



Informal Apprenticeship Learning Model to Improve Layer Chicken Farm Workers' Competency: A Case Study at CV. Arto Moro Farm

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Abstract: This research aims to develop a grounded theory model of informal apprenticeship to improve worker competencies at the layer chicken farm CV. Arto Moro Farm, Blitar Regency, East Java. A qualitative approach using grounded theory methodology was employed, with data collection through participatory observation, in-depth interviews, and documentation involving farm owners and workers. Data analysis was conducted through coding stages following grounded theory procedures. The research results show that the apprenticeship process is led by the owner as instructor and takes place in an informal atmosphere with a direct learning model (learning-by-doing). This process successfully transfers knowledge, skills, and attitudes, significantly improving worker competencies. This study contributes an applicable informal apprenticeship model for human resource development in the layer chicken farming sector.

Keywords: Character formation; Practical skills; Technical knowledge; Work attitude

Introduction

Education is an important part of human life. By nature, humans are learning beings who continuously acquire knowledge, attitudes, and skills to develop themselves and their interests (Latifa & Pribadi, 2021). In its process, education encompasses formal, non-formal, and informal pathways that complement each other (Puspita, 2019). One form of non-formal education that is highly relevant to the working world is vocational education (Ramandhani et al., 2024), which is designed to equip participants with specific work competencies through a proportional combination of cognitive, psychomotor, and affective elements (Ekosiswoyo & Sutarto, 2015).

In Indonesia, vocational education has entered a new era with organizational structure reforms in the Ministry of Education, Culture, Research, and Technology (Farizal & Habibi, 2024). The establishment

of the Directorate General of Vocational Education demonstrates the government's increasing attention to the importance of vocational education (Hikmah & Putra, 2023; Pradipta et al., 2021). However, real challenges still exist. The Head of the Industrial Human Resource Development Agency noted that out of 148 existing skill competencies, only 36 match the needs of the industrial sector. The availability of quality vocational educators is also very limited. Previous research also shows that vocational education graduates have not been fully able to meet the needs of the working world (Gawrycka et al., 2020; Yusneti et al., 2022).

One approach considered effective for reducing this competency gap is through apprenticeship programs. This program aims to equip participants with practical skills and technical knowledge in the work environment (Eliyawati et al., 2023; Susilo et al., 2025). However, the effectiveness of this program heavily depends on curriculum, facility availability, and training continuity

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(Rinaldi & Kurniawan, 2025). For informal sectors such as layer chicken farming, informal apprenticeship schemes become a potential and relevant approach.

According to Darling-Hammond et al. (2020), apprenticeship programs are effective in aligning graduate competencies with workforce needs, especially when they can improve the independence and adaptability of apprentices in real work contexts. In the context of informal sectors like layer chicken farming, informal apprenticeships can provide real opportunities for workers to improve technical skills and professionalism.

Informal apprenticeships are based on two main principles: the workplace as a learning space, and the interaction between experienced workers as instructors and apprentices. This principle emphasizes the importance of hands-on training and mentoring in the skill development process. This model is very suitable for application in micro and small business sectors, such as layer chicken farming, which still face limitations in formal technical training.

In Indonesia, the layer chicken farming sector plays an important role in the national livestock industry, even continuing to show positive growth in commodity exports during the pandemic. However, improving worker professionalism remains a challenge, particularly because the learning process in the workplace occurs informally and unstructured. One model that can be applied in this context is the Informal Apprenticeship Learning Model which emphasizes learning through observation, direct practice, and guidance in real contexts.

This learning model aligns with innovative approaches such as discovery learning (Rasyid et al., 2024), guided inquiry, SOLE (Self Organized Learning Environment) (Budyaningsih & Fikroh, 2023), and FERA (Focus, Explore, Reflect, and Apply) (Anwar, 2024; Subari et al., 2024). These approaches encourage active involvement, exploration, and learning independence, and support the development of social-emotional competencies and critical thinking skills in students contextually and sustainably (Manurung et al., 2024).

