliability of the indicators used to measure latent variables, testing *convergent validity, discriminant validity*, and *construct reliability*. *The inner model* focuses on the relationships among latent variables and tests the strength and significance of those relationships. Model fit is assessed using r-square (R^2), q-square (Q^2), and goodness of fit (GoF). The final stage will involve hypothesis testing to examine the effects of all variables in the study.

Table 4. Results of Outer Loadings for the Convergent Validity Test, Stage 1

No.	Indivators	*Outer loading*	Description
1	$X_{1.1}$ > Motivation	0,637	Valid
2	$X_{1.2}$ > Motivation	0,848	Valid
3	$X_{1.3}$ > Motivation	0,863	Valid
4	$X_{2.1}$ > Motivation	0,797	Valid
5	$X_{2.2}$ > Motivation	0,928	Valid
6	$X_{2.3}$ > Motivation	0,861	Valid
7	$X_{3.1}$ > Motivation	0,898	Valid
8	$X_{3.2}$ > Motivation	0,876	Valid
9	$X_{3.3}$ > Motivation	0,832	Valid
10	$Y_{1.1}$	0,855	Valid
11	$Y_{1.2}$	0,894	Valid

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12	$Y_{1.3}$	0,794	Valid

Source: PLS Analysis Results, 2026

Based on the results of the *convergent validity* test in Table 13, it can be seen that all indicators have *outer loading* values above the required threshold of 0.50. This indicates that each indicator is able to represent the construct being measured well, and thus all are deemed valid.

For the *Existence* variable, all three indicators (X1.1, X1.2, and X1.3) show fairly strong *outer loading* values, ranging from 0.637 to 0.863. These values indicate that these indicators have consistently represented the Existence variable. Furthermore, for the *Relatedness* variable, all indicators (X2.1, X2.2, and X2.3) also met the validity criteria with *outer loading* values ranging from 0.797 to 0.928. These relatively high values indicate that the social relationships measured in this study make a strong contribution to the construct being assessed. For the *Growth* variable, indicators X3.1, X3.2, and X3.3 also yielded satisfactory results with high *outer loading* values, thus demonstrating their validity in measuring aspects of farmers' growth or self-development. Meanwhile, for the *Motivation* variable, all indicators (Y1.1, Y1.2, and Y1.3) had values of 0.855, 0.894, and 0.794, respectively. These values confirm that these indicators are able to reflect farmers' motivation levels well and consistently. Thus, it can be concluded that all indicators in this study have met the criteria for *convergent validity*, making them suitable for use in further analysis

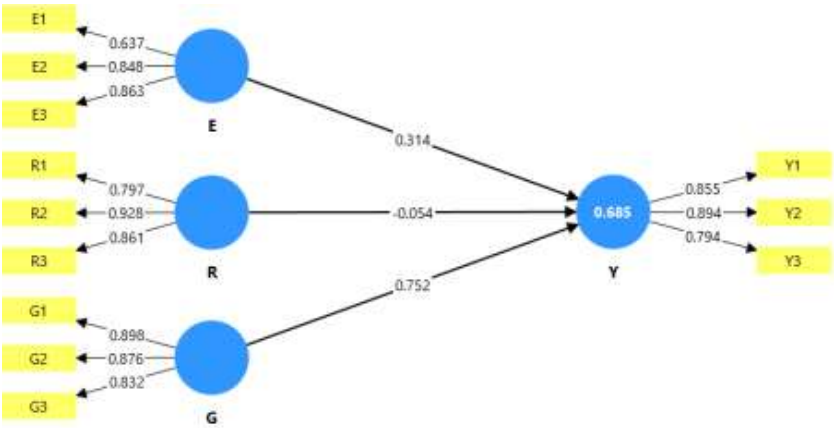


Figure 2. *Output of the PLS SEM Algorithm* in the *Convergent Validity* Test

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Table 5. AVE and Square Root of AVE Values for Research Variables

