

The Influence of Employee Competence and Work Motivation on Productivity at Anggi Putra Pratama Broiler Chicken Farm in Support of Food Security in Ujung Batu

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Abstract

This study aims to analyze the effect of employee competence and work motivation on productivity at Anggi Putra Pratama broiler chicken farm in Ujung Batu, Rokan Hulu Regency, and its contribution to supporting regional food security. The research employs a quantitative associative approach, with a census sample of all 30 employees. Data were collected through a Likert-scale questionnaire, observation, and interviews, and analyzed using multiple linear regression following validity, reliability, and classical assumption tests. The regression analysis produced the equation $Y = 4.215 + 0.412X_1 + 0.486X_2$. The t-test showed that competence ($t = 2.957$; $p = 0.006$) and work motivation ($t = 3.421$; $p = 0.002$) each have a significant positive partial effect on work productivity. The F-test showed that competence and work motivation simultaneously have a significant effect on productivity ($F = 24.578$; $p = 0.000$), together explaining 62.0% of its variance (Adjusted R^2). These findings indicate that both competence and motivation are important, complementary levers of productivity at this broiler farm, with work motivation showing a somewhat larger effect, and offer practical implications for strengthening employee training and motivational support as part of efforts to sustain poultry-sector productivity and regional food security.

Introduction

Human resources remain one of Indonesia's persistent development challenges: the country's large workforce, if used effectively and efficiently, can substantially support national development, but this requires quality education, adequate social facilities, and sufficient employment — with the real challenge being how to develop human resources capable of delivering optimal performance toward organizational goals. Organizational success depends heavily on the performance of its members, since individual performance shapes team and group performance, which in turn shapes overall organizational performance; yet maximizing individual performance in practice is far from straightforward, and performance itself depends on factors such as competence, motivation, communication, and welfare, as reflected in prior studies finding that motivation and competence significantly affect employee performance.

Rising demand for animal-based food products, particularly broiler chicken meat — one of Indonesia's most widely consumed protein sources due to its affordability and availability — has made human resource quality in the livestock sector an increasingly important issue. National broiler meat production exceeded 4 million tons in 2023, reflecting the poultry sector's strategic role in national food supply, while also intensifying competition among livestock enterprises and

making workforce productivity a decisive factor in business success. Under Law No. 18 of 2012 on Food, food security is defined as a condition in which sufficient, safe, high-quality, nutritious, evenly distributed, and affordable food is available to the state through to individuals — a condition to which the broiler sub-sector, as a major supplier of animal protein, makes a substantial contribution, one shaped not only by technology and capital but also by the quality of the human resources managing it.

In Riau Province, including Rokan Hulu Regency, broiler farming continues to grow alongside rising demand for chicken meat consumption, yet many operations still face constraints such as limited workforce competence, low work motivation, insufficient technical training, and inconsistent application of standard operating procedures for poultry care — constraints that leave employee productivity below potential and make production targets difficult to fully achieve.

This pattern is evident at Anggi Putra Pratama Broiler Farm in Ujung Batu District. Company data show that several productivity indicators fall short of target: livestock-handling tasks, targeted at 100%, were realized at only 80%; feeding and watering reached 96.67%; care and reproduction support reached 73.33%; and coop maintenance, the lowest, reached only 66.67% — indicating that employee productivity still requires improvement for all operational targets to be fully achieved. Field observations further suggest that many employees lack competencies well-matched to their roles, with limited technical skill contributing to task difficulty, while workforce education levels remain modest: of 30 employees, 12 have completed junior high school, 10 elementary school, and 8 senior high school or equivalent.

Competence alone, without strong accompanying motivation, is unlikely to translate into optimal performance; work motivation — a potential internal force that can be self-developed or shaped by external factors such as monetary and non-monetary incentives — is therefore an essential complement, with its effectiveness heightened when the drive to work originates from within the individual. Given that a lack of competence can lead to technical errors in animal care, while low motivation can reduce work efficiency and commitment, both factors have direct potential to affect production levels, chicken quality, and ultimately the farm's competitiveness and its contribution to regional food security. This study therefore examines the effect of employee competence and work motivation on productivity at Anggi Putra Pratama Broiler Farm, both partially and simultaneously, and its contribution to supporting food security in Ujung Batu.