Informal apprenticeships have also proven to have advantages in terms of accessibility, cost-effectiveness, and adaptability to local contexts (Jufri et al., 2023). Informal apprenticeship is an active and contextual form of learning (Billett, 2016). In several developing countries, such as in East and Southern Africa, this system becomes the main pathway for skill acquisition, even more effective than formal training in terms of work outcomes. Studies in Bhutan's banking sector also show that informal apprenticeships can improve work capabilities through significant competency development (Pradhan et al., 2023). Important factors

supporting its success include a supportive learning environment, good supervision, and autonomy in tasks.

However, challenges remain. High apprenticeship dropout rates and training quality disparities are still obstacles, especially when apprenticeship systems are not systematically structured or do not match local contexts. On the other hand, there are risks of worker exploitation in uncontrolled informal apprenticeship schemes. Therefore, serious efforts are needed to integrate these informal learning strategies into a broader workforce development framework based on sector needs.

CV. Arto Moro Farm, located in Blitar Regency, East Java, is a real example of medium-scale layer chicken farming practices with more than 80,000 chickens and an open house cage system. Business activities include egg production, feed mixing, egg tray manufacturing, and independent distribution. Despite the business growth, challenges in building worker competencies professionally are still felt by the owner. This shows the need for developing contextual, structured, and relevant informal apprenticeship learning models that meet work needs.

This research aims to explore and develop a grounded theory-based informal apprenticeship learning model for workers at CV. Arto Moro Farm. The novelty of this research lies in developing a learning model based on the real experiences of workers in the layer chicken farming sector—a field that has not been widely touched by systematic training models based on field data. Using a grounded theory approach, this research seeks to formulate theory born from empirical data, not just describe existing phenomena. Thus, this research not only contributes to the development of vocational learning theory but also provides practical implications for workforce training in the livestock sector and non-formal vocational education in Indonesia.

Method

This research uses a qualitative approach with the Grounded Theory method aimed at building an informal apprenticeship learning model to improve the competencies of layer chicken coop workers at CV. Arto Moro Farm. Grounded Theory was chosen because it allows theory to be built directly from field data through a systematic inductive process.

Primary data sources come from the owner and workers of CV. Arto Moro Farm. Informant selection was conducted through theoretical sampling, based on their contribution to the development of conceptual categories emerging from data, not merely based on formal positions or roles. Data collection techniques include in-depth interviews, participatory observation,

and documentation studies, with instruments including interview guides, observation guidelines, and field notes and recordings.

Data analysis was conducted through three main stages of Grounded Theory: open coding (identifying initial concepts from data), axial coding (grouping and connecting categories), and selective coding (determining core categories and building theory). This process was conducted repeatedly with constant comparative methods until theoretical saturation was achieved. Data credibility was maintained through triangulation, informant confirmation, and reflective memo recording.

In this case, both owners and workers in each livestock unit were involved to collect data related to two main things: the informal apprenticeship learning process for layer chicken coop workers and the learning outcomes obtained from this process. Additionally, researchers also conducted participatory observation by directly recording various individual activities at the research location. This observation focused on daily activities carried out by owners and layer chicken coop workers at CV. Arto Moro Farm, to get a real picture of the learning process occurring in the field. Another data collection technique was documentation study, used as additional information sources to support the validity of research results. This study included documentation in the form of photos of activities related to layer chicken coop worker activities, both when they were learning and working.

The data that has been made previously is still temporary and will change if strong supporting evidence is found at the next data collection stage. Initial conclusions are supported by valid and consistent evidence when researchers go into the field to collect data, and these conclusions are credible. The results of the verification are complete, comprehensive and accurate conclusions.

Result and Discussion

Research results show that the work learning pattern at CV. Arto Moro Farm forms one informal apprenticeship model based on trust, which grows through direct practice (learning by doing) and interpersonal relations between senior and junior workers. This process is not formally structured but occurs naturally within the daily work rhythm. Learning begins with direct involvement in work activities, where junior workers learn through observation, imitation, and active participation without written guides or standardized training. This finding strengthens the research results of Nurlela et al. (2022) regarding the effectiveness of direct practice-based work training (OJT) in the automotive industry, and is also reinforced

by Dewi et al. (2021) who emphasize andragogy principles as the basis for adult learning in work contexts. Participation in real work facilitates the formation of practical skills more contextually and deeply.