No.	Variables	AVE	Root AVE
1	*Excistence*	0.623	0.789
2	*Relatedness*	0.746	0.864
3	*Growth*	0.755	0.869
4	*Motivation*	0.720	0.849

Source: PLS Analysis Results, 2026

Based on the data presented in the table, it is evident that each variable is considered to have discriminant validity, as the *square root of the average variance extracted* (AVE) for each variable is greater than its respective AVE. Furthermore, the AVE values for *existence, relatedness, growth*, and *motivation* are greater than the tolerance threshold of 0.50. This indicates that the constructs of *existence, relatedness, growth*, and *motivation* possess good *discriminant validity*. Therefore, the criteria for *discriminant validity* have been met by the research instruments used to measure all constructs or latent variables in this study.

Table 6. *Composite reliability* and *Cronbach's alpha* values for the research variables

No.	Variables	*Composite reliability*	*Cronbach's alpha*
1.	*Excistence*	0.830	0.685
2.	*Relatedness*	0.898	0.835
3.	*Growth*	0.902	0.838
4.	*Motivation*	0.885	0.807

Source: Processed Primary Data, 2026

Based on the results of the reliability test, all research variables met the criteria for good reliability. The composite reliability values for the variables Existence (0.830), Relatedness (0.898), Growth (0.902), and Motivation (0.885) were all above the minimum threshold of 0.600. Similarly, the Cronbach's alpha values for each variable—Existence (0.685), Relatedness (0.835), Growth (0.838), and Motivation (0.807)—also exceeded the established minimum threshold. These results indicate that all indicators possess good internal consistency and are capable of reliably measuring the constructs. Thus, the research instrument is deemed reliable and suitable for further analysis, including structural equation modeling (SEM).

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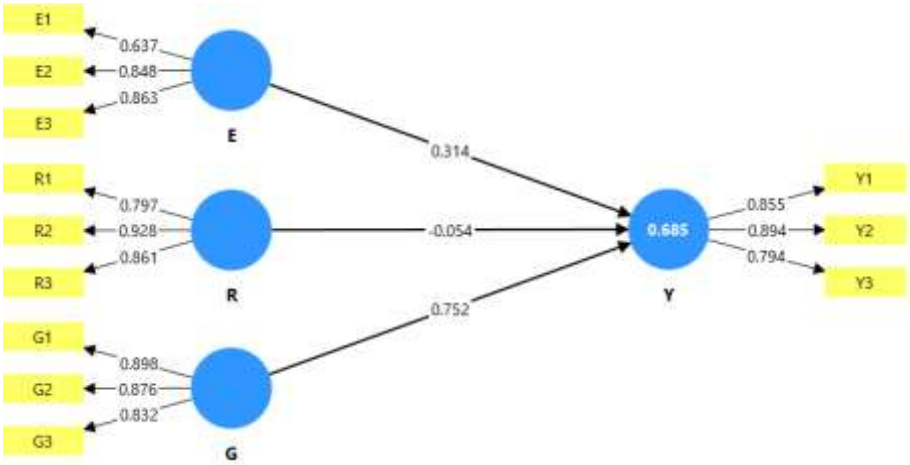


Figure 3. Results of the PLS Algorithm (Relationship between Latent Constructs and Estimated Parameter Path Coefficients as well as the Model's Coefficient of Determination) Structural Equation Model: Farmers' Motivation to Implement the Corn-Cattle Integration System in Alebo Village, Konda Subdistrict, South Konawe Regency.

R-Square in PLS-SEM measures how well the latent independent variables in the model can explain the variability of the latent dependent variable. The R^2 value indicates the overall predictive power of the model. R^2 values range from 0 to 1, where a higher value indicates a better model in explaining variance. The following are the results of the inner model evaluation in this analysis.