Literature Review and Hypotheses Development

Competence

Competence is a fundamental element of human resource management, shaping the extent to which individuals and organizations can achieve planned goals; it can be understood as a combination of knowledge, skill, and attitude that together enable an individual to perform tasks effectively and produce superior work. Spencer (2013) defines competence as an individual's underlying characteristics — motives, traits, self-concept, knowledge, and skill — related to effective job performance, while Armstrong (2014) frames it as the ability to perform work to a high standard through the application of knowledge and skill in a real organizational context. In the broiler farming context, competence encompasses both technical knowledge (feed management, coop care, disease control, and animal health maintenance) and non-technical capability (communication, teamwork, adaptability, discipline, and responsibility). This study measures competence through five indicators: understanding of assigned tasks, skills suited to the

job, ability to complete work on time, ability to work with colleagues, and ability to make work-related decisions.

Work Motivation

Work motivation is a psychological force that drives, directs, and sustains an individual's behavior toward organizational goals, without which employees tend to work merely to fulfill formal obligation, with corresponding effects on productivity and effectiveness. Motivation can be intrinsic — arising from personal desire, such as a sense of responsibility, job satisfaction, or the need to grow — or extrinsic, arising from external factors such as salary, recognition, job security, and a supportive work environment; the two forms complement one another, with intrinsic motivation driving conscious, committed effort and extrinsic motivation reinforcing that drive through incentive and recognition. Hasibuan (2019) defines work motivation as the provision of a driving force that creates work enthusiasm so that employees are willing to work together productively toward organizational goals. This study measures work motivation through five indicators: enthusiasm at work, sense of the job's importance, feeling valued for one's work, encouragement from supervisors, and desire to improve work results.

Work Productivity

Work productivity is a central indicator for assessing organizational effectiveness and efficiency, measuring not only the quantity of output achieved but also its quality and how efficiently resources are used to achieve it. Sedarmayanti (2017) defines work productivity as the ratio between output achieved and the resources (input) used in the production process, while Hasibuan (2019) frames it as an individual's ability to produce goods or services efficiently within a given time, in line with established standards — in essence, a combination of effectiveness (achieving results in line with goals) and efficiency (economical, appropriate use of resources). Key aspects of productivity include effectiveness (extent of goal achievement), quality (how well output meets established standards), quantity (volume of output achieved in a given period), and discipline and timeliness. This study measures work productivity through five indicators: ability to complete work according to target, working efficiently, work results meeting standards, maintaining work quality, and work discipline.

Previous Research

Table 1. Summary of Previous Research

Researcher (Year)	Research Object	Main Findings
Sol'uf & Sabat (2025)	Beef cattle farming, Kupang Regency	Strengthening human resource competence and institutional support improves operational efficiency and business development strategy.
Fitria (2025)	Cattle farming development, Langsa City	Human resource development, including competence strengthening, is a strategic factor in successful livestock enterprise management.
Lastri et al. (2025)	Beef cattle farming, Perbaungan District	Low technical knowledge and skill, alongside limited capital, are major constraints to livestock business development; technical training and support are recommended.
Rahim & Sumarno (2025)	Ruminant livestock, Sumbawa Regency (post-FMD)	Workforce motivation and organizational support are important in improving labor effectiveness and productivity in the livestock sector.

Researcher (Year)	Research Object	Main Findings
Alhabsyi (2025)	Livestock development, Langsa	Worker motivation through training, recognition, and work-environment support is an important factor in improving livestock business productivity.

Conceptual Framework

Based on the theoretical review above, the conceptual framework of this study describes the relationship between competence (X1) and work motivation (X2) as independent variables, and work productivity (Y) as the dependent variable, as presented in Figure 1.