Besides direct practice aspects, social relations between mentor and mentee play a central role in the knowledge transfer process. This relationship is not hierarchical but intimate and familial, creating an emotional atmosphere that allows learning to proceed spontaneously and personally. Knowledge and skills are transmitted through informal discussions, observation, and togetherness in completing daily tasks. This finding aligns with the study by Putra et al. (2022) who studied similar patterns in pesantren contexts. In practice at CV. Arto Moro Farm, knowledge transfer does not occur through explicit instruction but through natural interactions full of affective content, which encourages mentees to absorb work values along with technical skills.

This learning process also forms contextual trust that grows from repeated interactions and consistency of actions between mentor and mentee. Trust becomes the foundation for internalizing work values such as discipline, responsibility, and perseverance. These values are not instilled directly but are formed through habituation processes that occur in daily work life. Imitation of mentor behavior becomes the main mechanism for forming work ethic, as reflected in the findings of Mahmudah et al. (2016) and Setyaningsih et al. (2017) who show that work values are transformed through direct practice and strong affective relations. In the context of CV. Arto Moro Farm, junior workers tend to adopt mentor work habits not through instruction but through appreciation of behavioral patterns seen and experienced daily.

The dynamics of this mentor-mentee relationship contribute significantly to performance and productivity improvement. When the mentoring process takes place in a supportive and non-hierarchical relational atmosphere, workers show high motivation and responsibility toward work. This finding is supported by Darmawan (2017) which shows that learning approaches based on real experience and healthy relations positively impact work effectiveness. Thus, the informal learning pattern at CV. Arto Moro Farm not only serves as a means of forming technical skills but also as a medium for internalizing contextual, sustainable, and relevant work culture values with the character of the local agribusiness environment.

This finding structure then develops into a grounded theory model that is distinctive and contextual, where informal learning processes not only show effectiveness in forming work competencies but also in deeply instilling work values. Literature is used

in this context not as an initial framing basis but as support and reinforcement for patterns that emerge inductively from field data. This aligns with the main principle of grounded theory which places empirical findings as the center of analysis. Previous research on self-directed and incidental learning in non-formal work contexts also confirms that spontaneous and real experience-based learning has significant contributions to human resource capacity improvement. Therefore, the trust-based apprenticeship pattern found in this research can be understood as a work learning model that is not only functional in agribusiness contexts but also potential for replication in various other informal work sectors.

Informal Apprenticeships for Layer Chicken Coop Workers

Apprenticeships play a significant role in training layer chicken farmers, especially in developing regions. These training programs provide easily accessible and cost-effective skill development opportunities that align with the needs of the informal economy. Training programs that are based on practical, hands-on experience can improve skills and knowledge (Indrawati & Rahmawaty, 2024; Wahyuni et al., 2023).

The importance of informal apprenticeships is particularly evident in Global South countries, where formal education often fails to adequately prepare individuals for the job market (Alla-Mensah & McGrath, 2023). As the primary avenue for acquiring skills in the informal sector, apprenticeships often yield superior outcomes in employment compared to formal training. In the context of layer chicken farm workers, on-the-job training aids in the enhancement of practical skills directly associated with the management of the farm, ultimately boosting the performance of the workers. Additionally, informal apprenticeships can bring about economic benefits, such as increased income and job security, through the acquisition of skills that are transferable to various roles within the agricultural sector.

However, informal apprenticeships come with their own set of challenges. The lack of formal structure often leads to exploitation of workers and a lack of official recognition of their skills, which can limit long-term career prospects. Additionally, the absence of organized training programs can result in variations in the quality of workers' skills, thus impacting the overall productivity of the poultry industry (Ramadani & Masitoh, 2024). Therefore, while informal apprenticeships offer various benefits for layer chicken farm workers, efforts to address these challenges need to be undertaken to ensure sustainable development and fair work practices in this sector.

An informal apprenticeship in layer chicken farming at CV. Arto Moro Farm in Blitar Regency is

carried out to develop worker competencies. The learning process applied is implementing lifelong education by involving all employees at CV. Arto Moro Farm, which consists of 80 people. These workers are responsible for several work units such as warehouses, maintenance, egg tray factories, logistics, secretaries, and treasurers.