Table 7. Results of the internal model evaluation

Indicators	Criteria	Result	Description
R^2	• • >0.67 (good) • 0.33–0.67 (moderate) • < 0.33 (weak)	armers' Motivation to Implement the Corn-Cattle IFS 0.685	**Good**
Q^2	Q2 > 0 (good, the model has *predictive relevance*) Q2 < 0 (less good, the model lacks *predictive relevance*)	0.649	Good, the model has *predictive relevance*

Source: PLS Analysis Results, 2026

Based on the PLS analysis results, an R-squared (R^2) value of 0.685 was obtained for the farmer motivation variable, indicating that the variables existence, relatedness, and growth account for 68.5% of the variation in farmers' motivation to adopt the corn–cattle integration

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system. This value falls into the "good" category, indicating that the model has a strong ability to explain farmer motivation. Additionally, the Q-Square (Q^2) value of 0.649—which is greater than zero—shows that the model has good predictive relevance. This means the model is not only capable of explaining the relationships among variables but is also reliable in predicting farmer motivation in the field. Thus, the structural equation model used in this study is considered to be of good quality, both in terms of explanatory power and predictive ability.

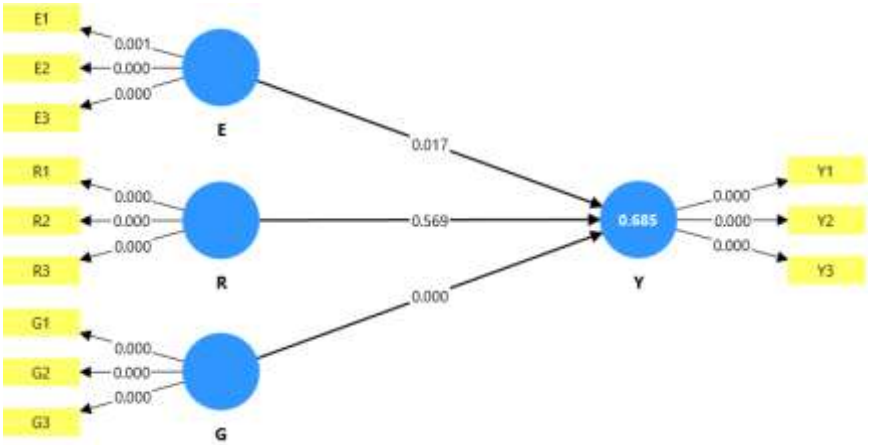


Figure 4. PLS Bootstrapping Results (Testing the Relationships Among Variables in the Structural Equation Model) of Farmers' Motivation to Implement the Corn–Cattle Integration System in Alebo Village, Konda Subdistrict, South Konawe Regency

Table 8. Results of the Bootstrapping Process with a Significance Level of 0.05

Relationships Among Variables	Original sample (O)	T statistics (|O/STDEV|)	P values	Significance Level	Hypothesis
Excixtence -> Motivation	0.314	2.378	0.017	Significant	Accepted
Relatedness -> Motivation	-0.054	0.570	0.569	Not Significant	Rejectee d
Growth -> Motivation	0.752	8.874	0.000	Significant	**Accepte d**

Source: PLS Analysis Results, 2026

Based on Table 8 above, the influence of each variable in this study can be explained as follows:

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The Effect of Existence on Farmers' Motivation to Implement the Corn–Cattle Integration System

Based on the analysis results, the *existence* variable has a positive and significant effect on farmers' motivation to implement the maize-cattle integration system. This is evidenced by a *t-statistic* value of 2.378, which is greater than the *t-table* value (1.96), a *p-value* of 0.017 (<0.05), and a path coefficient of 0.314, indicating a positive relationship. These results indicate that the more farmers' basic needs—such as economic needs, farm business security, and the availability of production inputs—are met, the higher their motivation to adopt the integrated system. This finding aligns with Alderfer's ERG Theory, which states that the fulfillment of *existence* needs forms the foundation for individual motivation to engage in an activity.