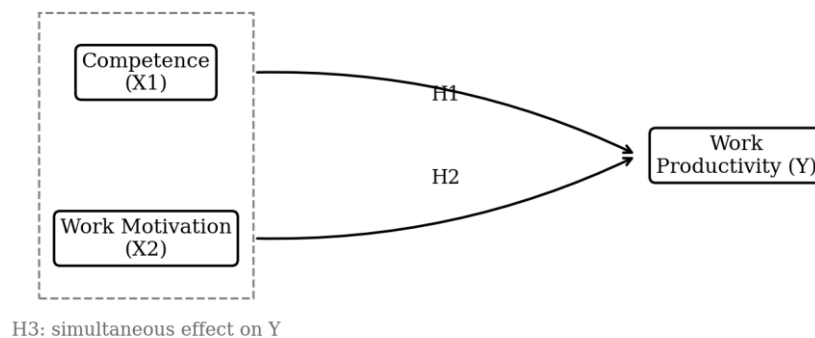


Figure 1. Conceptual Framework of the Study

Hypotheses Development

Competence — the combination of knowledge, skill, and work attitude an employee applies to complete tasks — is theorized to shape productivity directly, since employees who understand work procedures and possess relevant technical skill are better able to resolve field problems and use available resources efficiently. This is supported by Sol'uf and Sabat (2025) and Fitria (2025), who found that strengthened human resource competence supports greater operational efficiency and business success in livestock enterprises. Based on this, the following hypothesis is proposed:

H1: Competence affects employee work productivity.

Work motivation is theorized to affect productivity because employees driven by strong internal or external motivation tend to work with greater enthusiasm, discipline, and responsibility, whether motivated intrinsically by a sense of responsibility and job satisfaction or extrinsically by salary, bonuses, and recognition. This is supported by Rahim and Sumarno (2025) and Alhabsyi (2025), who found that worker motivation and organizational support significantly improve labor effectiveness and productivity in the livestock sector. Based on this, the following hypothesis is proposed:

H2: Work motivation affects employee work productivity.

Competence and work motivation are theorized to jointly and complementarily shape productivity: competence alone, without strong motivation, is unlikely to yield maximum output, and motivation alone, without adequate competence, is similarly unlikely to produce optimal results — particularly in broiler farming, where operational activity requires both sound technical capability and consistent, disciplined effort. This is supported by Lastri et al. (2025), who found that low competence and motivation together constrain livestock business productivity, and that

technical training and incentives together improve production outcomes. Based on this, the following hypothesis is proposed:

H3: Competence and work motivation simultaneously affect employee work productivity.

Research Methods

This study employs a quantitative associative approach, conducted at Anggi Putra Pratama Broiler Farm in Ujung Batu District, Rokan Hulu Regency, between October and November 2025, using a Likert-scale questionnaire (1–5) supplemented by direct observation and interviews. The study population comprised all 30 employees of the farm; given the small population size, a census sampling method was used, in which the entire population served as the sample. The independent variables are competence (X1) and work motivation (X2), while the dependent variable is work productivity (Y).

The research instrument was tested through a validity test (comparing the calculated r -value with the table r -value of 0.361) and a reliability test. Data were analyzed through descriptive statistics using the Respondent Achievement Level (TCR); classical assumption tests including normality (Kolmogorov-Smirnov), multicollinearity (tolerance and VIF), and heteroscedasticity (Glejser test); multiple linear regression with the equation $Y = a + b_1X_1 + b_2X_2 + e$; the coefficient of determination (Adjusted R^2); and hypothesis testing through the t -test (partial) and F -test (simultaneous) at a 5% significance level, using SPSS.

Results and Discussion

Respondent Characteristics

Of the 30 respondents, the majority were male (80.0%), reflecting the physically demanding nature of much broiler-farm work such as feed handling, coop maintenance, and harvesting, while female employees were more often involved in administrative and record-keeping tasks. By age, 40.0% were 20–30 years old, 33.3% were 31–40, 20.0% were 41–50, and 6.7% were over 50. By education, 40.0% had completed junior high school, 33.3% elementary school, and 26.7% senior high school or equivalent. By tenure, 40.0% had worked 4–6 years, 26.7% 1–3 years, 23.3% 7–10 years, and 10.0% more than 10 years.

Descriptive Analysis

Descriptive analysis of respondent achievement levels indicates that all three variables — competence, work motivation, and work productivity — fall in the good category. Employees generally demonstrated sound understanding of poultry-care procedures and standard operating practices, adequate technical skill in daily animal care and coop maintenance, and the ability to adapt to changing working conditions. Employees likewise showed generally high work enthusiasm, discipline, and a sense of responsibility toward their tasks, alongside a desire to improve their work results, though the presence of a wide range of educational backgrounds — from elementary to senior-high level — suggests some variation in employees' technical understanding that ongoing training could help address.

Classical Assumption Tests

The Kolmogorov-Smirnov normality test produced an Asymp. Sig. (2-tailed) value of 0.200 (> 0.05), indicating normally distributed residuals. The multicollinearity test showed tolerance values of 0.712 and VIF values of 1.405 for both independent variables, well within acceptable limits (tolerance > 0.10 ; VIF < 10). The Glejser heteroscedasticity test produced significance values above 0.05 for both competence (0.461) and work motivation (0.537), indicating no heteroscedasticity in the model.