The highest leadership in CV. Arto Moro Farm is the owner of the business. Activities carried out by CV owners every day are monitoring each unit in CV. Arto Moro Farm. Besides that, the owner is always directly involved in new negotiations related to the company to facilitate the work of the CV owner in monitoring each unit.

Several persons in charge have been established within the company's organizational structure to carry out operational functions efficiently. The warehouse unit consists of 43 people tasked with ensuring the availability of feed supplies for both company-owned farms and partner farmers. The maintenance unit, comprising 30 members, has the responsibility of ensuring the chicken rearing process in grow-out houses and smooth production operations. Furthermore, the egg tray factory unit consisting of seven people is fully responsible for the entire egg tray production process. In addition, there is a logistics unit whose main task is to distribute various types of goods to all operational departments. The treasurer and secretary have responsibilities in recording all aspects of the company's finances comprehensively and systematically.

The business owner is positioned as the leader of the division of tasks. The business owner, as a leader, oversees all workers at CV. Arto Moro Farm. The owner also acts as a supervisor. The supervisor is tasked with ensuring that all activities are done by what has been planned. The incompetence of the owner, who is also a supervisor, is one-factor affecting labor productivity. In addition, it can also lead to inefficiency in work due to the inability of the owner to supervise and coordinate his work group and other resources. This is similar to the supervisor's role in on-the-job apprenticeships. Supervisors also support the improvement of co-workers' skills.

Apart from being a supervisor, the owner also acts as an instructor. Instructors must master the substance, have knowledge and skills on how to teach the material, understand the apprentices' characteristics, and establish good communication. This needs to be considered so as not to experience difficulties in transferring knowledge and skills so that the apprenticeship learning process takes place effectively and efficiently (Mikalayeva, 2016; Rico & Ertmer, 2015).

Meanwhile, workers under the leadership, such as in the warehouse unit, maintenance, egg tray factory, logistics, secretaries, and treasurers, were assessed as

apprentices. An apprentice in apprenticeship learning is someone who indirectly acquires new knowledge and skills for self-development from other people who have transferred information to the apprentice.

In general, it can be interpreted that workers are formed through apprenticeships. The apprenticeship process is an essential step for organizations to create skilled and reliable workers as part of being able to achieve goals. In addition, it has long-term career benefits that can help workers to be more responsible as an organizational investment in human resource planning.

Informal Apprenticeship Learning Process for Layer Chicken Coop Workers

Informal apprenticeship learning processes for layer chicken workers provide the opportunity to acquire skills through an experiential-based approach, relying on hands-on training, mentorship, and adaptive strategies. The informal learning environment plays a key role in supporting practical learning in the real world. Workers often learn through direct practice, while relying on informal consultations with experienced colleagues for the transfer of knowledge and skills (Alla-Mensah & McGrath, 2023). In this context, daily interactions serve to cultivate a profound understanding of tasks such as managing layered chickens.

The role of mentoring is also a critical factor in this process. Senior workers acting as mentors provide guidance by demonstrating best practices, including feeding chickens, monitoring health, and collecting eggs. This approach helps employees understand and master specific competencies required (Ahyakudin et al., 2019).

Furthermore, adaptive learning techniques also enhance informal learning experiences. For instance, the incorporation of technology such as video annotations can provide easily accessible visual aids and support more flexible learning. This strategy enables the personalization of learning experiences, thereby accommodating various skill levels of workers.

Although informal apprenticeships are effective in developing practical skills, the lack of structured assessment and certification can pose a challenge. The absence of formal standards has the potential to create disparities in the recognition of qualifications among workers in the industry.

Learning apprenticeship for workers in the field of layer chicken farming CV. Arto Moro Farm is organized informally. The apprenticeship learning process for workers in layer chicken farming is carried out without a curriculum. It is not planned either from the time of learning, assessment, or the learning materials.

An overview of the learning process in CV. Arto Moro Farm, as one of the apprenticeship models, is an

informal apprenticeship. Informal apprenticeships are apprenticeships where the learning process uses an informal learning approach. Informal apprenticeships have two main principles; namely, the workplace can be a place of learning, and there is an interaction between workers as instructors and apprentices.