These research results are consistent with the study by Seleky et al. (2024), which found that the fulfillment of basic needs—such as household income, farm productivity, and perceived economic benefits—positively influences farmers' motivation to develop their farming businesses. In the maize-cattle integration system, these benefits are reflected in production cost efficiency through the use of maize waste as livestock feed and livestock manure as organic fertilizer, thereby increasing profits and reducing business risks. Thus, the fulfillment of basic needs is a key factor driving farmers to adopt and sustain the implementation of the integration system.

The Effect of Relatedness on Farmers' Motivation to Implement the Corn–Cattle Integration System

The test results show that the *relatedness* variable has a *t-statistic* of 0.570, which is smaller than the critical t-value of 1.96, and a *p-value* of 0.569, which is much larger than 0.05. This indicates that the *relatedness* variable does not have a significant effect on farmers' motivation. The negative path coefficient of -0.054 indicates that social relationships—such as interactions among farmers, support from farmer groups, and relationships with extension workers—have not been able to provide a meaningful boost to farmers' motivation in implementing the integrated system. In fact, the direction of the effect tends to be negative, albeit very weak.

This phenomenon may occur because existing social interactions have not been fully utilized as a means of information exchange or are not yet strong enough to build trust and collective motivation. Therefore, the second hypothesis (H2) in this study is rejected.

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The Effect of Growth on Farmers' Motivation to Implement the Corn–Cattle Integration System

Based on the results of the hypothesis testing, the Growth variable has a *t-statistic* value of 8.874, which is greater than the *t-table* value of 1.96 at a 5% significance level (α = 0.05), and a *p-value* of 0.000, which is less than 0.05. These results indicate that Growth has a positive and significant effect on farmers' motivation to adopt the corn–cattle integration system. The *original sample* value (path coefficient) of 0.752 suggests that the greater the opportunity farmers have to enhance their knowledge, skills, and capacity in managing their farms, the higher their motivation to adopt the corn–cattle integration system. Thus, the third hypothesis (H3) in this study is accepted. These findings also show that the need for self-development (*growth needs*) is the most dominant factor in driving farmers' motivation compared to other factors.

The results of this study indicate that opportunities to acquire new knowledge, participate in training, receive guidance from extension workers, and improve technical skills in managing the integrated system can strengthen farmers' confidence in adopting agricultural innovations. The greater the opportunities farmers have to develop their competencies, the higher their motivation to develop more productive and sustainable farming operations. These findings align with the research by Abdulai and Huffman (2014), which states that increased knowledge, education, training, and access to information have a positive effect on the adoption of agricultural innovations. Farmers with greater capacity and ability tend to be more receptive to new technologies because they have a better understanding of their benefits, risks, and methods of application. Therefore, the results of this study further reinforce that the need for personal growth is a crucial factor in increasing farmers' motivation to implement the maize–cattle integration system.

CONCLUSION

Based on the research findings, it can be concluded that farmers' motivation to adopt the integrated corn and cattle system is influenced by various needs described in ERG theory. The "existence" and "growth" aspects were found to have a positive and significant effect on farmers' motivation. This indicates that the fulfillment of basic needs—such as the availability of production resources, income stability, and a sense of security in conducting business—as well as opportunities to learn, improve skills, and expand their businesses, are the primary factors driving farmers to adopt the integrated system. Conversely, the "relatedness" aspect did not have a significant effect, indicating that social relationships—whether with fellow

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farmers, farmer groups, or extension workers—have not yet become a primary driver in boosting motivation. Thus, farmers' motivation is more strongly influenced by the fulfillment of basic needs and opportunities for development than by social relationship factors.

Based on the research findings, farmers are advised to continue maintaining and developing the corn–cattle integration system by optimizing the use of corn waste as livestock feed and cattle manure as organic fertilizer to improve business efficiency and land sustainability. The government is expected to provide support through policies, the provision of production inputs, access to capital, and development programs based on local potential so that the adoption of the integration system becomes more widespread and sustainable. In addition, future researchers are advised to examine other factors that influence farmer motivation—such as economic, environmental, and business risk aspects—using a more diverse methodological approach to gain a more comprehensive understanding.

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