Multiple Linear Regression Analysis and Hypothesis Testing

The multiple linear regression analysis produced the equation $Y = 4.215 + 0.412X_1 + 0.486X_2$, as detailed in Table 2. The positive constant of 4.215 indicates the baseline value of work productivity when both independent variables are held at zero. Both regression coefficients were positive, with work motivation contributing a somewhat larger effect (0.486) than competence (0.412), indicating that motivation plays a slightly more dominant role in shaping productivity at this farm.

Table 2. Multiple Linear Regression and t-Test Results

Variable	B	t-value	Sig.	Description
Constant	4.215	2.184	0.038	–
Competence (X1)	0.412	2.957	0.006	Significant
Work Motivation (X2)	0.486	3.421	0.002	Significant

Source: SPSS processed data, 2025. Table t-value = 2.052; $\alpha = 0.05$.

Table 3. F-Test and Coefficient of Determination Results

F-value	Sig.	Adjusted R ²
24.578	0.000	0.620 (62.0%)

Source: SPSS processed data, 2025. Table F-value = 3.35.

The t-test results show that competence has a calculated t-value of 2.957, exceeding the table t-value of 2.052, with a significance of 0.006 (< 0.05), so H1 is accepted: competence has a significant positive partial effect on work productivity. This finding is consistent with Sol'uf and Sabat (2025) and Fitria (2025). Employees who better understand feeding, coop hygiene, and animal-health procedures are better positioned to minimize errors and maximize harvest outcomes; strengthening competence through ongoing training and mentoring is therefore likely to further improve productivity.

Work motivation has a calculated t-value of 3.421, exceeding the table t-value of 2.052, with a significance of 0.002 (< 0.05), so H2 is accepted: work motivation has a significant positive partial effect on work productivity. This finding is consistent with Rahim and Sumarno (2025) and Alhabsyi (2025). Motivated employees — whether driven by a sense of responsibility and job satisfaction or by salary, bonuses, and recognition — tend to work with greater enthusiasm, care, and result orientation, underscoring the value of attention to incentive, recognition, and workplace support alongside technical training.

The F-test produced a calculated F-value of 24.578, exceeding the table F-value of 3.35, with a significance of 0.000 (< 0.05), so H3 is accepted: competence and work motivation

simultaneously have a significant effect on work productivity, together explaining 62.0% of its variance (Adjusted R^2), with the remaining 38.0% explained by factors outside the model, such as work environment, leadership, compensation, discipline, and organizational culture. This finding is consistent with Sol'uf and Sabat (2025), Fitria (2025), and Lastri et al. (2025). Competence provides the technical knowledge and skill needed for effective work, while motivation supplies the internal and external drive to apply that competence consistently; neither factor alone is sufficient to maximize productivity, but together they support the disciplined, technically sound performance that broiler farming requires — with corresponding implications for production quality, disease risk reduction, and, ultimately, the farm's contribution to regional food security.

Implication and Conclusion

Conclusion

Based on the analysis and discussion, it can be concluded that: (1) competence has a significant positive effect on the work productivity of employees at Anggi Putra Pratama Broiler Farm; (2) work motivation has a significant positive effect on work productivity; and (3) competence and work motivation simultaneously have a significant positive effect on work productivity, together explaining 62.0% of its variance, with the remaining 38.0% explained by factors outside the model such as leadership, work environment, compensation, discipline, and organizational culture. Overall, competence and work motivation are important, complementary factors in improving employee productivity, with clear implications for the farm's broader role in supporting regional food security.

Implications and Recommendations

Anggi Putra Pratama Broiler Farm is encouraged to continue strengthening employee competence through ongoing training and skill development, focused on broiler-care techniques, disease control, and modern poultry technology, and to support employee motivation through recognition of good performance, a comfortable and supportive work environment, open communication between management and staff, and attention to incentives and employee welfare. Regular performance evaluation is recommended to identify factors constraining productivity and to inform more effective human resource policy. Future research is encouraged to incorporate additional variables likely to affect productivity, such as leadership, work environment, compensation, discipline, organizational culture, and work experience, and to extend the analysis to other livestock enterprises for broader comparison and more comprehensive findings.

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