In the apprenticeship learning process at CV. Arto Moro Farm, the owner, and the leader are assessed as an instructor or one of the learning resources. Leaders transfer their knowledge and skills determined by the hard work and sincerity of the apprentice to learn and master these competencies, which are pursued through their daily work according to their work units and can be done intentionally or unintentionally.

A good family relationship between leaders and workers is one of the essential elements that must be considered in the continuity of apprenticeship learning. In addition, it is also accompanied by mutual trust, which is also considered necessary so that, in practice, the apprentices can work well because they feel valued. Thus, a comfortable work culture will be created, and apprentices can increase their motivation to work (Kang & Hau, 2014).

The apprenticeship learning model applied to workers at CV. Arto Moro Farm was carried out by providing work according to the work unit/division. Every working day the workers are given assignments as a form of training for independent learning but are still under the supervision of the leadership. In order to support the apprenticeship learning process in an informal atmosphere, the learning by doing model is applied. The learning by doing model is a learning process that focuses on learning efforts while working directly on actual conditions. In the world of work anywhere, learning by doing is essentially already processed by itself, either intentionally or unintentionally. However, the learning by doing model in the learning process for workers in the layer chicken sector is also different from formal education.

Learning-by-doing with informal learning settings for workers in the layer chicken sector is determined by the willingness to learn and follow the direction of the leadership. Workers can be more active in learning by asking questions. In addition to asking questions, they can also make careful observations when other colleagues in the work unit are doing their work or discuss with the leadership if there are things they want to know.

In informal education, there are four categories: self-directed, incidental, integrative, and tacit. In this regard, self-directed refers to independent learning. Independent learning is defined as a learning process of its initiative. The informal apprenticeship in the field of layer chicken farming occurs when the apprentices actively seek knowledge and are aware of the learning

process. The application of self-directed learning for the apprenticeship program is considered very appropriate. This is because the learning starts from everything the apprentice is interested in, can increase and hone the apprentice's potential, and accelerate self-development; through this learning, the apprentice knows more about his needs and achievements (Nurcahyani et al., 2022).

Meanwhile, incidental learning occurs when the apprentice is aware that the apprenticeship learning in the field of layer chicken breeders occurs by chance. Informal and incidental learning is a form of learning that is experienced by many people and has advantages because the lessons obtained or learned are sourced from everyday life experiences and are learner-centered.

Informal learning, including incidental learning, is the primary learning activity in adult education, including for workers at CV. Arto Moro Farm, where lessons come from everyday experiences that are part of his work. This is like the three aspects that describe informal and incidental learning, which are the main learning activities for adults, learning from everyday life experiences, and learner-centered learning activities according to their needs, problems, and interests and are directed or controlled by themselves.

Besides, tacit learning occurs when the apprentice is unaware that the learning process has taken place. Based on these four categories, the transfer of knowledge and skills to apprentices can be classified into integrative learning, namely, learning that occurs unconsciously but is active in developing their competencies. This is reflected when workers, especially junior workers, ask the owner and observe how seniors work. These activities are not realized by observing; they also learn, but new knowledge and skills are obtained.

While integrative learning occurs when apprentices are unaware and actively seek new knowledge, skills, behaviors, and values. The implementation of integrative learning is broadly in the context of experience and is not linked to the formal curriculum. In this regard, apprentices know their learning needs to master knowledge and skills.

In general, it can be interpreted that the informal apprenticeship learning process in the layer chicken farm is to improve the knowledge and skills of workers. However, they do not realize that what they do is a learning process. The success of apprenticeships for workers is also highly dependent on each worker. If in the learning process, there is no desire to learn and follow the direction of the leadership, it will not produce results.

In addition to awareness, the activeness of the apprentice is also essential. If the apprentice is passive in learning, then he or she will not get competency development, considering that the basis of this informal learning is learning by doing. On the other hand, in

informal apprenticeship learning, the apprentice will also need a long time to master these competencies. The time needed in this knowledge transfer process depends on the motivation and hard work of the apprentice in carrying out their routine work, which cannot be separated from the direction and supervision of the leadership.

The learning process in informal apprenticeships encourages changes in the level of knowledge and skills and the formation of attitudes that are extracted from the organizational cultural values in CV. Arto Moro Farm. The apprenticeship process in later chicken farming involves interaction, giving, receiving values, knowledge, skills, and structured relationships. All of these aspects are interactive tools that the apprentice cannot separate.

The description of the conditions above is similar to the research of Alla-Mensah et al. (2023) that informal apprenticeships can create changes in apprentices. That apprenticeship through informal learning is more relevant for all apprentices of various ages. As a training and development program, apprenticeships with informal learning are considered much more appropriate than apprenticeships with formal learning.

Learning Outcomes of Informal Apprenticeships for Layer Chicken Coop Workers

The development of skills through informal apprenticeship programs makes a significant contribution in various aspects. Technical skills are the main focus, where interns gain direct experience in managing laying hen houses, such as feeding, health monitoring, and egg collection. This provides a strong foundation for them to understand the operational aspects of farming (Ahyakudin et al., 2019). In addition, problem-solving abilities are an integral part of the learning process. Employees are trained to overcome challenges that often arise in poultry management, ultimately enhancing their adaptability in a dynamic work environment (Ahyakudin et al., 2019).

In terms of job outcomes, informal apprenticeships contribute to the enhancement of employment opportunities. This program equips participants with highly sought-after skills in the agricultural sector, opening up broader job prospects. Moreover, some apprenticeship participants develop entrepreneurial skills that enable them to start their own poultry businesses, thereby contributing to the local economy (Alla-Mensah & McGrath, 2023).

The long-term benefits of informal apprenticeships are also evident in the formation of a culture of continuous learning, where participants are encouraged to continuously seek new knowledge and skills beyond the demands of their jobs (Smet et al., 2022). Furthermore, the success of apprenticeship programs

can have a positive impact on the community, where participants share best practices and knowledge, thereby enhancing overall agricultural productivity. However, despite offering many benefits, informal apprenticeships also present risks such as potential exploitation and lack of formal recognition. These challenges need to be addressed to ensure the sustainability and effectiveness of the program, as well as to maximize long-term benefits for workers.

Learning outcomes are statements about what has been reviewed, observed, and implemented by workers after getting a lesson (Goldhaber et al., 2020). Based on the informal learning process, the workers in the layer chicken farm received beneficial changes. There is a transfer of information from the leadership to the workers in each unit consisting of knowledge, skills, and attitudes changes.

Based on the informal learning process, the workers in the layer chicken farm received beneficial changes. There is a transfer of information from the leadership to the workers in each unit consisting of knowledge, skills, and attitudes changes.

The knowledge results from curiosity, which occurs after the individual has sensed a specific object. At the same time, skill is a person's ability or competence. At the same time, attitude is a mental and nervous state of readiness regulated through experience, influencing the dynamics of directed knowledge on individual responses. Knowledge, skills, and attitudes, in general, are learning outcomes, including apprenticeships. In this case, apprenticeship to workers at CV. Arto Moro Farm does produce not only cognitive or knowledge aspects but also affective aspects and skills.

Overall, knowledge and skills need to be provided to the workforce. Through informal apprenticeships with a learning-by-doing learning process, workers have knowledge and skills related to housing management as applied to CV. Arto Moro Farm. Cage management is one of the essential components in laying hens farming – management of laying hens at CV. Arto Moro Farm is distinguished by its maintenance phase, namely the enlargement and production phases. The cage management includes the location of the cage, the model of the cage's roof, model of the cage's floor, size and capacity of the cage building, model of the cage and the lighting of the cage.

Workers as apprentices also gain skills in egg tray production, feed mixing, rearing, sales, and partnerships. Inputs from the company's business processes include procurement of tools and machinery, sapronak, raw materials, construction of business premises, DOC, and feed. The outputs of the company's business processes include eggs, egg trays, feed, fertilizer, sapronak, and discarded chickens.

The production of egg trays is carried out to meet the needs of the company itself as well as to sell it to partner breeders. The production of egg trays begins with the purchase of raw materials in the form of used paper from factories around the company. Furthermore, production is carried out at the egg tray factory. After the egg tray is ready, it will be stored in the warehouse for further distribution to the company's farms and partner breeders.



Figure 1. Skills in producing egg trays at CV. Arto Moro Farm

Feed mixing in CV. Arto Moro Farm is a mixture of protein concentrate purchased from animal feed companies, corn, rice bran, and minerals and vitamins. The feed is mixed in the warehouse using a mixer and then packed with a weight of 50 kg per sack. The feed is then distributed to the company's farms and partner farmers.



Figure 2. Skills in mixing feed in CV. Arto Moro Farm

The maintenance process on the CV. Arto Moro Farm is divided into two phases, namely the enlargement phase and the production phase. The rearing phase maintenance is carried out in the rearing cage, located in a different location from the production phase cage. The rearing of layer chickens in the enlargement phase starts from the DOC to the initial pullet. Furthermore, the chickens are transferred to the production coop to produce until the end of the period.

Sales CV. Arto Moro Farm in the form of chicken eggs. Sales of these products are mostly made outside the region because of the market opportunities that are still open. Sales are made to collectors in each destination area. In addition to eggs, other products sold include manure, egg trays, feed, *sapronak*, and rejected chickens.

The company's partnership includes the purchase of *sapronak*, feed, and egg trays from the company by partners. Furthermore, payments from partner farmers use egg harvests which will also be sold through the CV. Arto Moro Farm. The proceeds from selling the 12 eggs are then used to pay off the company's accounts payable, and the difference is given to partner breeders as profit.

Regarding attitudes, the workers obtained attitude changes such as accuracy, dexterity, cleanliness, independence, and responsibility in completing work, along with the directions given by the leadership for each job. The workers learn about layer chicken rearing management which must be carried out properly according to the procedures applied. Sectors such as feed, medicine, social, labor, and especially housing require special attention so that layer chicken farming can run well. Experience is needed in cultivating layer chicken farming so the business can run well.

The apprenticeship learning process also helps shape the attitudes or characters of informal workers in the construction services sector as interns. Workers' obedience to their leaders also marks the formation of attitudes. Polite attitudes and acceptance of opinions are very important for maintaining or improving interpersonal relationships, as well as for the construction of identity and morality (Ferenčík, 2018). In this case, including culture in work will affect the managers and workers (Nugraha & Hasanah, 2021).

Cultural values that influence character formation are as forming an attitude or character as a person who has ethics and is polite. The use of language marks this as a means of communication for instructors and apprentices in the apprenticeship learning process. In relation to this, Javanese is used in the apprenticeship learning process by both foremen, head artisans, and their subordinates. Second, forming an attitude or character as a person who maintains politeness. The value of politeness is one of the habits of Javanese people, which is carried out both by those who are older or fellow workers and even by those who are younger. Likewise, informal workers in the apprenticeship process also maintain interaction patterns that uphold cultural values. Not only is it seen in verbal interactions, but it is also reflected in the way the worker behaves both to superiors and fellow workers.

Third, forming a religious personality is one of the values contained in the work culture. The instillation of spiritual values is illustrated by the foreman being able to interpret himself as a leader who can instil religious

values in the work environment. The implementation of religious values applied by the leader is hard work, but it still prioritizes worship. If religious values in the work environment are upheld, a work culture that tends to be negative can be prevented, and vice versa. Religious values and an individual's belief in God play a role in reducing and even preventing deviant behavior.

Fourth, individuals should be formed who can help each other. The existence of a harmonious work environment as a result of the habit of helping each other is based on the concept of humans as social beings. Humans cannot live alone; they need other humans. In living life, one human being needs another to fulfil their needs. To create a life together between humans, there needs to be social interaction with one another.

Fifth, forming a simple worker personality. The shared awareness of the Javanese people believes that Javanese culture has values that underlie the personality of people and their society. One of the cultural values that are widely known and adopted by the Javanese people until now is the attitude of *Nrimo Ing Pandum*. *Nrimo Ing Pandum* is an attitude of full acceptance of various events in the past and present and all possibilities that could happen in the future. This is an effort to reduce disappointment if what happens later turns out not to be in accordance with what is expected.

Sixth, the process of professional regeneration. The regeneration of the profession as a construction worker occurs through informal learning with a family approach. The role of parents includes attitudes of respect, socialization, and inheritance. Respect is an important factor in the regeneration of the construction profession. Parents instil concern, sympathy, and an attitude of respect for their work as construction workers—the informal apprenticeship learning process is accompanied by adherence to the cultural values of CV. Arto Moro Farm also forms the character of workers as ethical individuals. In addition, it can also create and improve work mentality or professionalism, accuracy, precision, dexterity, independence, and responsibility in completing work (soft skills or interpersonal skills through personal habits that shape the way of working). In this broad scope, it can be interpreted that the character of a worker (intern) can come from learning by doing, the growth of which is considered an authentic learning process, along with the existence of Non-formal Education in the midst of community life.

The findings of this research shed light several important implications in the context of workforce development in the informal sector. Firstly, the informal apprenticeship model based on learning by doing has proven effective in enhancing both technical and non-technical competencies of workers, such as livestock management, production, and marketing. The improvement of these skills directly contributes to

increased productivity and operational efficiency in animal husbandry. Secondly, this program promotes local economic development by creating more skilled workforce and opening opportunities for workers to start their own businesses, thus supporting regional economic growth, particularly in the poultry farming sector. Thirdly, the incorporation of local cultural and religious values in training creates a harmonious work environment, enhances worker loyalty, and can serve as a model for other sectors to build an ethics and spiritually-based work culture.

Further success of this model presents opportunities for replication in other informal sectors, such as agriculture, small-scale manufacturing, or handicrafts, especially in rural areas with limited access to formal education. However, the lack of formal recognition of skills acquired through informal apprenticeships poses a challenge that needs to be addressed through policies on skills certification for informal workers. In addition, it is crucial to provide management training to small business owners to enable them to manage apprenticeship programs in a more structured and sustainable manner. This research also highlights the need for collaboration between small business sectors and non-formal education institutions to design apprenticeship programs that meet industry needs. Thus, this informal apprenticeship model not only contributes to enhancing worker competencies but also supports reforming workforce training in the informal sector for inclusive and sustainable economic development.

Based on the research findings, several recommendations can be proposed to enhance the effectiveness of the informal apprenticeship model at CV. Arto Moro Farm. Firstly, implementing a more structured apprenticeship program can be achieved by incorporating formal elements such as competency-based training modules or standard work guidelines. This is aimed at improving the consistency and quality of training received by employees. Secondly, recognizing employees' competencies through internal certification programs or partnerships with formal training institutions will add value to the skills they acquire, while also opening up broader career opportunities. Thirdly, integrating simple technologies such as video tutorials, task tracking applications, or performance monitoring software can support experiential learning processes and improve work efficiency.

Further reinforcement of mentor role in the apprenticeship program is necessary through specialized training for senior employees to enhance their effectiveness in providing guidance and feedback. Utilizing a needs-based approach for employees is also crucial by conducting regular surveys or discussions to

ensure the apprenticeship program remains relevant and aligned with their needs. Lastly, improvements in workplace facilities such as training rooms, modern equipment, and reference materials, can create a more supportive learning environment for employees. With these measures in place, it is anticipated that the competency and professionalism of employees will continue to grow, thus supporting the sustainability and productivity in the layer chicken farming sector.

Conclusion

This research found that the informal apprenticeship model implemented at CV. Arto Moro Farm takes the form of a workplace-based learning process led directly by the business owner as mentor and supervisor. Learning takes place informally through daily work activities, where workers develop skills and competencies through observation, discussion, direct practice, and continuous feedback. This learning-by-doing approach occurs flexibly and is integrated into work activities without a formal curriculum. This model is effective in developing technical abilities such as cage management and work agility, as well as soft skills such as discipline, independence, responsibility, and professionalism. Additionally, this model also shapes worker character in accordance with local cultural values and religiosity, such as empathy, simplicity, dedication, and compliance with rules. Overall, this informal apprenticeship model contributes to sustainable workforce regeneration in the layer chicken farming sector while strengthening work ethics and cultural attachment among workers.

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Author Contributions

The author independently carried out all aspects of this study, including conceptualization, methodology development, validation, formal analysis, investigation, resource acquisition, data curation, original drafting, review and editing, and visualization. The author has reviewed and approved the final version of the manuscript.

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Conflicts of Interest

The author have no conflicts of interest to disclose.

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